

# **Proceedings of the 1996 World Congress on Coastal and Marine Tourism**

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## *Experiences in Management and Development*

19-22 June, 1996  
Honolulu, Hawaii, USA

Marc L. Miller and Jan Auyong, Editors



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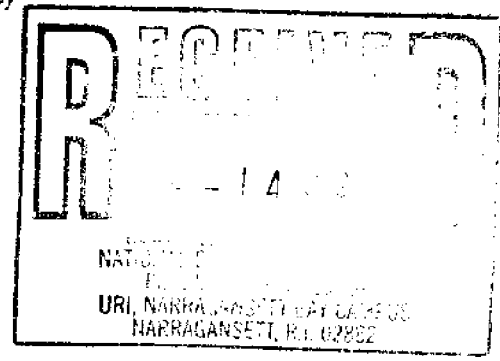
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Edited by  
Marc L. Miller  
School of Marine Affairs  
University of Washington  
and  
Jan Auyong  
Oregon Sea Grant College Program  
Oregon State University

with the assistance of Nina P. Hadley



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## Preface

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CMT90 had originally been proposed in response to the growing need to bridge economic development and conservation of our coastal resources. What we learned from participants was that the mixed record of coastal and marine tourism requires immediate and sustained study by a wide range of disciplines as well as a disciplined application of that information.

At CMT96 we wanted to learn about the status of activities since the initial Congress in 1990, and whether we had grown in our knowledge and abilities regarding sustainable tourism on the coast. The 80 presentations/workshops and field trips offered at CMT96 dealt with a variety of topics ranging from cruise ships to kayaking, marine park management and ecotourism to applications of GIS technology and using social science research. CMT96 provided a blend of formal presentations along with field-based workshops and special "hands-on" sessions. The popularity of these workshops and "hands-on" sessions pointed to a need for direct, application-oriented information and procedures.

Although the subtitle of CMT96 was "Experiences in Management and Development," the overriding theme was sustainable marine tourism. The conference "kick-off" session, entitled "Can Sustainable Tourism be Achieved?" introduced attendees to a working framework of: (1) sustainability; (2) integrated resource management; and (3) sustainable community development. Discussions resulting from the keynote session and other sessions showed that we still have a long way to go in achieving sustainability in coastal tourism. However, we do know that there is now a widespread acceptance of the need to address coastal and marine tourism growth issues by governments, industries, and others.

Based upon the input from CMT96, planning for the next CMT congress will be organized to focus not so much on *ends*, but rather on the *means* of achieving more sustainable development. The congress will focus on analytical tools and concepts, evaluation tools and methods, planning procedures, and so forth. To that end, the proposed theme for CMT99 is "Choices, Responsibilities, and Practices." Furthermore, CMT will show that environmentally sensitive, nature-based tourism can be responsibly implemented in urban as well as rural settings, in both developed and developing countries. To that end, CMT99 will be held in Vancouver, BC, Canada, 25-29 April, 1999. We shall explore programs and steps taken in this decade to promote the development of practical programs for environmentally responsible tourism in port/coastal cities, including greater community involvement and awareness. We hope you will find the Congress and its subsequent proceedings to follow in the tradition of previous CMT's.

Jan Auyong, Congress Convenor



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*Mahalo* to everyone.

Jan Auyong, Congress Convenor  
Assistant Director for Programs, Oregon Sea Grant  
College Program

# REMARKS ON TOURISM TERMINOLOGIES: ANTI- TOURISM, MASS TOURISM, AND ALTERNATIVE TOURISM

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**Abstract:** *In the period since the 1990 Congress on Coastal and Marine Tourism, analyses by those in government, academe, non-governmental organizations, and the private sector have exposed a diversity of problems and opportunities created by touristic activity in the pleasure peripheries of the coastal zone. Tourism is a sociocultural process more usefully viewed as entailing the interactions of brokers, locals, and tourists than as involving the interplay of hosts and guests. The travel that others undertake has been so commonly denounced for two hundred years that anti-tourism sentiments have become customary. In particular, mass tourism has been condemned and mass tourists have been maligned in popular and analytical thought. Alternative tourism and variants such as ecotourism have been advanced as superior to mass or mainstream tourism. Unfortunately, these terminological alternatives may be more effective for their self-congratulatory or marketing appeal than for their scientific utility in analysis. Alternative approaches to tourism—like mass tourism approaches—require thorough examination before judgments about their appropriateness can be made. In implementing a neutral terminological vocabulary, tourism analysts must focus not only on the impacts of tourists, but on the influence of brokers in shaping tourism systems.*

**Keywords:** *tourism systems, tourism management, mass tourism, mass tourist, alternative tourism, anti-tourism*

*The further I traveled through the town the better I liked it. Every step revealed a new contrast—disclosed something I was unaccustomed to.*

— Mark Twain (1990: 1)  
describing his first  
experiences in 1866  
in Honolulu

*How embarrassing to be human.*

— Kurt Vonnegut (1990: 290)

## Introduction

An inspection of two kinds of intertwined global statistics underscores the intensity of contemporary interest in travel and tourism. A first category of statistics concerning

magnitude of travel shows that more people are traveling for business and pleasure than ever before. Waters (1996: 6) reports provisional global estimates by the World Tourism Organization indicating that tourism generated 567 million international tourist arrivals in 1995, an increase of 6.7% over figures from the previous year. WTO experts have also estimated that in the year 2020 about 1.6 billion of the world's 7.8 billion people will take a foreign trip (Crossette, 1998).

A second category of statistics relating to economic value shows that the income generated by travel and tourism still qualifies the multifaceted industry as the largest in the world. Citing a report prepared for the World Tourism Organization, Waters (1996: 6) notes that:

... in 1995 domestic and international tourism together stimulated over 200 million jobs worldwide. Output measured in U.S. dollars reached \$3.4 trillion. The industry's contribution to the world's gross domestic product reached 11.4% in 1995. Capital investment made by travel and tourism companies in buildings and equipment was estimated at \$705 billion for the year.

Globally, tourism generated total international receipts (excluding international fare receipts) estimated at \$U.S. 372 million in 1995, an increase of 10.8% over figures from 1994 (Waters, 1996: 6).

It is uncontested that the trends associated with these two kinds of statistics have a huge significance for the future of coastal and marine tourism. Throughout history, demographic patterns have substantiated that populations tend to be densely concentrated along coastlines. While proximity to oceans has certainly provided industrial and military advantages to cities established in the coastal zone, it has also provided amenities with great residential, recreational, and touristic appeal. The touristic result is that people have been drawn to the coasts in record numbers.

These facts support an increasing analytical interest in contemporary travel and tourism. Almost a quarter of a century ago, Turner and Ash (1975: 11-12) coined the term "Pleasure Periphery" to refer to a "newly dependent, social and geographic realm" created through the expansion of tourism:

This periphery has a number of dimensions, but is best conceived geographically as the tourist belt which surrounds the great industrialized zones of the world. Normally, it lies some two to four hours' flying distance from the big urban centers; sometimes to the west and east, but generally toward the equator and the sun.

Turner and Ash illustrate the pleasure periphery by pointing to playgrounds in Mediterranean nations, Mexico, the Hawaiian Islands, Southeast Asia and elsewhere. With the rapid rise of jet transportation, a consolidation of peripheries is occurring:

These Pleasure Peripheries are never static, possessing a dynamism of their own, which depends on the extension of the range of planes and the increase of leisure and affluence in general. ... [W]hile each individual periphery is expanding independently, they are now, for the first time, starting to merge into one giant, global Pleasure Periphery, where the rich of the world relax and intermingle. (Turner and Ash, 1975: 12)

Coastal and marine tourism links *society* with elements of the *environment* in the creation of *destinations* and the appreciation of the character of *place*. Statistics focusing exclusively on coastal and marine tourism are neither compiled on a regular basis nor are in wide circulation.<sup>1</sup> Nonetheless, the basic notion of an ever-expanding and increasingly socio-economically potent coastal and marine tourism sector of society is both a matter of common knowledge and academic debate (cp., Miller and Auyong, 1991b; Miller, 1993b; Wong, 1993; Conlin and Baum, 1995; and Lockhart and Drakakis-Smith, 1997).

As Miller and Auyong (1991c: 78) have noted, coastal and marine tourism cannot *a priori* be deemed to be either good or bad. The growth of coastal zone tourism creates both problems and solutions for members of society and the natural environment. To illustrate, "mass tourism" is often identified as a tourism problem for its perceived negative ecological and social impacts, and also for the inauthenticity of its attractions and the superficiality of its rewards to tourists. In contrast, "ecotourism" (and its many variants sometimes subsumed under the term "alternative tourism") has recently been promoted as a tourist solution for its potential to underwrite the preservation of endangered species and threatened habitats.<sup>2</sup>

Perspectives on mass tourism, alternative tourism, and many of their variants are examined throughout this volume. Inspection of the multidisciplinary papers that follow confirms that people throughout the world place great—some would say immeasurable—value on ecosystems and cultural traditions in the coastal zone. This high regard has fostered concern about the degree to which the combined cultural, biological, and physical features of touristic destinations are put at risk by development. Because tourism depends upon travel, it necessarily creates new juxtapositions of people and places, and at times entirely new infrastructures. Whether or not the changes brought by coastal zone tourism are interpreted as sadly

disruptive, reasonably acceptable, or as constructive depends on the case under consideration and also on one's standards of evaluation and private philosophy.<sup>3</sup>

In this introductory essay to the *Proceedings of the 1996 World Congress on Coastal and Marine Tourism*, we are broadly concerned with how tourism and tourists have been understood by tourists and by locals, how resources have been viewed and used, and how these elements have been analyzed in the private and public sectors. Because the natural amenities of the coastal zone are so appreciated for their ecological magnificence, and because manufactured amenities have such high economic value, studies of the role that anthropogenic factors play in changing tourism systems are inherently controversial. It is not surprising that findings—whether these reveal a negative, positive, or benign anthropogenic influence—routinely inspire interest and scrutiny by the general public and diverse special interest groups.

The Heisenberg uncertainty principle establishes that the act of measuring one of a number of related quantities in a system produces uncertainties in the measurement of the others. This principle becomes relevant in the study of tourism when researchers—whether these are natural or social scientists, or are in another way committed to the ideal of objectivity—ask themselves about the possibility that they are inadvertently changing features of the very systems they seek to examine objectively.

One touristic expression of the Heisenberg uncertainty principle takes place when scientific researchers are successful, sometimes inadvertently, in imposing their personal or institutional values on others. Ideally, scientific measurements that establish the characteristics of a tourism system and its processes are cleanly separated from opinions and recommendations about the "best" state of the system and appropriate courses of action

Our thinking departs from the premise that objective analysis of tourism in the coastal zone and elsewhere is contingent on a neutral terminological vocabulary. We begin in the next section by proposing a tourism model, describing the components of the system, and identifying the analytical questions essential to tourism planning, development and management. We then discuss inherited cultural logics that foster negative attitudes towards tourism and tourists. In the third section, we show how the customary view of tourism as a discredited activity is evident in popular and academic treatments of mass tourism and mass tourists. In a final section, we remark that alternative tourism and its affiliated forms are rather wrongly prescribed as "solutions" to the "problems" of mass tourism without evidence as to their consequences or measurable advantages and disadvantages.

## Tourism Systems

*What I like about traveling is  
the wonder of the return.*

— Stendahl (1962: 180)

The difference between the overlapping notions of what are known today as “travel” and “tourism” is much more an academic than a government or business matter.<sup>4</sup> In many respects and for many people, the two terms are interchangeable. Both travel and tourism are characterized by trips that hold appeal for the three-dimensional (i.e., “instrumental,” “educational,” and “recreational”) contrasts they offer (Miller and Ditton, 1986: 11). Yet, travel and tourism are not exact substitutes. For example, it has become conventional—despite government and industry statistics that report “business tourism”<sup>5</sup>—to regard tourism as an activity that is not work.

Tourism, then, can be seen as a special case of travel involving some form of pleasure, reflection, relaxation, recreation, or fun, among the other alternatives to work and religion. Historian Eric Leed (1995: 255-271), who has studied military, religious, commercial, scientific, and touristic expeditions, points out that touristic journeys stand out for being “unarmed,” “optional,” and “circular.”<sup>6</sup>

With this as background and for the purposes of this paper, we define *tourism* as a sociocultural process grounded in the leisure agendas and activities of tourists who engage in the pursuit of contrast in a range of places and settings, ultimately returning home.

### The BLT Model of Tourism

In the introduction to *Proceedings of the 1990 Congress on Coastal and Marine Tourism* and elsewhere (Miller, 1989a; Miller and Auyong, 1991a; Miller and Auyong, 1991c), we have presented a “BLT model” in which a *tourism system* is defined sociologically as consisting of three interacting components—*brokers*, *locals*, and *tourists*.

*Brokers* consist of persons who in one way or another pay professional attention to tourism. Major subcategories include 1) private sector brokers who are engaged in the business of tourism and who provide touristic services and sell touristic products, and 2) public sector brokers who as public servants are engaged in the governance and management of tourism. *Locals* consist of persons who reside in the general region of tourism routes and destinations, but who do not directly derive an income from tourism. *Tourists* consist of persons who travel for pleasure and who travel to touristic destinations for relatively short visits, and who ultimately return home.

The BLT model stresses the human relations in tourism that lead to conformity and conflict, and to changes in

society. Importantly, the model also shows that the dynamics of broker-local-tourist relations 1) are constrained by the natural and historical settings, and 2) are anthropogenic causes of impacts that affect the natural and social environments (Miller and Auyong, 1991c: 76-78). BLT can be expanded to “BLTE” when issues regarding the environment, ecology, and ecosystems are central to the analysis at hand.

Over the last few years, we have found the BLT model to be a useful device for initiating discussions about tourism sociology. We can think of two reasons for this. First, the terminology in the model was designed to be as value neutral as possible. No motives of people in any one component of system are *a priori* designated as “good” or “bad.” Similarly, none of the several tourism-focused activities that drive the model—the travel of tourists, the commerce of private sector brokers, the governance of public sector brokers—is categorically taken to be “correct” or “incorrect” compared to the others. The model displays that the sociological dynamic of tourism involves tourists, locals, and brokers in government and industry. Over time, the relative proportions of brokers, locals, and tourists in a touristic region change: Moreover, individuals in these categories often change roles as, for example, when tourists stay on the scene to become private sector brokers or locals, or when locals become public sector brokers or take a trip and become tourists.

The second reason for our preference for the model follows from the way in which it separates locals from brokers. Tourism is often marketed for its potential to be a happy drama of “good guests” and “good hosts.” It is also commonly castigated as a tragedy of “bad guests” and “good hosts.” Unfortunately, host-guest thinking masks fundamental differences in the orientations of individuals in tourism systems.

The two-element view of tourism sociology has its roots in the 1977 first edition of Smith’s *Hosts and Guests: The Anthropology of Tourism* (1989). Pearce (1989: 216) writes that “the basic dichotomy of ‘host and guests’ popularized by the comprehensive anthropological volume ... is generally accepted.” While many continue to base analyses on this distinction, the limitations of the framework are gradually being corrected. In this regard, Chambers (1997: 6; emphasis added) writes:

Thinking of tourism as being predominantly a relationship between ‘real’ (i.e., residential) hosts and their guests has become problematic in several respects. Not the least of these is the extent to which most tourism has become a thoroughly mediated activity, dependent on the intervention of others who serve as neither hosts nor guests in any conventional manner.

Whereas Chambers sees mediation to be a recent development of tourism, we would argue that mediation has been part of tourism virtually from the beginning (see, Miller and Auyong, 1991a and 1991c). The broker component of the BLT model formalizes the mediation that Chambers observes.<sup>7</sup>

In our view, then, a balanced understanding of tourism requires explicit recognition of the fundamental distinction made between people who are connected to tourism *via* their work in government; people who are connected *via* business; people who do not mediate tourism in either capacity, but who are residents; and people who are tourists. Accordingly, we recommend that at the outset of analysis, attention should be given to how each participant in a tourism system should be most appropriately coded as a kind of broker, local, or tourist.

Locals and brokers may both live in the same area, but their work underscores a key difference of interests. Locals—whether these are persons in families that have maintained the same residences for generations, or whether these are new residents—are not paid to understand tourism. On-site private sector brokers support themselves and their families (which may include locals) by endorsing some kinds of tourism. On-site public sector brokers (who also may have locals in their families) have the job of developing or inhibiting tourism growth on behalf of all (brokers and locals) within their bureaucratic constituency.

Having reviewed the BLT model, it is appropriate to briefly illustrate how the model accommodates others who participate in tourism and who were not discussed in our earlier papers. First, we introduce a terminology that specifies what we mean by “multiple cultures,” the “touristic public,” and the “touristic citizenry”:

**1. Multiple Cultures.** In some countries or regions visited by tourists, multiple cultures legally assert territorial, natural resource, and other rights. In these instances, *public sector brokers* can be taken to include persons and offices that exist in separate and competing governments. This situation obtains in, for example, destinations where a national government claims jurisdiction over territories in which indigenous or traditional cultures simultaneously engage in governance. In cases in which the governments of multiple cultures are involved, it follows that different sets of *locals* abiding by different cultural traditions will differently be aligned with public sector brokers in each government. Similarly, unique sets of *private sector brokers* will be associated with each culture. Multiple culture situations create the potential for the co-management of tourism.

**2. The Touristic Public.** This term is used to denote persons who may be locals or brokers in tourism systems, but who behave as tourists intermittently over the course of time. By extension, the non-touristic public would denote members of society (e.g., those who are elderly, incarcerated, impoverished, or otherwise immobile) who are unable to engage in tourism, or choose to never travel.

**3. The Touristic Citizenry.** This term denotes the voting constituency (and their dependents) that is found in a touristic destination or region. The touristic citizenry is determined by the jurisdictions of elements of government. Thus, one could speak of the touristic citizenry of a town, a county, a state, or a nation. Importantly, the touristic citizenry is composed not only of locals, but also of brokers. A main motivation of tourists is to see the people who constitute the touristic citizenry. As mentioned above, brokers are by definition remunerated (i.e., derive an income) from interactions with tourists.<sup>8</sup> Locals (who by definition are unpaid for involvement in tourism, else they would be reclassified as brokers) can have touristic value (most obviously, for example, in cultural and ethnic tourism) in their own right. When this is the case, these locals play the role of “amenities,” “unwitting attractions,” or “attractors.”<sup>9</sup>

While retaining the fundamental three-part conceptualization of tourism dynamics, the BLT model can be adapted to include subcategories of the following kinds:<sup>10</sup>

### 1. TOURISTS

- Domestic tourists
- International tourists

### 2. BROKERS

#### *Private Sector Brokers*

- On-site (or First-order) brokers work and reside in the touristic region (examples are hotel and restaurant workers, guides, and vendors).
- Off-site (or Second-order) brokers do not work in the touristic region, but direct tourists, services, and products to the region (examples are travel agents and tour bookers who are not based in the touristic region of analytical interest).

#### *Public Sector Brokers*

- On-site (or First-order) brokers work and reside in the touristic region (examples are visitor and tourist bureau

employees, resource managers and planners in local government).

- Off-site (or Second-order) brokers do not work in the touristic region, but direct tourists, services, and products to the region (examples are resource managers and planners who work for state or federal elements of government and who are not based in the touristic region of analytical interest).

#### **Other Broker Variants:**

- Social Movement Brokers: Formal entities referred to as “non-governmental organizations” (NGOs), “environmental organizations,” “special-interest organizations,” and the like increasingly play pivotal roles as brokers in the planning, development, and management of tourism.
- Academic Brokers: This term denotes those in academe who examine tourism as part of basic science, or scholarship.
- Travel Media Brokers: Reporters and journalists who are comment on tourism through the media (e.g., newspapers, magazines, television, the Internet) to inform the general public can be classified as travel media brokers.
- Consulting Brokers: Tourism analysts, marketers, travel writers, and a variety of other independent entrepreneurs are employed as consulting brokers for private and public sector brokers, and also for social movement brokers.

### **3. LOCALS**

- Established (or Long-term) year-round locals
- Recently arrived (or Short-term) year-round locals
- Seasonal locals (for example, second-home owners)

In the application of the BLT framework to problems of coastal and marine tourism, a first question has to do with the total number of persons in the destination or touristic region of interest, and the proportions of this figure that are brokers, locals, and tourists. The answers help to establish the sociological structure of the tourism system.

An obvious second question has to do with the rates at which the sizes of these three populations are changing over time. Answers to this question help in the understanding of sociological process and the way in which tourism systems exhibit natural histories with phases of discovery, exponential growth, stabilization, and decline.<sup>11</sup>

In order to address these questions, it is necessary to operationalize terms. While the (sub)categories of brokers, locals, and tourists listed above are of use in this task, it is inevitable that coding difficulties will arise, and that the status of some persons will seem to defy categorization. In this situation, the analyst must make practical decisions about how best to treat anomalies.

In passing, we want to emphasize again a particular terminological distinction. In this section we have defined “tourists” as persons who travel for pleasure and “tourism” as a sociocultural process in which touristic experiences and amenities are sought (by tourists) and provided (in a deliberate way by brokers, and in some instances incidentally by locals). To speak of tourism is to speak to the sum total of the intra-human relationships that exist between brokers, locals, and tourists, and also the relationships that link people in these categories with the surrounding ecology and environment.

The evaluation of tourism—whether one is in the role of broker, local, or tourist—produces a conclusion about the quality of the touristic system in its entirety. While tourists (collectively and individually) certainly contribute to the configuration of tourism in a particular locale, they do not alone determine its condition.

We make this point because it is so easy for people to project their attitudes towards tourism on tourists. It is one thing to say that the tourism has ruined or improved a place. It is quite another to say that tourists are responsible. The first charge points fairly to the negative or positive influence of a process defined by the interactions of brokers, locals, and tourists. The second singles out tourists for blame or accolade while ignoring the roles of industry and government brokers and locals in touristic change.

### **Tourism Planning, Development, and Management**

The terms “tourism planning,” “tourism development,” and “tourism management” broadly encompass the decisions made by public sector brokers to affect the landscape and amenity profile of tourism destinations (existing and potential), and to affect the movement and satisfactions of tourists of selected kinds.<sup>12</sup> While the jobs of tourism planners, developers, and managers in government are often cast as ones of satisfying tourists, it is the responsibility of these public servants to make policies in the best interests of their constituency, what we

have referred to above as the touristic citizenry. As noted above, the touristic citizenry is composed not only of voting locals and their families, but also of voting brokers and their dependents.

Experience has shown that the proportion of locals to brokers in the touristic citizenry can vary considerably from place to place, and also that the socio-economic conditions, aspirations, and aesthetic preferences vary within each category and across time. For these reasons, it is not possible to promote *a priori* any single tourism management outcome above others. Tourism growth may be appropriate in one locale, but tourism inhibition a better solution in another. One touristic citizenry may exhibit a need for the seasonal tourism of, say, large numbers of adult tourists traveling alone or in small groups. Another citizenry may be so financially secure that it can afford to discourage tourism of all kinds.

While we contend that it is politically arrogant to argue that one particular outcome of tourism management should be universally endorsed, we do recommend that attention be given to tourism management goals. Goals that come to mind include "sustainable tourism development," "appropriate tourism," "optimal tourism," "equitable tourism," and "ecotourism." Ideally, goals arise through a process of governance or planning that is responsive to the development philosophy of the touristic citizenry, the existing socio-economic and environmental conditions of the touristic place or region, the "problem" or "opportunity" at hand, and also to the (dis)advantages of alternative courses of action, and the value of monitoring, and evaluation.<sup>13</sup>

Tourism goals reflect the priorities and ideals of supporting constituencies. Successful tourism planning, development and management requires a fair political process that allows for the consideration of different points of view, and forces debate about the social, economic, environmental, aesthetic and other trade-offs that are created by any tourism.

It is axiomatic that those who are responsible for making policy decisions pertaining to tourism planning, development and management stand to benefit from objective multidisciplinary tourism research. In our view, balanced tourism research must examine the status of human and natural systems. Accordingly, the fundamental question to be addressed first by tourism analysts can be seen to take the following canonical form:

*What is the significance (i.e., "value," "importance," "meaning," "effect") of existing and proposed tourism for a) locals and brokers who constitute the touristic citizenry, and b) elements of the surrounding natural environment?*

A second and complementary question broadens the scope of inquiry in the following way:

*What is the significance (i.e., "value," "importance," "meaning," "effect") of existing and proposed tourism for a) remaining components of society, and b) remaining elements of the natural environment?*

## Images of Tourism

*Kitsch and tourism; two words which go nicely together.*

— Gillo Dorfles (1969: 153)

*It is intellectually chic nowadays to deride tourists.*

— Dean MacCannell (1989 [1976]: 9)

In a landmark text, sociologist Dean MacCannell (1989 [1976]: 3) follows and observes contemporary tourists as a strategy for understanding the "empirical and ideological strategy of modern society." Citing the widely-circulated work of Daniel Boorstin (discussed below) and cultural anthropologist Claude Lévi-Strauss, MacCannell points out that the intellectual community has tended to view tourism as categorically unfortunate and holds tourists responsible for this.

MacCannell argues that the temptation to see the negative in tourism is difficult to resist. It is easy to blame the downside of tourism on the tourists themselves and make them a point of attack. In this regard, MacCannell points out that tourists have come to occupy an emotional space previously reserved for other stigmatized social and ethnic groups:

The rhetoric of moral superiority that comfortably inhabits this talk about tourists was once found in unconsciously prejudicial statements about other 'outsiders,' Indians, Chicanos, young people, blacks, women. As these peoples organize into groups and find both a collective identity and a place in the modern totality, it is increasingly difficult to manufacture morality out of opposition to them. The modern consciousness appears to be dividing along different lines against itself. Tourists dislike tourists. God is dead, but man's need to appear holier than his fellows lives. ... The modern critique of tourists in not an analytical reflection on the problem of tourism—it is part of the problem. (MacCannell, 1989: 9-10; emphasis added)

Part of this very problem has to do with the difficulty analysts have in separating themselves sociologically and morally from the people they study. MacCannell (1989: 10) comments that academic (as well as popular) attacks on tourists are grounded in charges of superficial experience:

In other words, touristic shame is not based on being a tourist, but on not being tourist enough, on a failure to see everything the way it 'ought' to be seen. The touristic critique of tourism is based on a desire to go beyond the other 'mere' tourists to a more profound appreciation of society and culture, and it is by no means limited to intellectual statements. All tourists desire this deeper involvement with society and culture to some degree; it is a basic component of their motivation to travel.

As MacCannell notes (1989: 102), there is a "traditional intellectual concern" for the superficiality of popular thought in the world of academic scholarship. It is easy for the scientist to argue that the academic article or monograph is likely to be a more valuable touristic product than the quick report of a tourist. It is dangerous, however, to judge the participant observation experiences of the analyst (or any other expert on the scene) to be more "real," "important," or "significant" than the day-to-day experiences of tourists.

### The Gospel of Anti-tourism

For many members of Western society—and especially for those who speak American English—the terms "tourism" and "tourist" have strictly negative connotations and accordingly are employed to condemn the travel that *others* undertake.<sup>14</sup> The social consequences of being identified as a "tourist" are so unsettling that tourists frequently go to great lengths to justify the fact of their travel, their motives and morals, and their intellects and backgrounds.<sup>15</sup>

The antipathy that the touristic public directs at others for being tourists (as well as the ambivalence that so often is generated for the same reason) is an intellectual and emotional response that James Buzard (1993: 3) would see as grounded in assumptions that "are themselves the product of nearly two hundred years' concerted cultural stereotyping." In a treatment of travel literature produced in between the Napoleonic and First World Wars, Buzard brilliantly advances the thesis that the tension between tourism and anti-tourism (evident in the distinction between the honorific label "traveler" and the derogatory "tourist") is a defining feature of pleasure travel. The urge driving the touristic public to so attack confederates for their tourism has long been a factor in the ritual production of touristic solidarity (Buzard, 1993: 9).

As a result of this cultural conditioning, the touristic public today is unwavering in its determination to travel, while united in its endorsement of the gospel of anti-tourism. In short, people are confident they can distinguish righteous travelers from corrupt tourists. As Buzard (1993: 5) has noted:

Snobbish 'anti-tourism', an element of modern tourism from the start, has offered an important, even exemplary way of regarding one's own cultural experiences as authentic and unique, setting them against a backdrop of always assumed tourist vulgarity, repetition, and ignorance.

In the remainder of this section, we briefly discuss two professors in the humanities whose ideas have transcended academic boundaries to resonate with those of the touristic public. Daniel Boorstin and Paul Fussell provide fuel to the fire in conveying the gospel that travel is dead, succeeded by superficial tourism and its angry relative anti-tourism.

1. Daniel Boorstin and the Decline of Travel. In a volume that has become a classic for those who study not only tourism, but social change in the U.S. and elsewhere, historian Daniel Boorstin (1962) includes a chapter titled "From Traveler to Tourist: The Lost Art of Travel." In this, Boorstin articulates the reasons why contemporary tourism is so shamefully unsatisfying for tourists and also unsatisfactory for its consequences for others. He begins by noting that both expectations about what travel offers and attitudes about the process of traveling have changed over history. Where travel in previous centuries was highly regarded as a means of education and personal growth, tourism today much more poorly serves the American tourist. In this regard, Boorstin (1962: 79) comes to a disturbing conclusion:

What is remarkable, on reflection, is not that our foreign travel has increased so much. But rather that all this travel has made so little difference in our thinking and feeling.

In accounting for this, Boorstin builds on a common complaint of the touristic public that touristic attractions are all too often inappropriately marketed as travel worthy when they are not. This critique also challenges the notion that a city, tradition, or country can be meaningfully "understood" in a half-day tour—whether guided or not.

Boorstin advances the thesis that travel is governed by the fascination of tourists (and the agents of tourism) with "pseudo-events." In the context of tourism, a pseudo-event may be seen to be an activity or touristic sight that is narrowly (some would say ruthlessly) contrived for the sake of profit and which has a "false" touristic value.<sup>16</sup> Images



of hotel *luau*s and *fiestas*, "traditional" dances, and quasi-ritual performances scheduled on a regular basis for the consumption of tourists come to mind, as do those of brokers engaged in the production and retailing of touristic curios that so often qualify as kitsch.<sup>17</sup>

In suggesting the conditions and causes that tie pseudo-events to travel, Boorstin provides a clear specification of the image and plight of the "Ugly Americans" so prominent in the literature of tourism:

Our travels have not, it seems, made us noticeably more cosmopolitan or more understanding of other peoples. The explanation is not that Americans are any more obtuse or uneducable than they used to be. Rather, the travel experience itself has been transformed. Many Americans now 'travel,' yet few are travelers in the old sense of the word. The multiplication, improvement, and cheapening of travel facilities have carried many more people to distant places. But the experience of going there, the experience of being there, and what is brought back from there are all very different. The experience has become diluted, contrived, prefabricated.

The modern American tourist now fills his experience with pseudo-events. He has come to expect both more strangeness and more familiarity than the world naturally offers. He has come to believe that he can have a lifetime of adventure in two weeks and all the thrills of risking his life without any real risk at all. He expects that the exotic and the familiar can be made to order: that a nearby vacation spot can give him Old World charm, and also that if he chooses the right accommodations he can have the comforts of home in the heart of Africa. Expecting all of this, he demands that it be supplied to him. Having paid for it, he likes to think he has got his money's worth. He has demanded that the whole world be made a stage for pseudo-events. And there has been no lack of honest and enterprising suppliers who try to give him what he wants, to help him inflate his expectations, and to gratify his insatiable appetite for the impossible.<sup>18</sup> (Boorstin, 1962: 79-80)

Boorstin's full analysis of "the lost art of travel" elaborates on many issues in the above passage concerning the quality of modern tourism. Several of his themes and opinions are pertinent to studies of tourism throughout the world and are outlined below:

i.) *The Emergence of the Mass as a Target:* Boorstin (1962: 56) laments a "decline of the 'folk' and the rise of the commercially vulnerable 'mass'" in the United States.

In Boorstin's view, the mass (as compared to the folk) is conspicuously less culturally productive, more passive and more susceptible to strategic suggestion:

The folk expressed itself [in spoken word, folklore, folk dance, and folk song]. Its products are still gathered by scholars, antiquarians, and patriots; it was a voice. But the mass, in our world of mass media and mass circulation, is the target and not the arrow. It is the ear and not the voice. The mass is what others aim to reach—by print, photograph, image, and sound. (Boorstin, 1962: 56)

ii.) *The Displacement of Travel by Tourism:* Touching on etymologies, Boorstin notes that "travel" is linked to the Old English "travail" (with meanings of "trouble," "work," and "torment"), as well as to a popular Latin *trepatium* referring to a "three-staked instrument of torture."

To journey—to 'travail,' or (later) to travel—then was to do something laborious or troublesome. The traveler was an active man at work. (Boorstin, 1962: 85)

Citing an American dictionary definition of a tourist as "a person who makes a pleasure trip" or also as "a person who makes a tour, especially for pleasure," Boorstin (1962: 85) contrasts the tourist with the historical traveler with an insinuation that work is more active and more worthy than leisure:

The traveler, then, was working at something; the tourist was a pleasure-seeker. The traveler was active; he went strenuously in search of people, of adventure, of experience. The tourist is passive; he expects interesting things to happen to him. He goes 'sight-seeing'. ... He expects everything to be done to him and for him.

iii.) *Tourism Consumerism:* With the rise of the package tour, Boorstin sees evidence that the mass is being coerced to consume by industry. In discussing the impact of railroads and ocean liners on tourism in the latter part of the nineteenth century, Boorstin describes industries interested first in profit:

For the first time in history, long-distance transportation was industrially mass-produced. It could be sold to lots of people, and it could be sold cheap. For a satisfactory return on investment it had to be sold in large quantities. ... This enormous capital investment required that equipment be kept in constant use and that passengers be found by the thousands. Now great numbers of people would be induced to travel for pleasure. ... The consuming public had

to be enlarged to include the vacationing middle class, or at least the upper middle class. Foreign travel became democratized. (Boorstin, 1962: 86)

Pointing to the fantastic successes of Thomas Cook and Son with international tours and guidebooks, and also to the similar trajectory of the American Express Company, Boorstin remarks on tourism as an industry with tremendous influence over the mass:

By the middle of the twentieth century, foreign travel had become big business. It was a prominent feature of the American standard of living, an important element in our cultural and financial relations with the rest of the world. ... Foreign travel now had, of course, become a commodity. Like any other mass-produced commodity, it could be bought in bargain packages and on the installment plan. ... Nowadays more and more travelers take the trip before they pay for it. 'Go Now, Pay Later.' Your travel agent will arrange it for you. (Boorstin, 1962: 90)

*iv.) Insulation of the Tourist:* The price paid by the mass for travel entails not only dollars, but an obligation to abide by the rules of the tourism provider. Boorstin (1962) illustrates in the following selections the insulation of the tourist and the degradation of the tourism experience that the relinquishment of decision-making to the guide implies:

- "The traveler used to go around the world to encounter the natives. A function of travel agencies now is to prevent this encounter. They are always devising efficient new ways of insulating the tourist from the travel world." (1962: 91-92)
- "Today more than ever before the traveler is isolated from the landscape he traverses." (1962: 94)
- "The tourist who arrives at his destination, where tourist facilities have been 'improved,' remains almost as insulated as he was in route. Today the ideal tourist hotel abroad is as much as possible like the best accommodations back home." (1962: 97)
- "Tourist attractions serve their purpose best when they are pseudo-events. To be repeatable at will they must be factitious. Emphasis on the artificial comes from the ruthless truthfulness of tourist agents. What they can really guarantee you are not spontaneous cultural products but only those made especially for tourist consumption, for

foreign cash customers. ... In order to satisfy the exaggerated expectations of tour agents and tourists, people everywhere obligingly become dishonest mimics of themselves. To provide a full schedule of events at the best seasons and at convenient hours, they travesty their most solemn rituals, holidays, and fold celebrations—all for the benefit of tourists." (1962: 103)

- "Travel adventure today thus inevitably acquires a factitious, make-believe, unreal quality. And only dull travel experiences seem genuine. Both for the few adventuring tourists who still exist and for the larger number of travelers-turned-tourists, voyaging becomes a pseudo-event. ... We go more and more where we expect to go. We get money-back guarantees that we will see what we expect to see. Anyway, we go more and more, not to see at all, but only to take pictures. Like the rest of our experience, travel becomes a tautology." (1962: 117)

In a synthesis, these ideas support a line of argument in which the general consuming public is targeted by technologies of mass delivery (e.g., newspapers, magazines, television, the Internet) which are used by industry marketers. This syndrome creates unacceptable conditions of inauthenticity and idolatry.<sup>19</sup> Further, Boorstin is especially disturbed that tourists—in their subservience to the techno-economic establishment—are made politically impotent, and worse, are encouraged to settle for an undignified existence.

Boorstin is not entirely clear on whether the cause of the problem lies more fundamentally with the demand presumed inherent in tourists, or whether it lies in the initiative of industry to manufacture (as opposed to meet) these expectations. At times he seems to suggest that as tourists and the public acquiesce, they perpetuate the system that benefits a profit-driven tourism industry and through this action become culpable as well.

Boorstin's portrayal of tourism and tourists may seem overly harsh, but the kinds of outcomes he bemoans have been employed over the last three decades by countless analysts, tourists, and others to denounce the tourist industry and the tourist identity.

Then, too, there is a certain irony in the touristic morass. People who intend to travel but who do not want to be tourists find themselves in a bind. Tourists can thus suffer not only from knowing they are, in fact, tourists, but also from knowing they are vulnerable to the control of a powerful tourist industry. In such a situation, it has become routine for people to resist and to develop the

illusion that they are not tourists at all—only travelers of some positive variety.

Of course, this personal reaction fails to provide a solution to the charge of being a tourist and the problems of inferred materialism and victimization by the tourism establishment. Further, the semantic solution (of reserving the term “tourist” for others, while failing to apply it to oneself) perpetuates a peculiar—yet conventional—understanding of tourism and tourists.

2. Paul Fussell and the Rise of (Anti-)Tourism. Paul Fussell, an English professor and social and literary critic, develops an argument that supports that of Boorstin. Fussell (1980: 38-39) laments many of the socio-technological changes that have occurred since the Renaissance and concludes that tourism is the least noble of several forms of travel:

Before tourism there was travel, and before travel there was exploration. ... The genuine traveler is, or used to be, in the middle between the two extremes. If the explorer moves toward the risks of the formless and the unknown, the tourist moves toward the security of pure cliché. It is between these two poles that the traveler mediates, retaining all he can of the excitement of the unpredictable attaching to exploration, and fusing that with the pleasure of ‘knowing where one is’ belonging to tourism.

Fussell (1980: 42) is insistent that tourists can be distinguished from travelers, and suggests that telltale signs concern a preoccupation with social status and materialism:

What distinguishes the tourist is the motives, few of which are ever openly revealed: to raise social status at home and to allay social anxiety; to realize fantasies of erotic freedom; and most important, to derive secret pleasure from posing momentarily as a member of a social class superior to one’s own, to play the role of a ‘shopper’ and spender whose life becomes significant and exciting only when one is exercising power by choosing what to buy.

Fussell (1980: 41) assumes “that travel is now impossible and that tourism is all we have left.” With this orientation, he interprets tourism as a status war that has created its own sociological product—the “anti-tourist”:

As I have said, it is hard to be a snob and a tourist at the same time. A way to combine both roles is to become an anti-tourist. Despite the suffering he undergoes, the anti-tourist is not to be confused with the traveler: his motive is not inquiry but self-protection and vanity. ... Abroad,

the techniques practiced by anti-tourists anxious to assert their difference from all those tourists ... involve attempts to merge into the surroundings, like speaking the language, even badly. Some dissimulations are merely mechanical, like a man’s shifting his wedding ring from the left to the right hand. A useful trick is ostentatiously not carrying a camera.<sup>20</sup> (Fussell, 1980: 47)

Finally, Fussell remarks on the management of “tourist angst,” a condition arising when one faces one’s own tourist identity:

*Tourist angst* ... is distinctly a class signal. Only the upper elements of the middle classes suffer from it, and it is endemic in places like Florence and Mikonos and Crete. It is rare in pseudo-places like Disneyland, where people have come just because other people have come. This is to say that the working class finds nothing shameful about tourism. It is the middle class that has read and heard just enough to sense that being a tourist is somehow offensive and scorned by an imagined upper class which it hopes to emulate and, if possible, be mistaken for.<sup>21</sup> (Fussell, 1980: 49)

It is Fussell’s (1987: 653) conclusion that the challenge before the contemporary tourist is to do one’s best to perform both as a sensitive tourist and as a traveler, to strive to enjoy “the stereotyped as well as the *outré* [Other].”

### The Customary View

The *customary view* of tourism that we summarize here is a generalized model of shared assumptions and understandings. It is derived, in part, from the images of tourism and tourists that Boorstin and Fussell have so provocatively diagnosed and which have been discussed above.

The customary view is the everyday or non-professional perspective of the touristic public—persons who intermittently behave as tourists, but who do not make their living by promoting, controlling, or otherwise analyzing tourism. In its essence, the customary view is a quick explanation answering the question “What is tourism all about?”

As will be seen in the next section, the customary view is also evident in analyses of tourism offered by academics and experts. The customary view has a cultural currency in that it facilitates discourse and evaluation, and can lead to action. Most importantly, the customary view is more accepted than challenged.<sup>22</sup>

The customary view of tourism is based on three premises. With a first premise, tourism is considered to be a two-component social system consisting of those who reside in the vicinity of the touristic destination on the one hand, and of visiting tourists on the other. Under a second premise, the tourist is taken to be a rational, independent actor who initiates the touristic trip and accordingly must bear lead responsibility for its consequences on locals and the environment. The third premise holds that the relationship forged between the tourist and the local is predominantly socio-economic in character (i.e., based on a supply and demand model); tourists and locals are portrayed as “guests and hosts” or as “consumers and producers.”

Taken together, these three premises generate a customary understanding of tourism in which consequences of tourism are seen to follow directly from the actions of tourists. The impacts of tourists on the world are expected at best to be benign, while at worst to be seriously negative. The touristic public and tourism analysts depend on the customary view to diagnose and plan tourism.

From our perspective, the customary view is not so wrong as it is limiting. To the extent that the view is adopted without testing or is projected without competition with other views, the customary view inhibits the development of different analytical understandings of tourism.

In a very preliminary way, we remark on how the customary view might be challenged. Addressing the first assumption, we reiterate a point made earlier that the BLT model of a tourism system accounts better for the different stakes that people have in fostering or opposing tourism than does a two-component model. Speaking to the second assumption, we acknowledge that tourists do indeed make decisions, but we elaborate that it is also the case that marketers and other brokers can be seen to create demand, effectively telling tourists what they should want. The third assumption describes the relationship between tourists and locals (using the BLT model, we would say between tourists and locals *and* brokers) in social and economic terms. This ignores the political dimensions of tourism.<sup>23</sup>

## Mass Tourism

*Because of sheer numbers, people tend to think first of modern, mass tourism (with all its negative consequences) as a model for all tourism.*

— Dennison Nash (1996: 23)

In this section, we examine how aspects of the customary view profiled above are revealed in the ways in which

tourism is popularly and professionally discussed. In this, we concentrate on the general inclination of people to consider mass tourism and the mass tourist with disdain.

### Mass Tourism—The Most “Dissed” Tourism

In everyday conversation, “mass tourism” has become the preferred term of disrespect, the favorite target of tourism critics who subscribe to the customary view. The popular image of mass tourism is patently negative; it so brings to mind touristic errors of materialism, ignorance, style, and insensitivity that it is virtually inconceivable that anyone would accept being labeled a mass tourist.

While mass tourism is denounced with conviction by the touristic public and by touristic pundits, it is not easily defined. Mass tourism is a multidimensional concept that evokes different images and dissatisfactions for different people. These images and associations make mass tourism a symbol of many wrongs. To illustrate, we describe five basic interpretations of mass tourism as a problem:

**1. Mass Tourism as a Population Problem.** With this view, mass tourism brings to mind images of great crowds and invasions of tourists. Mass in this context refers to an undifferentiated (and unthinking) quantity or weight of tourism. Mass tourism becomes a “touristmass” analogous to the ecological notion of biomass. In this context, mass tourism is perceived to be “wrong” for the congestion it creates and for the way the combined behavior of members of the mass interferes with the remainder of the ecosystem.

This conceptualization does not, however, provide standards of scale that would help the observer to know the acceptable levels of mass tourism. Nor does this view make any inference about the sociological or economic structure of the touristmass or about its relations to the remainder of society.

**2. Mass Tourism as a Technological Problem.** For many, mass tourism denotes the efficient and relatively inexpensive movement of large numbers of travelers. The history of this mass tourism is punctuated by the development of technological and business innovations that have affected modes of mass transportation. Thus, the early rise of mass tourism in the nineteenth century can be linked to the development of the first railroads in Europe in the 1830s,<sup>24</sup> and the rise of the Continental and trans-Atlantic steamship trade in the early- and mid-1800s.<sup>25</sup>

Speaking to the social aspects of technology, changing business practices have equally nurtured mass tourism. In 1841, Thomas Cook—at the time a publisher and an unpaid general overseer of a temperance association—arranged for a “Special Train” to conduct 570 passengers

on a ten-mile excursion from Leicester to Loughborough for a temperance meeting. In 1845, Cook repeated the experiment for profit and negotiated with four railroad companies to take 350 excursionists from Leicester to the sea at Liverpool (Swinglehurst, 1974: 14-15; 28-30).

In a famous demonstration of entrepreneurship, Cook expanded (with the help of his family) his business to the proportions of an empire. By making travel affordable and arranging for every detail, Cook simply revolutionized the business of tourism. Cook is credited with democratizing travel by addressing not only aristocratic tourists, but also tourists (and notably women) from the middle- and working-classes (cp., Swinglehurst, 1974, Turner and Ash, 1975, and Withey, 1997).<sup>26</sup> In the course of an extraordinary career, Cook also invented the role of travel agent as an "Excursion and Tourist Manager," prepared what is perhaps the first package tour guidebook (*A Handbook of the Trip to Liverpool*), and founded the first travel magazine—*The Excursionist*. (Swinglehurst, 1974: 28-29; 35; 156).

**3. Mass Tourism as an Infrastructural Problem.** This view of mass tourism—like the technological view just discussed—is an explanation that challenges the meaning of what has been called "progress." Whereas the technological view focuses on modes and brokers of transportation, the infrastructural view concerns hotels, enclave resorts, and other accommodations; restaurants; and human-created tourism attractions.<sup>27</sup> Mass tourism interpreted this way is considered "wrong" for its role in contributing to urban expansion and to the disfigurement of the natural landscape.

**4. Mass Tourism as a Service Problem.** Seen as a service problem, mass tourism involves organized groups of tourists under the control of brokers (e.g., tour guides, resort managers, travel agents). This mass tourism is perceived as "wrong" for the manipulation of tourists and locals, and for the transformation of the touristic environment by service institutions in the pursuit of profit.

**5. Mass Tourism as a Social Problem.** Mass tourism also conveys something about the tourists themselves. With the social view, mass tourism has social, economic, and political meanings, evoking images of a traveling middle-class. Those who have this perspective perceive themselves as somehow more qualified to travel (and more entitled to judge the travel of others) than the persons they consider to be mass tourists. This elitist view builds on the idea that those who travel inexpensively in "tourist class" are settling for a lesser experience not only in transit, but in all aspects of the touristic trip.<sup>28</sup>

The mass tourist in this view shares qualities with those attributed to the "mass man"—a figure of speech with origins in the 1940s, a time in which dramatic changes in

the growth and mobility of human populations were associated with technological progress. *The Random House Dictionary of the English Language* (1987: 1183) defines *mass man* as:

a hypothetical common man, especially one held to be typical of a mass society, to be characterized by the absence of unique values or distinct personality traits, to lack a sense of personal or social responsibility, and to be readily manipulated by the techniques developed by mass media.<sup>29</sup>

Mass tourism in this view is devalued because the mass tourist is regarded as undistinguished and "average," as having no personal history or voice.

Separately and collectively, these five images are validated in day-to-day experience. They are operative when people express with a cultural reflex their distaste for the mass tourism of, for example, Waikiki, Las Vegas, Disneyland, and any crowded beach town or resort worldwide.

The images foster conclusions that mass tourism is intrinsically "wrong." In each instance, however, mass tourism can be seen to be a surrogate for a more generalized object of controversy. Thus, mass tourism *qua* population problem raises objections to growth. Mass tourism *qua* technological problem encourages negative reactions to science and technology. Mass tourism *qua* infrastructural problem encourages opposition to urbanization and development. Mass tourism *qua* service problem legitimates negative reactions to the profit motive in the service sector. Finally, mass tourism *qua* social problem promotes a poor understanding of the struggles and potentials of the middle-class.<sup>30</sup>

That words used informally to discuss matters of tourism have multiple, even contradictory, connotations is not a serious problem. Indeed, the humor, satire, and socio-political sparring that makes life interesting are all supported by flexible language. In the realm of science, however, terminological ambiguity is to be avoided. Adherence to the ideal of objectivity requires that technical terms be free of value judgements. Science seeks therefore to describe or predict how the natural and social worlds are organized; it does not, in theory, concern itself with recommendations unless the value orientation of the analyst is made explicit.

### The Analysis of Mass Tourism—A Problem of Quantities, Qualities, and Subjectivities

In the analytical literature of tourism, the term "mass tourism" and variants that include "mass tourist" have been used inconsistently.<sup>31</sup> The selections in this volume, for example, illustrate that analysts, like the touristic public,

associate mass tourism with population, technological, infrastructural, service, and social problems. This has fostered the study of the nature and consequences of mass tourism with a grand array of biological, ecological, historical, engineering, cultural, social, economic, political, (post)modern, and other disciplinary paradigms.

Analytical accomplishments aside, mass tourism and the mass tourist are all too frequently assumed to be elements of popular speech with the result that they are employed more with derision than examined with scientific or humanistic precision. It is not uncommon in the tourism literature for researchers to use the term "mass tourism" without defining the term at all. In such cases, it might be expected that the reader would infer that mass tourism means many tourists, and moreover presume that this tourism is engaged in by persons of the socioeconomic middle-class. Given the omnipresence of the customary view, we would suspect that the reader would additionally be inclined to infer that the mass tourism in question is unfortunate for the impacts caused by the quantity of tourists, and for the consequences (including those affecting the tourists themselves) of their behavior.

As mass tourism has been used by tourism analysts, the term has come to have three different meanings, each of which is an extension (though in different ways) of the images discussed above. Two of the associated approaches to mass tourism are compatible with the ideal of objectivity and its traditional criteria (reliability and validity). The *quantitative* meaning stresses changes in the demographic, economic, and business "numbers" of tourism. The complementary *qualitative* meaning emphasizes the socio-cultural transformations of tourism. The third approach to mass tourism—one that promotes a *subjective* meaning of the term—is, by comparison, incompatible with scientific inquiry. This approach unfortunately inhibits objective analysis by embedding a judgement of mass tourism as a feature of its definition.

**1. Mass Tourism—The Quantitative Meaning.** With the quantitative approach to the importance of the phenomenon, mass tourism is analytically approached as a statistical—but not a social or moral—problem. This is the meaning fostered by those who incorporate standardized kinds of census and travel data in demographic, economic, and business analyses. Research questions concerning the intensities and distributions of mass tourism have to do with measurement of the overall magnitude of travel, travel routes, profiles of tourists (based, for example, on country of origin, age, occupation, size of party, etc.), visitation patterns (as characterized, for example, by length of stay, purpose of visit, etc.), and so forth.

Two distinct subcultures of analysts regularly use a quantitative conceptualization of mass tourism. First,

analysts trained in microeconomics examine mass tourism to reveal, for example, how the quantity demanded by would-be mass tourists of a touristic product (say, an airplane ticket combined with hotel accommodations in a package tour) declines with increase in price of the product. The economic framework depends on the idea that the decisions that people make, and which constitute demand, are determined by preferences and available income. Microeconomics might also study how the entire demand curve shifts with changes in, for example, the number of consuming mass tourists.

Importantly, the microeconomic analyst (at least in uncomplicated studies) does not focus on the question of how it is that mass tourists come to have preferences. Because this question is not pertinent for the purposes of many analyses, it is assumed that people simply have preferences *prior* to being exposed to any particular economic product.

A second subculture of analysts that employ a quantitative conceptualization of the mass tourist consists of professionals with backgrounds in advertising and marketing. The job of these analysts is to effectively communicate the advantages of existing products to consumers, and also to design products that mass tourists do or will want. Not surprisingly, mass tourism advertisers and marketers exhibit an opposite assumption about the origins of preferences than do microeconomists. For this group, the preferences of mass tourists are—to a degree—regarded as creations of advertising and marketing departments. Thus, the *presentation* of a touristic product actually generates preferences.<sup>32</sup>

**2. Mass Tourism—The Qualitative Meaning.** Mass tourism has qualitative significance for analysts who are concerned with changes in cultural and social structures and processes that have been attributed to changes in the sheer numbers of people traveling. Used to denote tourism with a particular quality or identifying character, mass tourism contrasts with other kinds of tourism on dimensions that reflect more than just the volume of travel. In remarking on a host of sociological typologies, Nunez (1989: 272), for example, suggests that "mass tourism" might usefully be contrasted with "elite tourism."<sup>33</sup>

When mass tourism is employed in a qualitative manner, it is defined to make a point warranted by theory in a field such as sociology or cultural anthropology. Despite the way in which mass tourism may be used elsewhere, it is essential to social scientific practice that the term is introduced in analyses with neutrality. This is to say that while the consequences of mass tourism may empirically be seen to be severe and negative, mass tourism *per se* is neither "good" nor "bad" any more than an exploding population of predators (say, wolves or sea lions) is so perceived.<sup>34</sup>

Several examples of the use of mass tourism as a descriptive—that is, neutral—sociological and historical concept follow:

i.) Grayburn (1989: 30) remarks on the origins of mass tourism in a way that would facilitate the study of class struggles:

The final cultural revolution that set the stage for the mass tourism of today was prompted by the First World War. Not only did this catastrophe pauperize the elite rivieras, but it did away with many of the ruling families and other European aristocrats whose fortunes had fueled the life-style.

ii.) Pi-Sunyer (1989: 191) equates mass tourism with “modern tourism” and sees this Post-World War II phenomenon to represent “more than a mere quantitative jump in the incidence of travelers.” Citing instances in Europe, Pi-Sunyer (1989: 191) links mass tourism with expansions of the tourist market in which less-developed regions and countries have been transformed into “the summer playgrounds of the working classes and the lower middle classes of the more affluent nations.”<sup>35</sup>

Tourism on the present scale is clearly a reflection of the socioeconomic transformations experienced by the more developed Western societies since 1950; in short, it is a manifestation of mass consumption. ... [T]he discontinuities created by mass tourism were in the main the consequence of a sudden change from a historic, steady interaction with a limited number of outsiders to the massive influx of short-term tourists. (Pi-Sunyer, 1989: 191)

iii.) Leed (1995: 266) views mass tourism as a social form wedded to its very transportation technology:

The industrialization of travel created a new integration of human and machine through common motion. This integration produced a new kind of a collective, a ‘mass,’ distinguished by an absence of the inequalities that usually characterize social structures.

Speaking of the sociology of touristic trips, Leed (1995: 269) elaborates:

Our touristic journeys thus differ in telling ways from what constituted the experience of expeditionaries before the age of steam. Ours are journeys mediated by machinery, which defines our membership in a mass, our temporary communities, our extended body awareness attained through mechanized motion.

3. Mass Tourism—The Subjective Meaning. The subjective approach to mass tourism differs from the quantitative and qualitative approaches in that the term is defined in a way to carry—and implicitly endorse—either a positive or a negative evaluation of the activity. It is important to keep in mind the difference between defining a variable in preparation for research in, say, a negative way, and concluding as a consequence of analysis that the variable causes unfortunate outcomes. Mass tourism may indeed be empirically shown to have certain negative impacts on ecologies and people visited, and on tourists themselves, but this conclusion does not warrant definitions of mass tourism in future studies that imply it is inherently “bad” or “undesirable.”

Examples of analyses that treat mass tourism subjectively and negatively, but do not bother to define the term are pervasive in the tourism literature. These are disturbing because they invite the reader to agree from the outset that mass tourism is to be discouraged and that mass tourists are somehow morally, intellectually, physically, or otherwise inferior to the reader, the analyst, and others with more refined travel habits and preferences. The authors of such studies would be inclined to concede that they are prejudiced against mass tourism as a collective phenomenon and mass tourists as individuals.

We have no quarrel with those who personally oppose mass tourism and choose to attack it in on ideological, philosophical, aesthetic, or other grounds. Free speech and activism are to be encouraged in the tourism policy arena. After all, there are also those who see in tourism—mass or any other kind—mechanisms that would liberate the tourist.<sup>36</sup> Nor do we ask those who tailor their analyses to different partitions of tourism to look instead to mass tourism.<sup>37</sup> But, we do, however, point out that it is also all too common for analysts to inadvertently incorporate biased definitions of mass tourism in their scientific work.

Here we offer illustrations of how mass tourism has been defined in a sociological context by Erik Cohen and in a cultural anthropological context by Valene Smith. While it is surely the case that their definitions were developed to foster neutral analyses, the tone of the writing arguably reveals an antipathy of the researchers toward mass tourism.

We do not, however, mean to single out two researchers for criticism and imply that they alone might employ some definitions with embedded judgements. In fact, both scientists are widely and rightly respected for their pioneering contributions. The work of Cohen is so well-known that it is almost routine for his typology to be centrally considered in reviews of the field and in anthologies (see, for example, Urry, 1990; Lowyck *et al.*, 1992). Nash (1996: 164) reports that Smith’s 1989 edited volume, *Hosts and Guests*, “may be the best known book in

the field." Our purpose here, then, is to encourage the refinement of definitions so that these could not be interpreted as value-laden.

i.) In a sociological paper, Cohen (1990: 199) contends that tourism combines "a degree of novelty with a degree of familiarity," and finds sociological expression of this in a continuum of four tourist roles: 1) the "organized mass tourist," 2) the "individual mass tourist," 3) the "explorer," and 4) the "drifter." Cohen defines the two roles reflecting mass tourism as follows:

*The Organized Mass Tourist:* The organized mass tourist is the least adventurous and remains largely confined to his 'environmental bubble' throughout his trip. The guided tour, conducted in an air-conditioned bus, traveling at high speed through a steaming countryside, represents the prototype of the organized mass tourist. This tourist type buys a package tour as if it were just another commodity in the modern mass market. The itinerary of his trip is fixed in advance, and all his stops are well-prepared and guided; he makes almost no decisions for himself and stays almost exclusively in the microenvironment of his home country. Familiarity is at a maximum, novelty at a minimum.

*The Individual Mass Tourist:* This type of tourist role is similar to the previous one, except that the tour is not entirely preplanned, the tourist has a certain amount of control over his time and itinerary and is not bound to a group. However, all of his major arrangements are still made through a tourist agency. His excursions do not bring him much further afield than do those of the organized mass tourist. He, too, does his experiencing from within the 'environmental bubble' of his home country and ventures out only occasionally—and even then only into well-charted territory. Familiarity is still dominant, but somewhat less so than in the preceding type; the experience of novelty is somewhat greater, though is often of the routine kind. (1990: 199)

Cohen (1990: 199) considers these two mass tourism roles to be "institutionalized" in that:

... they are dealt with in a routine way by the tourist establishment—the complex of travel agencies, travel companies, hotel chains, etc. which cater to the tourist trade.

Expanding on the nature of institutionalized tourism, Cohen is critical of the sociological outcome:

Contemporary institutionalized tourism is a mass industry. The tour is sold as a package, standardized and mass-produced. ... The main purpose of mass tourism is the visiting of attractions, whether genuine or contrived. ... The sad irony of modern institutionalized tourism is that, instead of destroying myths between countries, it perpetuates them. The tourist comes home with the illusion that he has 'been' there and can speak with some authority about the country he has visited. (1990: 200, 202)

In considering this work, one is left with the impression that Cohen does not highly regard either kind of mass tourist. Inspection of his roles shows that, for Cohen, the organized mass tourist is indecisive. Moreover, Cohen seems to disapprove of the organized mass tourist's purchase of a package tour involving high-speed bus transportation and guides. Cohen is only slightly more approving of the individual mass tourist, this because the individual mass tourist is less committed to a group and exhibits more autonomy.<sup>38</sup>

ii.) In a typology of tourism determined by the "kinds of leisured activity undertaken by the tourist," Smith (1989: 4-6) includes "ethnic tourism," "historical tourism," "environmental tourism," and "recreational tourism." In addition, Smith presents a touristic typology based on "their numbers, their goals, and their adaptations to local norms." In this, mass tourism is seen to have three variants that remind one of Cohen's two mass tourism roles.<sup>39</sup> First, "Incipient Mass tourism" is introduced as:

... a steady flow of people, and although the numbers are increasing, they usually travel as individuals or in small groups. The tourist industry is only one sector of the total economy, and hotels usually have a mix of guests including domestic travelers and businessmen as well as tour groups. This phase of tourist activity is exemplified by many 'popular' destinations such as Guatemala, or the summer visitors to the Arctic, the latter secure in their guided tour, heated buses, and modern hotels. These tourists seek Western amenities, and totally ignoring the fact that at great expense the hotel room in the Arctic has a private bath, many of these visitors would complain about the 'ring around the bathtub.' (Smith, 1989: 13)

Second, a more generic "Mass tourism" is:

... a continuous influx of visitors who inundate Hawaii most of the year, and other areas at least seasonally, including the European resorts, and Northern Hemisphere 'winter vacation' lands such as coastal Mexico and the Caribbean. Mass



tourism is built upon middle-class income and values, and the impact of sheer numbers is high. Because of the diversity of individual tastes and budgets, in Europe, for example, the tourists are everywhere—hitchhiking at the roadside, riding trains with their Eurailpasses, or huddling around a guide who is attempting to be heard above the voices of other guides in some crowded museum. With a 'you get what you pay for' attitude, they fill up hotels of every category, pensions, and hostels *but*, as a common denominator, they expect a trained, multi-lingual hotel and tourist staff to be alert and solicitous to their *wants* as well as to their needs. The 'tourist bubble' of Western amenities is very much in evidence. (Smith, 1989: 13)

Third, "Charter tourism" is introduced in the following way:

Charter tourists arrive en masse, as in Waikiki, and for every 747 planeload, there is a fleet of at least ten big buses waiting to transfer them from the airport to the designated hotel, in the lobby of which is a special Tour Desk to provide itineraries and other group services. Should an individual ask even a simple, 'What time does the tour bus go?', the immediate answer is, 'What *group* are you with?' The 'you' in the reply is spoken as to a 'living thing' and not as to a personality. Charter tourists wear name tags, are assigned to numbered buses, counted aboard, and continually reminded: 'Be sure to get on the right bus.' Given the requisite organization that makes Charter tourism a high-volume business, to avoid complaints tour operators and hotels have standardized the services to Western (or Japanese) tastes, and there are 'ice machines and soft drinks on every floor.' For Charter tourists, even destination may be of very little importance, especially if they won the trip as part of an incentive sales program, or it coincides with tax-free convention travel. (Smith, 1989: 13-14)

These two definitions, like those of Cohen, reinforce the idea that mass tourism is wrong for its consequences, if not embarrassing for its tackiness. Despite the fact these descriptions are offered in a typology, the profiles are not delivered in a neutral tone. It is clear that, for Smith, the behavior of Incipient, Mass, and Charter tourists leaves much to be desired.<sup>40</sup> Smith defines Incipient mass tourism as consisting of naive, if not ethnocentric tourists. Mass tourism is driven by tourists who, in Smith's eyes, are subservient to guides, and who exhibit a materialistic attitude toward life, demanding their wants be satisfied. Finally, Charter tourism fares no better in Smith's assessment.

## Discussion

In this paper, we have examined some of the ways in which tourism and tourists are defined and evaluated in everyday discourse and also in the literature of tourism research. We have isolated assumptions that facilitate knee-jerk opinions that tourism is inherently ugly and that tourists are uniformly insensitive and incorrigible. We have argued that positions taken about mass tourism and mass tourists often betray a failure to make a distinction between properties of a system and properties of individuals within systems.

Earlier, we pointed out that self-attitudes towards tourism are marked by ambivalence. Because the character of tourism systems and the behavior of fellow tourists is so frequently disappointing, negative stereotypes have surfaced in both popular and academic considerations of tourism and critiques of the styles of individual tourists. As we have shown, mass tourism and mass tourists have been cast as scapegoats by those who find it easy or convenient to malign others who travel.

Yet, touristic ambivalence also signals a deep-seated positive inclination to travel. Most of the countless masses who have been tallied in tourism statistics would be of the opinion that they have greatly benefited from travel, and would no doubt encourage their family members, friends, and others to travel as well.

In the early 1960s, brokers and tourists began to cooperate in the redesign of tourism and the tourist identity. Miller (1993a: 187) reports that the term "eco-tourism" can be traced to a call by Hetzer (1965) for a reassessment of the educational and cultural possibilities to be found in tourism.<sup>41</sup> In the period since, ecotourism and a host of relatives (e.g., "nature tourism," "adventure tourism," "soft tourism," "responsible tourism," "green tourism," "sustainable tourism," "environmentally sound tourism," "ethnic tourism") subsumed under the rubric of "alternative tourism" have been widely discussed (cp., Keyes and van den Berghe; 1984; Edwards, 1988; Kusler, 1991; Whelan, 1991; Smith and Eadington, 1992).

Over the last years, forms of alternative tourism have been so effectively promoted as superior to "mass" (or "mainstream") tourism that the argument has been incorporated into the customary view of tourism.<sup>42</sup> In reviewing this literature, Pearce (1992: 22-26) reports that the key variables used in distinguishing alternative tourism from "conventional or mass tourism" concern 1) *facilities* (type, scale, quality, service, prices), 2) *location* (localized/extensive, isolated/incorporated), 3) *developers/ownership* (origin and type, attitudes and motives), 4) *development process* (requirements, time, planning, process, form), 5) *markets and marketing* (origin of tourists, other

tourist characteristics, promotion and packaging), and 6) *impacts*.

The rising interest of analysts and policy makers in forms of alternative tourism is introduced by Pearce (1989: 101):

Opponents of high-volume, large scale, enclavic forms of tourism development have suggested that there must be other, better ways of developing tourism in Third World countries. Mass tourism ... has been criticized for the degree of external control and for failing to deliver on promised economic benefits while causing severe social disruption.

Eadington and Smith (1992: 3) echo this justification:

Disillusionment with 'mass' tourism and the many problems it has triggered has led many observers and researchers to criticize vociferously the past methods and directions of tourism development and to offer instead the hope of 'alternative tourism,' broadly defined as forms of tourism that are consistent with natural, social, and community values and which allow both hosts and guests to enjoy positive and worthwhile interaction and shared experience.

It is instructive to realize that alternative tourism is explicitly marketed as a positively valued substitute for negatively valued mass tourism. This is unfortunate because it imposes a judgement about preferred tourism conditions instead of offering a neutral vocabulary for analysis. Eadington and Smith (1992: 3) nearly anticipate this complaint:

As many of the articles in this volume point out, it is easier to grasp and speak against the negative results of mass tourism than it is to formulate a realistic and cohesive view of what 'alternative tourism,' however defined, can reasonably offer.

We agree with Eadington and Smith (1992) that there cannot be one "alternative tourism" that merits universal application. There are as many forms of alternative tourism as there are visions. Further, we align with Butler (1992) who has succinctly described the mass tourism *vs.* alternative tourism debate as an unproductive misunderstanding of the positive and negative potentials of development:

[A] simplistic (big/small, rapid/slow development) type of comparison [between mass and alternative forms of tourism] is not acceptable. (1992: 37)

Alternative tourism is often used as a synonym for appropriate tourism. In this context, however, it is necessary to ask the question: appropriate for whom? Furthermore, one should also ask for how long, under what conditions, and by whose decision is it deemed appropriate? (1992: 39)

Development has the capacity to enhance enjoyment, economic return, and the environment if the type, scale, and timing are correct. It also has the power to degrade, corrupt, or bankrupt and despoil if any or all of the elements are wrong. Claiming that one form of tourism is all thing for all areas is not only pious and naïve, it is unfair, unrealistic, and unwise. (1992: 46)

In conclusion, we remind readers that tourism and tourists should be treated with a constructive suspicion, but not with predisposed cynicism. Touristic systems in the coastal pleasure periphery qualify as important objects of inquiry. Tourism analysts are especially challenged to 1) develop a vocabulary of broker-local-tourist interactions that does not prejudice conclusions, 2) examine the role of tourism brokers in interactions between tourists and locals as well the role of brokers in managing interactions that link locals and tourists with the environment, and 3) delve as well into the study of the accomplishments and impacts of tourism approaches that are proposed as alternatives to mass tourism.

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## ENDNOTES

<sup>1</sup> To illustrate, a discussion paper (U.S. Federal Agencies, 1998: F-19) published in the United Nations "International Year of the Ocean" finds little information on U.S. marine and coastal tourism:

There is no systematic collection of data and information on the magnitude, nature, and economic and social impacts of tourism and recreation in the nation's coastal zone. This is, in part, responsible for a general under-appreciation of this set of activities and for the failure to devote adequate planning and management attention to the relevant issues that are raised for coastal tourism and recreation.

<sup>2</sup> Most kinds of tourism have both proponents and detractors. "Enclave" or resort tourism, for example, can be seen to be both a problem and a solution. For some, this tourism—as it is associated with the acquisition of valuable lands, infrastructural development, and rules of exclusion—is an intensification of mass tourism. For others, enclave tourism is a solution of sorts. Because it is designed as an expensive and localized experience, enclave tourism involves relatively few tourists interested in the best of service and on-site exposure to artistic and cultural productions, and aesthetic vistas.

<sup>3</sup> Tourism that takes place in the coastal zone can be considered as falling along a "coastal dependency continuum." At one end of the continuum is the tourism that requires beaches, boats, living marine resources and the other amenities usually expected in a seaside destination. At the opposite pole is the tourism based in museums, casinos, theme parks, and shopping malls that could just as reasonably take place in non-coastal settings.

In this essay, we are primarily interested in coastal-dependent tourism. We do, however, recognize that it can prove difficult to separate coastal-dependent tourism from non-coastal-dependent tourism. To illustrate, consider the touristic report of Umberto Eco (1986: 48-49) concerning American "amusement cities" and attractions:

Spongeorama, Sea World, Scripps Aquarium, Wild Animal Park, Jungle Gardens, Alligator Farm, Marineland: the coasts of California and Florida are rich in marine cities and artificial jungles where you can see free-ranging animals, trained dolphins, bicycling parrots, otters that drink martinis with an olive and take showers, elephants and camels that carry small visitors on their backs among the palm trees. The theme of hyperrealistic reproduction involves not only Art and History, but also Nature.

<sup>4</sup> The attitudes that prevail today about tourism and tourists can be better understood with an appreciation of terminology. We digress briefly to show how "tour," "tourist," and "tourism" entered the English vocabulary.

- Tour has Middle English and French forms, and traces to *tornus* (Latin for lathe), and also to *toros*, (Greek for a tool describing a circle, a turner's wheel). By one dictionary meaning, "tour" as a noun refers to:

a going or traveling round from place to place, a round; an excursion or journey including the visiting of a number of places in a circuit or sequence ...; [especially] a circuitous journey embracing the principal place of the country or region mentioned. (*The Oxford English Dictionary*, 1989:[18]: 305)

Used in this sense, *OED* establishes that "tour" first appeared in print in 1652, and that a spelling variant appeared shortly before that in 1643. The "Grand Tour"—a term most usually employed to refer to a journey taken by a young Englishman (typically accompanied by a tutor and servants) in the eighteenth century through France, Germany, Switzerland, and Italy—was known for its function of educating future diplomats, public servants, soldiers, and gentlemen a century before it first appeared in print in 1670 (Hibbert, 1969: 10).

- Tourist derives from tour and is defined in the dictionary as:

One who makes a tour or tours; [especially] one who does this for recreation; one who travels for pleasure or culture, visiting a number of places for their objects of interest, scenery, or the like. (*OED*, 1989:[18]: 306)

According to *OED*, "tourist" first appeared in print in 1780 and by about 1800 was considered as a synonym for "traveler." *OED* (1989: [18]: 306) also confirms that "tourist class" appeared in print (in the *New Yorker*) as early as 1936: "In Tourist Class, too, you can find typical American standards."

- Tourism did not appear in print until 1811; its dictionary definition is:

The theory and practice of touring; traveling for pleasure. [Originally usually depreciatory] Also, the business of attracting tourists and providing for their accommodation and entertainment; the business of operating tours. (*OED*, 1989:[18]: 306; emphasis added)

<sup>5</sup> The World Tourism Organization makes a statistical distinction between "international tourists" and "excursionists;" the former spend 24 hours (or, in some compilations, one night) in the country visited, and the latter a shorter period. International tourists and excursionists are both classified as "visitors," who are in turn defined as "travelers" who visit countries "for any reason other than following an occupation remunerated within the country visited." Excluded from these categories are border workers, nomads, transit workers, refugees, members of the armed forces, representatives of consulates, diplomats, and temporary and permanent immigrants. WTO categorizes "domestic tourists" and "excursionists" in a similar manner (WTO cited in Miller and Auyong 1991c: 96-97). For additional detail regarding WTO guidelines, see Gee et al. (1984: 4-11). For basic sources of tourism statistics, see Goeldner (1981).

<sup>6</sup> Leed (1995) concentrates on “modern” (or “industrial age”) tourism.

<sup>7</sup> Van den Berghe and Keyes (1984) have conceptualized tourism as fostering three roles: the “tourist,” the “touree”—“a performer who modifies his behavior for gain according to his perception of what is attractive to the tourist” (1984: 346)—and the “middleman.”

<sup>8</sup> With the BLT model, private sector brokers include, among others, the “middleman” identified by van den Berghe and Keyes (See Endnote 7; 1984: 346) as well as their “touree” who:

... fakes his art, his dress, his music, his dancing, his religion, and so on, to satisfy the ethnic tourist's thirst for authenticity at the very same time that the tourist invasion assaults his culture and subjects it to the homogenizing process known as ‘modernization.

<sup>9</sup> We are grateful to our students for raising some of these possibilities. The term “unwitting attraction” was suggested by Cherise Gaffney; “attractor” was suggested by Andrew Bennett. Relatedly, brokers can also sometimes be regarded as attractors and amenities. With the perspective that political activists can be brokers (for example, in formally rejecting some kinds of tourism), Edmund Enomoto suggests the term “sovereigntee” for reformists in Hawaii who have demonstrated the potential to attract the interest of tourists.

<sup>10</sup> This elaboration of the BLT model is illustrative rather than exhaustive. Tourists, for example, could be subclassified by World Tourism Organization categories (see Endnote 5); private-sector brokers could be partitioned into full-time, part-time, and seasonal categories; and so forth.

<sup>11</sup> Rates of the population growth of brokers, locals, and tourists can be studied in the same way—and with the same Lotka-Volterra models—as are changes in the numbers of predators and preys that concern population biologists and ecologists.

<sup>12</sup> In a parallel way, tourism planning, development, and management are also engaged in by private and social movement brokers, although the constituencies or clients may differ from those of the public sector broker. For ease of reading, we discuss public sector brokers as the primary agents of action in this section.

<sup>13</sup> To illustrate, Miller (1989b: 115; also displayed in Grenier et al., 1993: 10-11) breaks down the tourism planning process into phases of “front-end planning” (consisting of scoping and research activities), “project planning,” and “project management.”

<sup>14</sup> As a quick visit to a bookstore will attest, the genre of travel writing is enormously popular with the touristic public. We are aware of only two titles, however, which signal that the lead figure is a “tourist.” The first of

these is Stendahl's (1962 [1838]) first person account *Memoirs of a Tourist*. The second is Tyler's (1985) piece of fiction, *The Accidental Tourist*. Interestingly, Stendahl as a tourist is a seeker of truth whereas Tyler's lead character is a guidebook writer who hates to travel.

<sup>15</sup> In comparison with the stigmatized identity of “tourist,” consider that of the “student.” The student identity is widely regarded in very positive terms, no doubt for the associations it evokes with scholastic intentions, an economical lifestyle, and the genuine curiosity of youth. Not surprisingly, many tourists describe themselves as students when they travel. The same strategy is used by professors, scientists, and others who can claim their travel is some kind of an assignment. Leed (1991: 287) makes a similar point in a discussion of the way in which travel writers and others are self-conscious about their own implicit tourism:

There is a touching desperation in the attempts of professional tourists, well-funded anthropologists, and recording travelers, to distinguish themselves from the traveling masses and run-of-the-mill adventurers. The most characteristic mark of the tourist is the wish to avoid tourists and the places they congregate. But this is merely evidence of the fact that travel is no longer a means of achieving distinction. It is a way of achieving and realizing a norm, the common identity we all share—the identity of the stranger.

Finally, consider the advertising language employed by a Canadian firm offering small group adventure packages to reach the “Discerning Traveler”: “Canadian Adventures for the UNtourist.”

<sup>16</sup> More specifically, Boorstin defines a pseudo-event as a happening that:

- “... is not spontaneous, but comes about because someone has planned, planted, or incited it”;
- “... is planted primarily (not always exclusively) for the immediate purpose of being reported or reproduced. Therefore, its occurrence is arranged for the convenience of the reporting or reproducing media. Its success is measured by how widely it is reported. ... The question, ‘Is it real?’ is less important than, ‘Is it newsworthy?’”;
- “[has a] relation to the underlying reality of the situation [that] is ambiguous. Its interest arises largely from this very ambiguity. Concerning a pseudo-event the question, ‘What does it mean?’ has a new dimension. While the news interest in a train wreck is in what happened and in the real consequences, the interest in [a pseudo-event] is whether it

really happened and in what might have been the motives"; and

- "... usually ... is intended to be a self-fulfilling prophesy." (Boorstin, 1962: 11-12)

In later chapters, Boorstin (1962: 243) equates another of his terms—"images"—as "the pseudo-events of the ethical world":

What the pseudo-event is in the world of fact, the image is in the world of value. The image is a pseudo-ideal. As we shall see, it is synthetic, believable, passive, vivid, simplified, and ambiguous. (Boorstin, 1962: 185)

Although Boorstin does not explicitly say so in his chapter on travel, he would doubtlessly agree that images are surely as responsible as pseudo-events for the way in which American tourists behave and are perceived in their travel.

<sup>17</sup> Giesz (1969) argues that the "bad taste" attributed to tourists is also a shortcoming of many others in modern society. Thus, the tourist is but one special case among many of "kitsch-man" (*Kitschmenschen*):

As far as the kitsch-man is concerned, the fascination of tourism lies in this process of the 'familiarization of the exotic', which is analogous to the privacy of kitsch delight in art ...; or alternatively in the 'exoticization of the familiar.' The two processes are indistinguishable. He poses for photographs as a bullfighter, and the Acropolis is a suitable backcloth. (Giesz: 1969: 170-171)

<sup>18</sup> The idea of an "Ugly American" as a touristic creature with ethnocentric and materialistic attitudes is easy for a contemporary audience to assimilate. This passage from Boorstin shows, however, that these tourists disappoint even themselves. Perhaps "Unfulfilled Tourist" is an equally fitting label.

In passing, it should be noted that the "Ugly American" in Lederer and Burdick's (1958) famous book of the same name was a physically ugly engineer who exhibited particularly positive traits and sensibilities in cross-cultural interactions in Southeast Asia. Other Americans described in the book leave much to be desired as ambassadors; this is illustrated by the evaluation of a fictitious character from Burma:

For some reason, however, the Americans I meet in my country are not the same as the ones I knew in the United States. A mysterious change seems to come over Americans when they go to a foreign land. They isolate themselves socially. They live pretentiously. They're loud and ostentatious. Perhaps they're frightened and defensive; or maybe they're not properly trained and make mistakes out of ignorance. (Lederer and Burdick, 1958: 123)

<sup>19</sup> Boorstin (1962: 243-245) contrasts idolatry (the attachment of value or importance to images) with materialism (the overvaluing of objects for their own sake). Acknowledging that Americans are commonly perceived to be materialistic, Boorstin rejects this perception, arguing that American society is all too often fooled by the very illusion it creates:

We suffer unwittingly from our own idolatry. The more images we present to people, the more irrelevant and perverse and unattractive they find us. The image, because it invites comparison, is irrelevant. Few people are not sensible enough to see that the image does not relate to them. Our images suggest arrogance: in them we set ourselves up as a mold for the world. (Boorstin, 1962: 244)

<sup>20</sup> Fussell has also written with humor about touristic status competitions waged to display "class" and command respect. In *Class* (1983: 109), he points out that tourism appeals to the middle class because the "feeling" of belonging to a higher class can be bought:

For what the middle class most envies in the classes above is their trips abroad, more than their houses, cars, or other items of local conspicuous consumption.

For an excellent sociological review of *Class*, see Kirk (1984). It would be interesting to compare Fussell's perspective on strategic impression management with the insights of Stephen Potter in, say, *Three-upmanship* (1962).

<sup>21</sup> Humor aside, Fussell directs most of his attention at a middle class that he associates with the worst of science and technology, and the downside of purchasing power. Buzard (1993: 5) notes that while Fussell accurately describes the tendency of the educated middle class to deny that they are ever tourists, he "idealizes an upper-class capacity" to admit to being a tourist and to enjoy touristic amenities without angst. (At the same time, Buzard sees Urry [1990: 45-47] as idealizing a post-modern working class for the identical ability to battle angst.) For a criticism of Fussell and Boorstin based on their inattention to the cultural mechanisms responsible for shabby behavior, see Culler (1989).

<sup>22</sup> The "truth" of the customary view is generally presumed on grounds of experiential knowledge and face-validity.

<sup>23</sup> In those instances where a power relationship is perceived with the customary view to exist between the tourist and the local—as, for example, in tourism involving First World tourists and Third and Fourth World locals—this power is interpreted as colonial and imperialistic with a high potential for negative distributional outcomes. With this perspective, power in the hands of tourists has negative repercussions for locals. Generally, the customary view does not accommodate analyses of power that would

establish the tourist as the target (rather than the executor) of power.

<sup>24</sup> The first railroad line in Europe linked Manchester with Liverpool and was built in 1825 (Dulles, 1964: 59).

<sup>25</sup> The first steamship crossed the English Channel in 1816; the first regularly scheduled trans-Atlantic service was initiated by the Black Ball line in 1818 (Withey, 1997: 63). For a social history of Atlantic liner service for the 1818-1968 period, see Brinnin (1971). See, also Dulles (1964: 43-67), Swinglehurst (1974: 96-107), and Withey (1997: 171-174; 188-190). Later, mass tourism was greatly facilitated by the development of the car and national road systems, and passenger aircraft. In 1958, the era of jet tourism was ushered in as the Boeing 707 displaced the propeller-driven DC-7 (Sutton, 1980: 247).

<sup>26</sup> The democratizing influence of tourism has persisted across decades. For example, Gee, et al. (1984: 28) note that "package tours" opened Europe to American travelers in the period just before World War I in the way Cook's tours earlier opened Europe to the English traveler. Gee et al. (1984: 26-27) also remark on how mass tourism in the United States has increased the opportunities for non-elite members of society to travel:

The sixties brought what has sometimes been called the 'democratization' of foreign travel. The middle class traveled abroad in great numbers.

For additional comment on tourism as democratizing force, see Urry (1990: 16, 24, 42) and Leed (1995: 255-271).

<sup>27</sup> Today's luxurious enclave resorts are descendants of the Grand Hotels of an earlier age. For an account of the rise of the Ritz hotels in the last quarter of the nineteenth century, see Ritz (1938).

<sup>28</sup> Thomas Cook sold third class-tickets for his first excursion trip from Leicester to Loughborough in 1841. Although Cook subsequently made a point of meeting the needs of upper-class customers, it also became a business routine to advertise "cheap" excursions and tours (see Swinglehurst, 1974: 29, 148).

<sup>29</sup> It could be argued that a related term, "mass society," also has negative connotations. *The Random House Dictionary of the English Language* (1987: 1183) defines *mass society* sociologically as:

a society whose members are characterized by having segmentalized, impersonal relations, a high degree of physical and social mobility, a spectator relation to events, and a pronounced tendency to conform to external popular norms.

<sup>30</sup> These problem characteristics of mass tourism can, of course, be combined to support ideological and moral assaults on interlocking systems of capitalistic structures and Judeo-Christian worldviews.

<sup>31</sup> As used here, the tourism analysts would include professors and government and industry managers and analysts. It would, importantly, not include "marketers" whose purpose is to re-package or re-create soiled tourism as quality travel.

<sup>32</sup> Of course, there is no consensus in academe about the source of preferences or values. For some, preferences are formed early in the process of socialization and are relatively permanent, even latent. For others, preferences are not only sustained or rejected by experience, but are supplemented and displaced by new preferences as these are marketed by others.

<sup>33</sup> Nunez (1989: 272) also mentions other contrast sets. These consist of:

... internal, domestic tourism vs. international tourism; 'packaged and programmed' tourism vs. individual tourism; resort tourism vs. 'off-the-beaten-track' tourism; religious vs. secular tourism; [and] recreational vs. educational or 'cultural' tourism.

For a discussion of six tourism typologies—some based on socio-economic characteristics of tourists, others on lifestyle differences—see Lowyck et al. (1992). For an overview of classifications of tourism development and also typologies of tourists, see Pearce (1992). For a discussion of tourism development typologies in the context of coastal tourism, see Pearce (1989: 58-65).

<sup>34</sup> Social scientists have long contended with the communication problems created when academic concepts used to study social problems—"deviance," "delinquency," "dysfunctionalism," and "marginality" come quickly to mind—have popular meanings with negative connotations. Of course, biological and ecological scientists who investigate "predation," "competition," etc. would have faced similar difficulties if their objects of study could talk.

<sup>35</sup> In addition, Pi-Sunyer (1989: 191) points out that: [m]odern tourism especially in southern Europe, differs also from earlier forms of travel in that it is overwhelmingly a phenomenon of the coasts.

<sup>36</sup> For example, MacCannell (1989: xv) writes in his "Introduction" to the 1989 edition of *The Tourist* that he would "abhor any tendency to belittle the motives or competencies of the people we study." He is strictly interested in understanding the behavior of tourists in a time of modernity, not judging them:

Does tourism and/or postmodernity, conceived in the most positive possible way as a (perhaps final) celebration of distance, difference, or differentiation, ultimately liberate consciousness or enslave it? Is modernity, as constituted in the system of attractions and the mind of the tourist, a 'utopia of difference,' to use Van den



Abbelee's energetic phrase? Or does it trap consciousness in a seductive pseudo-empowerment, a prison house of signs? *The Tourist* does not give an answer. (MacCannell 1989: xiv)

<sup>37</sup> Withy (1977: x) for example, chooses not to equate tourism with "mass, mechanized travel":

[Instead] I prefer to consider it rather more broadly, as leisure travel—a distinctly modern phenomenon but one that predates railroads and travel agents by several decades. In this sense, I would argue, tourism originates with the 'grand tour,' which had its origins in the sixteenth century but reached its heyday in the late eighteenth.

<sup>38</sup> Cohen's categories of tourism have been used in many studies. Turner and Ash, for example, see Third World nations as especially vulnerable to "institutionalized mass tourism" involving Cohen's "individual" and "organized" mass tourists. These tourists, along with "drifter" tourists, have proliferated since World War II and constitute for Turner and Ash (as they do for Cohen) a significant social problem:

Tourism is no trivial phenomenon. It is a visible result of the fourth of the great waves of technology which have changed the social geography of the world since 1800. ... Finally [after the development of railways, steamships, and cars] we have the aeroplane which, when linked with rising affluence, has led to a whole new tribe—the Mass Tourists. The barbarians of our Age of Leisure. The Golden Horde. (Turner and Ash, 1975: 11)

<sup>39</sup> In addition to the "Incipient mass," "Mass," and "Charter" tourists types discussed here, Smith (1989: 11-15) refers to "Explorer," "Elite," "Off-beat," and "Unusual" tourists. Smith presents these seven types in a triangle diagram to show a frequency distribution that begins with a small number of Explorers and steadily increases to include Elite, Off-beat, and, ultimately a large number of Charter tourists. Smith's typology brings to mind Kaplan's (1960: 214) observation that:

... there have been four major types of travelers throughout history: the explorer or adventurer, the businessman, the soldier, and the missionary or religious pilgrim.

In consideration of the American traveler abroad, Kaplan (1960: 216) observes that there are "two rough types" of "new travelers":

First there are those we may call 'comparative strangers.' These persons travel physically, but in reality they never, or seldom, leave their own familiar ideas and judgments. They find security wherever they may be in what is called

*ethnocentrism*, the application of one's own standards to other situations: their own are always superior to those of others. They view, but do not understand. As Walter Lippman wrote, these are persons 'who do not see first and then define, they define first and then see.'

A second group may be called 'empathetic natives.' These persons seek, as best they can, to put themselves in the place of those whom they visit. They become native as much as their backgrounds, study, and empathy permit. What they take from their own environments are not particulars but universals. They sincerely wish to perceive and to understand. Like the explorer or trader, the soldier or the priest, these travelers depend on preparation and knowledge.

<sup>40</sup> It is interesting to note that while Smith discusses other tourist types by modifying "tourist" with a type (e.g., "elite tourists," "charter tourists," "off-beat tourists," etc.), she does not extend this convention to the incipient and mass types. Thus, the reader hears about "incipient mass tourism" and "mass tourism," but not the "incipient mass tourist" or the "mass tourist."

<sup>41</sup> The rise of ecotourism follows from the agenda of environmentalists with travel ambitions and tourism entrepreneurs to repair the tarnished image of tourism. Miller (1993a: 188-190) suggests that ecotourism represents a "restoration" and also an "enhancement" of tarnished images of tourism. With restoration, (ugly) tourism is transformed into *benign* ecotourism; in this case, ecotourism does no harm. With enhancement, tourism is transformed into *extra-protectionistic* ecotourism; in this instance, ecotourism improves features of the social and ecological environment.

<sup>42</sup> The customary view holds tourism—especially mass tourism—in a negative light. Alternative tourism is seen with the customary view to be a redeeming tourism.

# SEARCHING FOR SUSTAINABILITY: A DIFFICULT COURSE, AN UNCERTAIN OUTCOME

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**Abstract:** *There is no question that there is growing concern within the global tourism industry about its sustainability. Increasingly, scientists, managers, legislators, citizens and tourism planners examine, debate, and confront the concept of sustainability. Our discussions of sustainable tourism are stumbling, primarily because sustainability represents a wicked problem where technology may play only a small role in resolution. Sustainable tourism is also a value judgment, and has not, in the tourism literature, been rigorously critiqued. The search for sustainability encompasses questions of temporal and spatial scale, what should be sustained and implementation. Often, sustainability in the tourism context is addressed by calling for establishing carrying capacities and limits on tourist numbers. Such requests overlook the vast amount of research and planning experience showing that limits do not work effectively. Platitudes typify much of the sustainability rhetoric in tourism, and concepts are rarely examined critically. Sustainability is intrinsically an integrative concept, but discussion about it is hampered because biologists, economists, community development specialists and tourism planners have not engaged in the interactive processes needed to identify and develop effective strategies. Achieving sustainability can occur only within the context of understanding global trends and is often hampered by large scale demographic and economic changes, which are out of the control of local planners. A successful search for sustainability will involve learning and adaptive management, public participation, understanding tradeoffs among generations, appropriate human-environment management frameworks, and the application of new ethical principles.*

**Keywords:** *sustainability, tourism industry, knowledge, institutions*

## Introduction

With 567 million international arrivals and an uncountable number of shorter recreation oriented trips, travel and tourism has become a major power in the global economy. With more people in the world dependent on travel and tourism for employment than any other economic sector, the industry has grown to a size that few could have imagined even a short decade ago. Any industry achieving this size within such a short period of time is confronted with a number of essential, but complex, questions, issues and challenges. With so much at stake, the persistence of the travel and tourism industry is the most fundamental question confronting it today.

In coastal and marine environments, building an industry that will endure must be particularly problematic, as it is in the more sensitive terrestrial settings. The sun, sea and sand that provide so many of us with the relaxation, escape, and adventure that are so important to our quality of life enclose an ecologically diverse and sensitive interface that can be quickly despoiled. This sensitivity, coupled with the institutional complexity of coastal and marine settings, suggests that the inventory of issues and challenges of tourism today provide decision-makers, the public and scientists alike an almost endless number of tasks crossing many intellectual, social, and environmental domains.

The recent growth of the tourism industry has occurred within a larger context of rapid social change. Both the pace and qualitative nature of change has accelerated to an almost dizzying rate, pushing the future closer to the present, and shortening the temporal distance between human actions and their consequences. These changes affect not only what tourism products people demand, but the consequences and values people consider important when assessing tourism as an economic development tool.

There are two relevant effects of these changes that influence questions dealing with the endurance of the tourism industry. First, there is increased debate about the purposes of economic development. Gone are the days of widespread agreement about these objectives; we no longer accept the goal of jobs for the sake of jobs. Economic development is viewed now as more of a tool to achieve other ends, such as enhancing the quality of life of a community, protecting the local natural and cultural heritage, and addressing other issues such as child nutrition, human health, and education, as well as building economic opportunity.

Second, scientific efforts have lead to an interesting situation: greater knowledge about the environment has resulted in increased, rather than decreased, uncertainty about the ecological effects of human activity (Dovers and Handmer, 1993). To paraphrase the early American conservationist John Muir, everything is linked to everything else. Our increased uncertainty comes from the fact that we now appreciate the number, diversity and complexity of these linkages and from a greater sense of humility about the limitations of our knowledge of natural processes. In combination, the two situations imply that old ways of planning, and consequently, the questions that were asked, may no longer be appropriate for coastal and marine tourism development.

Sustainability, sustainable development and sustainable tourism have emerged as the paradigms through which these questions are being asked and how, we hope, they will be resolved. While the three terms imply similar meanings, I want provide some differentiation among them for the sake of clarity in this presentation. Sustainability is a

particular condition in which economic opportunity, quality of life and our natural and cultural heritage are maintained indefinitely. Sustainable development is a complex web of strategies or pathways taken to reach this condition. Consequently, we see attempts to develop sustainable agriculture, sustainable forestry and sustainable fisheries as means of implementing sustainable development principles on a sector by sector basis. Sustainable tourism constitutes one of these pathways, and represents what some might term a sort of "kinder and gentler" form of recreational development and products.

Sustainability is an issue because (1) we recognize the enormous impact of human activity on the environment and (2) we care about the future (Pearce, 1993). At this conference, sustainable tourism is being addressed in order to discuss the environmental consequences of tourism development and how to manage them. And, since coastal and marine tourism is highly dependent on natural environmental qualities, impacts are an issue if we wish to achieve sustainability. Thus, the principal theme of this presentation is that the search for sustainability will be a difficult one because we are confronted with, guiding fictions and promising expectations, fundamental choices and troublesome dilemmas, social traps and wicked problems. Given these considerations, the outcome of the search is uncertain. In this presentation, I wish to briefly outline some of these choices, traps, and fictions so that we may more effectively guide the search for sustainability.

### Guiding Fictions and Promising Expectations

In the debate over sustainability and sustainable tourism, there is much discussion about definitions. Some have argued that without specific definitions, the concepts provide little guidance or direction. However, maintaining a level of ambiguity, may serve useful social functions in the sense of organizing discourse around a problem or issue over which there is substantial social agreement. Such concepts are termed "guiding fictions" because when it comes to specifics, agreement and consensus give way to dissent and opposition constructively (Shumay, 1987). Sustainability may serve the useful function of a "guiding fiction," because as long as it remains vague everyone can agree that it is a goal and discussion can proceed. However, this value breaks down when attempts to make the concept more specific occur, resulting in conflict and debate. The challenge to sustainability advocates is to develop processes that will minimize the polarization that often accompanies conflict.

Another guiding fiction is that the impacts of tourism are a function of the number of tourists. This conclusion dominates much of the sustainable tourism/ecotourism literature suggesting that a primary method of reducing

impacts is a reduction in visitor numbers to within the "carrying capacity" of a local natural or social system (Manning, 1996; WTO, 1992; Butler, 1991). It is relatively easy to see how many people have come to this conclusion, given the biological training of many scientists and planners in nature oriented tourism destinations and the large number of visitors such areas attract. While carrying capacity may be useful as a way of identifying visitor management problems (a conclusion which is questionable—see Lindberg and others, in press), attempts to identify carrying capacities at specific sites have generally failed. Reducing visitor numbers carries an initial appeal to many, but such reductions may have little influence over the total amount of impact, and frankly, may be politically problematic when whole economies depend on continuing levels of visitation. Impacts, social and biophysical, result from many other factors, principally behavior, which suggests that models of tourism management be based on determining desired resource or social conditions and developing actions to achieve those goals.

As we search for sustainability through sustainable tourism policies, we build expectations about the future. These promising expectations suggest increasing real incomes, protection of biodiversity, communities that are viable and resilient, development that is sensitive to its environmental consequences, and a tourism industry that is scaled to the capability of the environment. These are promising expectations, but because of the fundamental choices and troublesome dilemmas which confront sustainable tourism, attaining these expectations and connecting the promise with the possible is uncertain.

### Fundamental Choices and Troublesome Dilemmas

The goal of sustainability carries an almost universal appeal, but operational details, objectives or actions suggested by its advocates are more controversial. While Dixon and Fallon (1989) note that much of the discussion about sustainability involves "how to pursue the goal and how to measure progress toward it" a fundamental choice concerns what will be sustained, a decision critical to a sustainable tourism policy. While the alternatives may be clear, the choice about what should be sustained is not a scientific decision but an ethical one. As an ethical decision, debate about the appropriateness must occur within a social/political context.

These choices and dilemmas involve a number of potential questions: does tourism sustain the industry, the economy, a local community, the resource base, local custom and culture, or the capacity of communities to adapt to change? Can ecotourism be sustainable? Can mass tourism be sustainable? Are there conditions under which it may be

acceptable for tourism to be unsustainable in the long run? Does the concept of sustainable tourism refer to a particular kind of tourism or does it refer to a particular way of developing and managing all kinds of tourism activities?

Gale and Cordray (1994) attempted to identify potential answers to the question of what should be sustained in the context of natural resource sustainability. They identified initially eight, and then later nine possible answers. These answers are shown in Table 1. They suggest that we ask certain questions such as what is to be sustained? Why? How will sustainability be measured? What are the politics? Another question is for whom? Where does sustainable tourism fit in this picture?

Table 1. Types of sustainability (Adapted from Gale and Cordray, 1994).

What is sustained?	Why sustain it?
Yield of high valued products	Economic efficiency
Social systems (communities, etc.)	Lifestyle values
Diverse human benefits	Human rights to resource abundance
Globally unique ecological systems	Global human-ecosystem interdependence
Globally important high valued products	Human need for products
General types of ecosystems	Commitment to ecosystem diversity
Ecosystem integrity	Commitment to ecosystem autonomy
Ecosystem diversity	Insure against ecological disaster
Undisturbed ecosystems	Respect rights inherent in natural ecosystems

The Brundtland Commission (WCED, 1987) defined sustainable development as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." In a very real sense, this means that the current generation leaves a stock of capital equal to or larger than the present level. But what type of capital? Costanza and Daly (1992) identify three types of capital: (1) natural capital, which consists of the goods and services provided by the environment; (2) manufactured capital, involving transformations of environmental goods and services into human systems of production; and (3) human capital, including knowledge, skills, wisdom, leadership and culture.

Therefore, a second fundamental choice involves beliefs about the substitutability of these forms of capital; i.e., can manufactured capital substitute for natural capital? Costanza and Daly (1992) provide a rationale for assuming that forms of capital are not substitutable, arguing for example that if "human-made capital were a perfect substitute for natural capital, then natural capital would also be a perfect substitute for human capital" and concluding that if this was so there would be "no reason to develop human-made capital. Human capital is a complement to natural capital, not a substitute."

The condition under which all forms of capital must be bequeathed to the future in amounts equal to or above their current stock is termed hard sustainability. If one assumes that there is substitutability among forms of capital, but the total amount must be equal to or larger than available to the present generation, then this is known as soft sustainability. Again, this condition would require choices about rates of substitutability among forms of capital. Since coastal and marine tourism directly depend on the presence of natural capital, much of it in a relatively unmodified form, it would seem unlikely that other forms of capital can substitute for it. Yet, coastal and marine tourism activities enhance the potential of increasing the stock of human capital through informing the public of the ecosystem goods and services provided by marine systems.

A third fundamental choice derives from the conclusion that we care about the future. As Pigram (1990) notes, important concerns about both the uncertainty of environmental degradation resulting from tourism development and the potential irreversibility of these impacts influence our debates about sustainable tourism. While these are necessary conditions for expressing concern about sustainable tourism, they are not sufficient. We must also care about the future. However, current mechanisms for considering the future, in terms of streams of revenue, value the future less than the present. The normal way in which the present generation values benefits lying in the future is through the use of discount rates. However, any positive discount rate will always place less value on benefits occurring in the future than the present and results in a situation where people may give too little weight to the future (Costanza and Daly, 1992), a situation we know to be unacceptable to many when they consider the options and conditions that may be available for their children.

The implication of all this is that there are questions about the appropriate discount rate; since there are big differences in total present value among discount rates, choosing the appropriate discount rate becomes a fundamental choice. The choices involve what criteria should be used to select the appropriate discount rate. More fundamentally, if the future is valued as much as the present, is there an appropriate discount rate?

If we define sustainability as resulting in an indefinite maintenance of certain desired conditions, then achieving this goal represents a redistribution of power, political and economic, toward the future, because present generations will have to maintain options for future generations. However, existing decision making institutions and the ways in which the future is valued in those institutions discount the future as noted above. As a result, there are fundamental choices to be made over who will represent the future and how will it be represented. One way is through the public sector because government provides goods and services at larger time scales than individuals acting alone and provides services, such as stability, that only governments can provide. However, governments are composed of individuals whose time scales for decisions are largely governed by election periods. Thus, there tends to be a mismatch between decision scales and scales of biological significance (Lee, 1993). People, of course, have voluntarily given certain powers to governments, and if dissatisfied enough, will recover that power. Thus, in the long-run, decision scales in the public sector can be changed.

### Social Traps and Wicked Problems

Many issues associated with sustainable tourism contain the characteristics of a social trap. A social trap occurs whenever "road signs" or cues to appropriate behavior in the short run lead to a situation that is detrimental in the long-run or inconsistent with the needs of the larger social system (Costanza, 1987; Platt, 1973). Principles of sustainable tourism involve the host community, satisfy visitors, protecting the resource may be one type of social trap. Colin Hunter (1992) makes this point when he criticizes the sustainable tourism development paradigm as parochial, unwittingly focusing efforts on too narrow a pathway: "the dominant tourism-centric paradigm encourages and/or causes an inherent and inappropriate limitation of the remit [scope] of sustainable tourism, and that an alternative extra-parochial paradigm is a more suitable conceptual vehicle" for sustainable tourism policy. Hunter's point is that our efforts to develop sustainable tourism in the short run may ignore other important dimensions of sustainable development and that we can inadvertently negatively impact other sectors in the long run.

The debate over sustainability and sustainable tourism occurs largely in a public sector setting. In conducting this debate, we frequently rely on government to set policy because government provides a longer temporal scale for decisions. We may follow this reliance on government because in the short run policy is something we can influence. However, investments in facilities are customarily made by the private sector. Thus, there tends to be a gap between sectors: while a local community can

discuss and adopt sustainable tourism as a formal socially developed policy, the policy may not influence investments decisions made by private firms. While regulations, taxes and incentives may help address this gap, new mechanisms may be needed to address this trap.

Wicked problems are ones for which technology cannot provide a correct solution; there are just more or less useful answers (Allen and Gould, 1986). Applying more information, technical expertise, knowledge, or resources will not result in a better solution. Many wicked problems lie in the economic sector and are influenced by a number of variables. Wicked problems include issues dealing with (1) common ownership of resource stocks; (2) the discount rate employed in valuing present and future flows of income; and (3) the effect of uncertainty on management strategies and consumption patterns (Clark, 1991). Among the variables influencing these wicked problems are scale, knowledge and institutions.

Surely, one of the most fundamental tasks of sustainable tourism policy is to develop some means of assessing progress toward achieving our goals. Measurement provides us with the necessary feedback to correct actions and ensure that we are on the pathway to sustainability. The scale at which sustainability is measured is an important, though often neglected component of sustainability discussions. Lee (1993a) notes that mismatches between human and biological scales leads to unsustainable resource uses. There are at least four types of scale that are relevant development of sustainable tourism policies. First, there is the question of appropriate temporal scale: over what period of time do we judge the sustainability of an industry, community or ecosystem? There may be conflict over tourism activities that aim for intergenerational equity and management directed toward intragenerational equity (Dovers and Handmer, 1993). Dixon and Fallon (1989) state that "the shorter the time horizon [in resource decisions], the less likely any pattern of resource use will be sustainable over long periods of time" and they ask "How far into the future should we worry about?" Mismatches between temporal scales leads to one generation bearing the costs of another generation's benefits.

A second type of scale is spatial: over what spatial scale is sustainability measured? Mismatches between spatial scales can lead to some people, communities or ecosystems bearing the costs without associated benefits. Can sustainable tourism in one locality come at the expense of sustainability for another community, as Colin Hunter (1992) argues? Multiple spatial scales are involved in sustainability decisions: Could sustainable tourism development at the local scale lead to unsustainable tourism patterns at the regional scale? Focusing sustainable tourism efforts solely at the local level may lead into another type of wicked problem: policies and their

implementation may be doing well, but in a globalized economy decisions made distant from the community may affect the achievement of a sustainability goals.

People interact over varying social organizational scales, such as families, neighborhoods, communities and so on. Addressing the social organizational scale helps us understand for whom sustainable tourism is being developed. Lee (1993a) argues that a fourth scale mismatch occurs, what he terms a functional scale mismatch. Functional mismatches occur because natural systems, such as marine environments, are complex, but human actions and institutions are necessarily specialized. Achieving a specialized goal, such as tourism development may conflict functionally with the sustainability of a particular ecosystem.

Institutions have enormous influence over the ability to develop sustainable tourism. Institutions developed in the western United States to deal with resource management were derived primarily in an era based on a resource utilization philosophy. The instrumental philosophy governing resource management in this era resulted in highly specialized institutions designed to enhance efficiency of use of individual resource commodities. Many institutions lack the flexibility to address new problems and new challenges. They are not particularly well designed for sustaining over long periods of time entire ecosystems or communities. A second issue with respect to tourism concerns the institutional orientation of many tourism development agencies, particularly in the United States. Many state level agencies are solely concerned with promotion of tourism, do little to assess negative social and environmental impacts, and rarely monitor the outcomes of their promotional programs, such as effects on employment, quality of life and protection of the natural and cultural heritage.

Knowledge is an important variable because science has as a fundamental goal reduction of uncertainty. Yet, there are significant questions about the ability of science in assisting sustainability because (1) science is hampered by the lack of replicates and controls; (2) the biophysical world is extremely complex; and (3) large amounts of natural variability tend to mask effects of exploitation. As noted earlier, science has tended to increase uncertainty not reduce it. Not only is our knowledge of the natural world limited, the scientific paradigm of natural resources management has tended to exclude the political and cultural dimensions from discussions of ecosystem management and sustainability. For example, Grumbine (1994) finds no research function concerning sustainability of ecosystems for social scientists. While this barrier can be overcome, additional biophysical research may be viewed only as a necessary, but not sufficient condition for achieving sustainability.

Compounding this barrier is the preference among scientists for excluding informal ways of knowing. The argument goes that only through formal, scientifically defensible research can we learn about the natural world. There are obviously other ways of knowing that are more culturally and experientially based that have validity for sustainable tourism decisions.

Achieving sustainability promises a better world, but the search is strewn with significant, complex and socially problematic questions making the outcome of the search uncertain. Yet, conducting the search, whether we achieve sustainability or not, yields important benefits. The fact that we are conducting the search means we are asking questions that are desirable in the long run to ask, that we create a better understanding among ourselves as to how the world operates, and as John Dixon and Lousie Fallon suggest, we might prevent some truly unacceptable projects from occurring.

Connecting the promise and the possible provides a series of challenges as we discuss coastal and marine tourism over the next few days. Sustainability and sustainable tourism provides a useful and potentially productive framework as we engage in our wide-ranging discussions and debates about tourism in marine and coastal environments. We should challenge ourselves to consider questions of scale and institutions, the scope of sustainable tourism and how it is linked to more general goals of sustainability; we should ask what is it that we wish to sustain, and how we will arrive at responses to that question; we should contest the appropriateness of carrying capacity as a framework for managing visitors and in its stead examine statements of desired conditions. Addressing these concerns provides us with an outstanding opportunity to advance our ability to achieve sustainable tourism.

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# SUSTAINABLE COMMUNITY DEVELOPMENT THROUGH COASTAL AND MARINE TOURISM: OPPORTUNITIES AND CONSTRAINTS

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**Abstract** Coastal communities typically utilize a diversity of marine and terrestrial resource systems. This diversity provides coastal communities a greater degree of stability than is common among most resource dependent communities. Tourism development can play a positive role in coastal communities through creation of additional economic niches, generating income and employment opportunities through non-extractive activities. However, such development also can lead to social disintegration and economic poverty. The central concern revolves around the issue of who benefits from tourism development. In practice, this distributional question will be determined in large part by the locus of control over investment and participation in the tourism industry, whether there are resource use conflicts between the community and the industry, and how these conflicts are resolved. An alternative development scenario is presented that is oriented around community development and local control. Coastal and marine tourism can be developed in an ecologically sustainable and social just basis. Policies which maximize local participation and respect traditional resource use rights are central to achieving such goals.

**Keywords:** community development, local control, sustainable tourism

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## Introduction

Tourism affects both the visitor and the host community. Communities that rely on tourism as their economic base are in many ways quite similar to communities that are dependent upon logging, fishing, agriculture or any other natural resource system (Bailey and Pomeroy, 1996). In each case, economic fortunes are determined by external forces beyond control of the local community (Miller, 1991). These forces may include changing technologies and consumer preferences, resource depletion, war and civil unrest, and policy changes affecting exchange rates and international trade. The rapidly growing literature on resource dependent communities has much to tell us about communities that hitch their fortunes to tourism development or any other single industry (Freudenburg, 1992; Peluso, Humphrey and Fortmann, 1994).

The purpose of this paper is to identify both positive and negative tendencies associated with development of coastal tourism from the perspective of the host community. Both the existing literature and my own experience in coastal

Southeast Asia and North America provide ample opportunity for identifying negative impacts. But there also are positive examples where coastal tourism has contributed to more stable local economies through diversification of employment and investment opportunities. I will draw on the literature of community development to develop a conceptual framework that can be used in evaluating social impacts of tourism development.

## Coastal Ecosystems

Tourism emerged over the past fifty years as a major industry in both industrialized and non-industrialized nations (McCool, 1996). Coastal ecosystems present unique and highly attractive opportunities for tourists, offering a wide range of activities such as recreational fishing and boating, swimming and sunbathing, and a variety of shore-based activities like golf which compliment activities of a more aquatic nature. Indeed, a key ingredient behind the phenomenal success of coastal tourism stems from this ability to provide both terrestrial and aquatic recreational opportunities to tourists during a single trip. Private sector investors and government agencies alike have promoted development of the tourism industry in the coastal zone. Despite rapid development of the coastal zone for tourism in many parts of the world, there remain opportunities for further development. However, the social and environmental costs of future development may prove to be quite steep and we need to think carefully as we look to the future.

The attractiveness of coastal ecosystems is not restricted to tourists. One estimate indicates that 60% of the world's population lives within 60 km of the ocean (Miller, 1991). Part of the reason for such concentration of population in the coastal zone is the relative abundance and highly productive mix of resources that are available to people and other living things in coastal ecosystems (Bailey and Pomeroy, 1996). Fishing and maritime trade have served as the economic bases of coastal communities throughout history. More recently, off-shore oil and minerals, tourism, and industrial development have supported the heavy concentration of human populations along the coastal zone. The growth of human populations in the coastal zone has imposed significant environmental costs in the form of organic and inorganic pollution, and conversion of natural habitats for urban development. At the same time, marine fisheries resources are heavily exploited, and in many cases over-exploited (McGoodwin, 1990). Mangrove forests and other coastal ecosystems also are being converted to shrimp ponds at an increasingly destructive pace (Bailey and Skladany, 1991). In short, coastal ecosystems around the world face enormous pressure from existing human populations.



The environmental implications of coastal tourism need to be understood in this light. On the one hand, environmental devastation is bad for business because tourists are drawn to clear water, clean beaches, pure air, and fresh fish. Accordingly, we can expect development of coastal tourism to occur in areas that are relatively unspoiled. How long conditions remain this way is an important concern. The record clearly indicates that tourism development can contribute to environmental degradation. Siltation caused by construction, pollution from inadequate sewage treatment, and saline intrusion into coastal aquifers are some of the more serious problems reflected in the literature on environmental impacts of tourism development in the coastal zone (Awosika and Ibe, 1993; Thomas, 1991; Wong, 1993).

Development of coastal tourism also can have a positive impact on coastal ecosystems by providing a non-extractive economic base to coastal communities. Protecting a coral reef for the enjoyment of tourists may provide a better livelihood than could be gained through heavy fishing or collecting of coral and fish for sale in the aquarium trade (Sudara, 1991; Vogt, 1996; White and Dobias, 1991). Moreover, tourism can lead to creation of new economic niches for coastal residents, reducing pressure on coastal resources as local labor and capital shift away from extractive pursuits such as fishing and charcoal production, and towards pursuits that are geared to maintaining the kind of coastal ecosystem that draws visitors.

### Community as Context

There are several units of analysis (e.g., individual, class, community, society) that can be used when assessing the social impacts of any form of development. For reasons discussed here, this paper will focus on community. The term community is a perfectly good common word that has been stretched and tugged in a variety of directions in the hands of academicians that its meaning has lost shape. There are those who define community purely by reason of a shared identity and set of common values drawing people together as golfers, loggers, swimmers, or fishers (e.g., Carroll and Lee, 1990). Those whose lives are wrapped up in such activities feel strong bonds to others of like minds, even though they may live many miles apart. Similarly, there are those who would define community purely by patterns of regular interaction, even if such interaction is restricted to cyberspace. For most of us, however, the notion of community is linked to a particular place of residence. This said, nobody would claim that the simple act of sharing a common space with others is enough to make a community. For 'community' to exist as a social reality, we would normally expect to find people who identify with and who may feel a sense of pride in the place they live, who may share a common set of values (e.g., support of public education), and who regularly interact

with other members of the community (Wilkinson, 1986). Often such interactions are of central importance to the daily lives of community residents. Such interactions include the group of kids who grow up and go to school together, congregations at places of worship, people who work together, and residents in a community who wrestle in the local political arena over important decisions of the day.

I do not want to romanticize the concept of community as a place where everyone loves their neighbor and lives in harmony. But I do want to make the point that much of our lives (and those of most people living in the coastal zone) are lived in particular communities. Further, many people in the world know little beyond their immediate community, which is the center of their universe. In some parts of the world, the community includes the land and the spirits of the ancestors buried there (Richter, 1991). Even where this is not the case, the social bonds which hold members of a community together often represent the closest thing that people have to a social welfare safety net: a group of neighbors and kin who can be called upon in time of need. Understanding the importance of community vitality, we are better prepared to understand why threats to the continued integrity of communities can lead to serious social and political problems.

### Some Adverse Impacts of Coastal and Marine Tourism

Just as coastal and marine tourism can have either positive or negative ecosystem effects, so too can development of tourism have either positive or negative social effects. If we are going to promote socially sound development of a tourism industry, we need to know something about the social setting within which such development takes place.

There are both ethical and practical reasons why such understanding is important. Ethically, we should be concerned that tourism development does not lead to social disruption or the unwilling displacement of existing residents for the benefit of non-residents. We need to be aware of the possible negative effects of tourism development so that these can be mitigated. Such a stance is akin to the Hippocratic oath taken by medical doctors: "First do no harm." In practical terms, ethical treatment of those affected by tourism development may lead to reduced tension and strife, which might escalate into active and even violent opposition. The failure to treat people with socially acceptable standards of fairness can lead to increased political and security costs and make the tourist experience an uncomfortable one for many visitors.

Unfortunately, the literature is full of examples of communities that have been adversely affected by tourism. A breakdown of community solidarity can be brought

about, for example, by loss of control over local resources. Large scale capital-intensive tourism development necessarily draws on financial resources well beyond the capacity of most coastal communities in the world. Dependency on outside sources of capital not only results in repatriation rather than local reinvestment of profits but also typically will result in outsiders being recruited for managerial and skilled employee positions. Where significant investment is made, the tourism industry may press for zoning controls or other restrictions which limit the ability of local residents to participate, further reducing local benefits. Coastal and marine tourism may result in direct harm to local interests in the event of resource use conflict between local residents and the tourism industry (e.g., restrictions on fishing, damage by tourists of coral reefs, etc.). Coastal tourism is a high stakes industry, and developers are able to offer attractive prices to gain control of coastal land. Some members of a community may benefit from sale or lease agreements, but others in the community may suffer a loss of employment opportunities as a result of the transfer of control away from the community. Even though tourism development may generate employment, much of that employment goes to outsiders rather than local residents.

The loss of local control to outsiders can have a variety of manifestations. Development of marinas for luxury yachts has displaced local commercial fishers from limited dock space in many coastal communities in the United States. In Biloxi, Mississippi, the casino industry produced a similar displacement of fishers from docks located on what is now extremely valuable beach front property (personal observation). Increases in property values result in higher tax assessments for local residents, not all of whom are in a position to benefit from the economic boom associated with tourist development. Residents on fixed incomes may be forced to sell their property and move away. Newcomers moving into the area to find employment in the tourism industry provide a ready market and exert upward pressure on property values and the cost of living generally. Local merchants may benefit from increased sales, but may also face competition by new businesses attracted into the area. Other residents, particularly those at the economic margin of poverty, may find the rising costs a serious burden. Thus, as Miller and Ditton (1986) observe, there will be winners and losers in coastal tourist development.

Growth of coastal tourism can have negative local effects through generating increased strain on local infrastructure, requiring additional investments in roads, bridges, waste management (solid waste and sewer), and public safety. In some cases, tourist resort developments have been approved with lengthy tax holidays, resulting in the transfer of these costs to local residents (Richter, 1991). Similarly, Richardson (1986) notes that the costs of coastal

restoration to promote tourism in Galveston, Texas, were borne largely by the poor.

Coastal tourism may also represent a source of social disruption through the introduction of new behavioral styles. McGoodwin (1986) movingly describes the impact of tourism on a small coastal community in Mexico an all-weather road made the community accessible to the outside world. Wealthy outsiders, especially foreigners, provided local youth with an alternative vision of the world that was in stark variance with local cultural norms (e.g., unmarried cohabiting couples). More seriously, the advent of tourism led to a withering of social organizations that had sponsored religious festivals, a central means of expressing internal solidarity. These local festivals were replaced by festivals oriented towards tourists and secular entertainment. Many local residents, unable to afford the price of admission to these festivals, became bystanders in their own community. As described by McGoodwin, tourism led to anomie (loss of identity and cultural moorings) and social disruption. He points out that such disruption is predictable when extremes in wealth and vast cultural differences separate hosts and guests. Minerbi (1991:486) describes Hawaii's tourism industry as being "alien and disruptive to island ways, needs and resources." Minerbi goes on to say that the industry breeds "resentment, alienation and opposition in segments of the local community" (1991:486).

We must recognize that coastal and marine tourism is a major industry which powerful actors (e.g., national and transnational corporations and governments) often seek to control. The result often is displacement, alienation and anger. White and Dobias (1991:456) point out that in coastal Thailand local efforts to protect coral reefs around Samui Island led to increased tourism, which in turn brought in outside investment, and that this has "tended to remove control and benefits from island residents." A similar pattern of outside investors coming to dominate the local tourist economy of coastal areas in Malaysia and Indonesia has been documented. Wong (1993) reports (and personal observations confirm) that on the Malaysian island of Penang, local residents in Batu Ferringhi and Teluk Bahang had established a small-scale cottage industry catering to budget tourists wanting to enjoy the fine area beaches. Accommodations were simple and inexpensive, but they provided important incomes to people in those communities. Coffee shops and restaurants also benefited from the local tourist industry. By the late 1960s, however, large hotel chains began to invest in these areas and zoning ordinances were passed that made it more difficult for locals to provide lodging to their traditional clientele. In the meantime, sedimentation from construction and later inadequately treated sewage from the large new hotels led to serious problems of water pollution, spoiling the local beaches until a central sewer system was constructed. Hussey (1989) reports on a similar pattern of outside

investment at Kuta Beach on Bali, where I first stayed in 1970 when it was nothing more than a fishing village. By the late 1970s, Kuta had been discovered, land values escalated, and outside investors began to move into the area. While local residents remain involved in the local economy, and those fortunate enough to own land may have benefitted from this tourist boom, locals have not been able to direct the pace or direction of development or capture most of the benefits of growth. In the meantime, problems associated with crime and prostitution have become serious local concerns.

### Coastal Tourism and Community Development

The concept of community development can serve as a framework for promoting tourism development that benefits local residents on a sustainable basis. The process of defining community development has been likened to eating jello with a fork—possible, but not something one wants to spend a lot of time doing. A long series of definitions are provided by Christianson and Robinson (1989), and these boil down to general agreement that community development is about change, that such change should be for the better, and that such improvements should be widely shared by members of the community. Sustainability is implicit in this definition, it being hard to imagine 'change for the better' involving degradation of a community's stock of social, economic or natural capital in a way that limits opportunities for future generations.

Community development may have a strong economic component, but this may not always be the case (Summers, 1986). Strengthening public education or broadening a community's leadership base may be the central focus of a community development effort. Such efforts strengthen a community's ability to take further steps to improve local conditions or to adapt to changing circumstances. Community development also implies that the benefits of change need to be distributed in a way that is seen to be fair. In agreement with Galston and Baehler (1995), I would push this aspect of the definition further to stipulate that changes which adversely affect those members of a community who by reasons of age, illness, or poverty are most vulnerable to harm would not, by my definition, represent community development.

Just as there are many examples of tourism being disruptive, so too we can find examples of tourism leading to strengthened communities. Sofield (1991) reports that tourism does not always result in social disruption. He notes that residents of Pentecost Island in Vanuatu resisted efforts by outside tour operators to commercialize a religious ceremony. Instead, they organized a local council to direct tourism development, using their ceremony as a key drawing card, limiting the number of tourists and

ensuring the authenticity of both the tourist experience and the religious ceremony. On Bali, local government officials were able to use tourism-led development as a mechanism for strengthening local culture (Picard, 1995).

The coastal zone offers unique opportunities for community development based on tourism. As noted above, coastal ecosystems are under increasingly intense pressure and tourism offers an opportunity to utilize local resources in a non-extractive manner, creating new niches that diversify local economies. Fishing boats can become tour boats, ferrying people to reefs or isolated beaches. White and Dobias (1991) point out that fishers in Thailand and the Philippines have been successful in attracting tourists to coral reefs, creating incentives to eliminate destructive fishing practices, including the use of poisons and explosives. Their point is echoed by Sudara (1991) and Vogt (1996) in other case studies from Thailand, and by Wilcox (1991) in his discussion of marine tourism in the Caribbean. Tourism provides an opportunity for coastal residents to benefit from ecosystem management, providing alternate opportunities for investment of capital and labor, markets for new handicraft production, and new markets for more established local products like fresh seafood.

To many in the industry, tourism is first and foremost an economic activity, where the primary value is financial. Tourism is big business and it should not surprise us that those who invest significant capital in an industry seek to promote certain patterns of tourism development. In the U.S. and other industrialized nations, the initiative behind tourism development rests with major private sector investors, who are able to identify opportunities and market their products. In non-industrialized or newly industrializing nations, tourism represents a major economic enterprise that generates foreign exchange, and development of the industry is more likely to be affected by conscious promotional efforts and strategic planning efforts. In both industrialized and non-industrialized settings, economic and political forces can be combined in such a way that local concerns, much less community control, is unlikely.

But this need not be the case. Communities can organize themselves to promote and regulate tourism development, regulate conflicts between resource users, and determine what types of development they prefer. If outside investors want to gain access to business opportunities, the local community can establish requirements that local residents be given employment opportunities, and that local businesses be chosen to supply goods and services. Not only will this strengthen the local economy, but by using local labor and suppliers the amount of "leakage" from the local economy will be reduced.

## A Policy Framework for Community Development Based on Coastal Tourism

I am not so naive to believe that developments such as Waikiki won't be developed for mass market tourism. Nor do I seriously expect major investors in the industry to base their investment decisions on the needs of communities where they locate. I do think it is reasonable for governments and trade organizations to adopt policies which promote diversity, including small-scale tourism controlled by residents of coastal communities. There is room in the tourist industry for the large resort development as well as smaller scale developments that can contribute to the sustainability of local communities and ecosystems. Locally initiated development is likely to begin small in scale and remain so, placing relatively little stress on local ecosystem and social systems. Promotion of local development will lead to more diffused patterns of 'consumption' which are more likely to be sustainable in ecological terms.

Neither do I want to promote tourism development as a panacea for social and economic problems in coastal communities. Most jobs associated with tourism in the U.S. and other industrialized nations tend to be low paying jobs with limited benefits. Galston and Baehler (1995) report that unemployment rates rose steadily in tourism dependent areas, and that unemployment among women was a particularly serious problem. Moreover, like other economies based on natural resource systems, tourism is often a seasonal industry. In short, we should not promote coastal tourism as a magic bullet, but rather as part of a more comprehensive strategy of community development.

Most coastal cities have tourist promotion offices but smaller towns and rural areas, the types of places that are most likely to experience growth of coastal tourism in the years to come, generally do not have comparable organizational resources to promote what they have to offer. State and county governments in the United States, along with universities and regional development offices, can play a role in assisting communities identify and capitalize on local opportunities. In countries where local governments play a less significant role in planning, national or provincial governments need to consider a development strategy based on a more diversified tourism industry.

Tourism development needs to be geared to the scale of the society in which it takes place. Development of the tourism industry around Miami or Honolulu is likely to be capital intensive, while such development in rural Newfoundland, Canada, or the Samoan Islands should be scaled to the much smaller host communities. Tourism development in these smaller settings needs to be geared towards the needs of local residents for economic diversification and supplemental incomes. Development

strategies which transfer local control over a community's resource base to outsiders may generate economic growth but not community development. Efforts to promote locally-based tourism development require local participation, and this process takes time. Bringing together diverse interests within coastal communities to discuss and plan for local development also has many advantages in terms of sustainability and minimizing resource conflicts. Rarely are local interests considered when efforts are made to develop coastal tourism (Miller and Ditton, 1986; Hickman and Cocklin, 1992). The result is often social disruption, environmental degradation, and conflict. There are alternative paths that can be taken if the political will exists to keep them open

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# MANAGING FOR ECOLOGICALLY SUSTAINABLE TOURISM USE OF THE GREAT BARRIER REEF WORLD HERITAGE AREA

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**Abstract:** *The Great Barrier Reef World Heritage Area is an increasingly popular national and international tourist destination with visitors attracted by the natural setting and values of the area. Since the establishment of the Great Barrier Reef Marine Park in 1975 when tourism was a relatively minor use, tourism use has increased from an estimated 150,000 visitor days per annum in the early 1980s to 1.5 million visitor days in 1994-5. Tourism is now the main commercial use of the Marine Park with an estimated annual economic value to the region of over \$A1 billion.*

*For the past 20 years, the Great Barrier Reef Marine Park Authority (GBRMPA) has managed tourism use in the Marine Park through the use of zoning plans, environmental impact assessment and permitting of individual operations and education programs. Rapid increases in the level and intensity of tourism use over the past three years, particularly in the offshore Cairns and Whitsunday Island areas, have challenged the existing approach and have resulted in a recognition of the need to manage the cumulative environmental and socio-economic impacts of intensive tourism use.*

*The Authority is adopting a strategic reef wide approach to the management of tourism use in order to deal with issues such as anchor damage to coral, displacement of existing users, protection of indigenous cultural and heritage values, and the maintenance of a diverse range of tourism values and settings, while continuing to focus on its primary goal, the protection of the natural values of the Great Barrier Reef. This paper presents an outline of the issues currently facing the Authority in managing tourism use and proposes an approach to ensure that tourism use of the Great Barrier Reef remains sustainable.*

**Keywords:** *marine tourism, Great Barrier Reef, ecologically sustainable tourism, tourism use management*

## Introduction

### The Great Barrier Reef World Heritage Area

The Great Barrier Reef consists of 2,900 individual reefs and 250 cays off the north-east coast of the State of Queensland, Australia. The reef extends for more than 2000 kilometres from just south of the Tropic of Capricorn northwards into the Torres Strait (Figure 1). The scale and diversity of the habitats offered by the Great Barrier Reef and the great number and diversity of species that they support make it one of the worlds most spectacular marine

ecosystems. Its location some distance offshore from a coast with relatively low population has meant that until recently it has been exposed to low levels of use.

The Great Barrier Reef Marine Park and the Great Barrier Reef Marine Park Authority (GBRMPA) were established by the Australian Commonwealth Government through legislation in June 1975. The Marine Park is a multiple objective marine protected area, covering more than 345,000 square kilometres and for management purposes is divided into four Sections. The concept of the multiple objective Marine Park is based on achieving the conservation and protection of the Great Barrier Reef while allowing for ecologically sustainable use for tourism, fishing, boating, diving, research and by traditional inhabitants.

GBRMPA has the major responsibility for the protection, conservation and management of the use of the Great Barrier Reef. The integrated management of the Great Barrier Reef Marine Park across the Commonwealth/State jurisdictional boundaries is achieved through agreements and complementary legislative and management arrangements between GBRMPA and the Queensland State Government through the Queensland Department of Environment (see Kenckington, 1990).

In 1981 the Great Barrier Reef Region was inscribed as a property on the World Heritage List on the basis of its outstanding natural values and its integrity as a self-perpetuating ecological system. The World Heritage area is also of significant cultural and historical importance (DEST, 1995). Under Article 4 of the Convention for the Protection of World Cultural and Natural Heritage (UNESCO, 1972), the listing of the Great Barrier Reef Region as a World Heritage property means that Australia accepts an obligation to "do all it can to identify, protect, conserve, present and transmit to future generations the natural and cultural heritage situated on its territory."

The Great Barrier Reef World Heritage Area (the Region) includes the Great Barrier Reef Marine Park (93% of the World Heritage Area), Queensland waters not in the Marine Park (2%) and islands (5%) and extends from the low water mark on the Queensland coast to beyond the continental shelf. Activities in the Region are managed by many agencies, with GBRMPA having the major and most wide-reaching responsibility for its management.

### Use of the Great Barrier World Heritage Area

The major uses of the Great Barrier Marine Park are commercial tourism, commercial fishing, recreational boating and fishing and traditional use by Aboriginal and Torres Strait Islander communities.

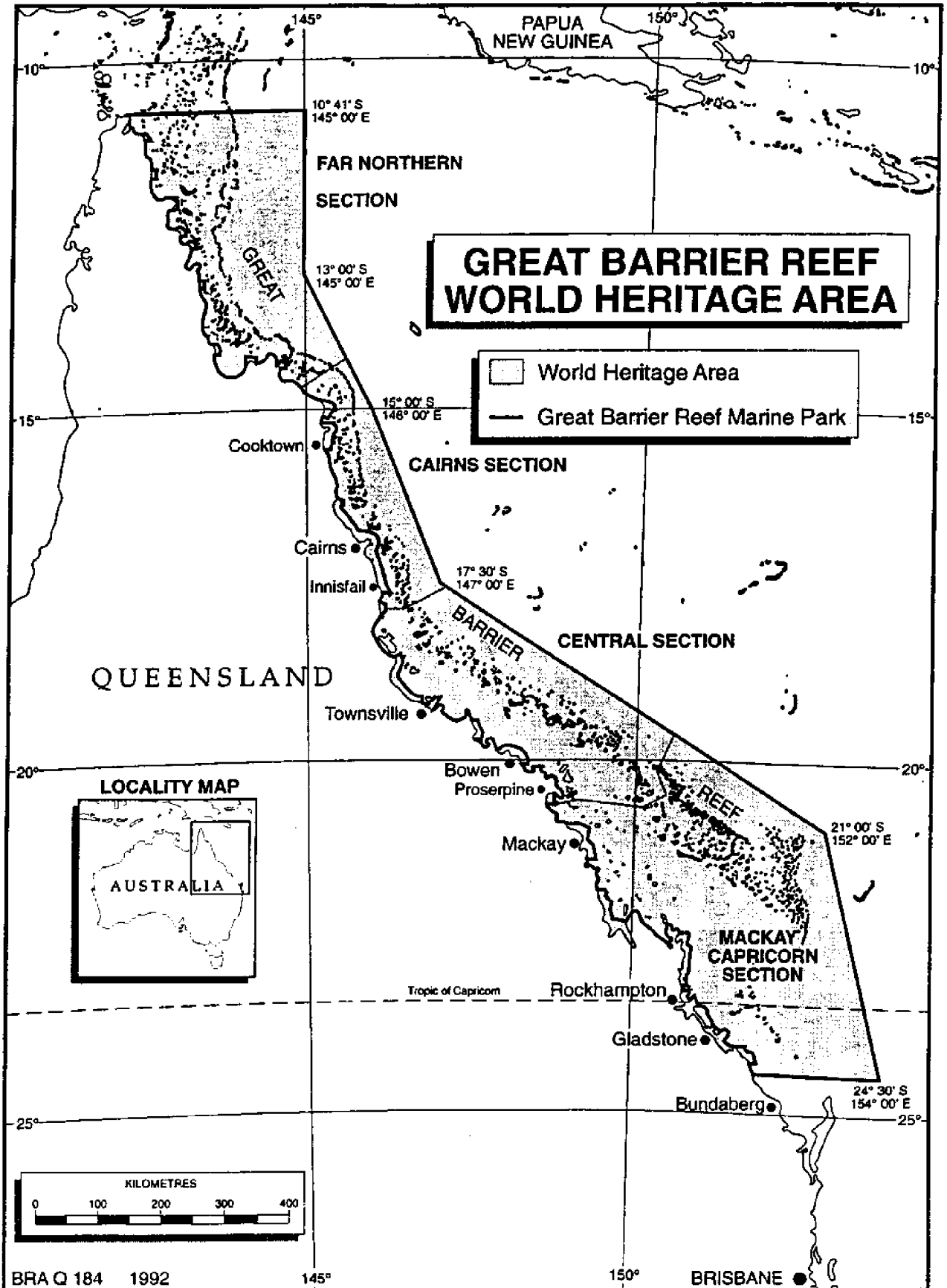


Figure 1. Great Barrier Reef World Heritage Area.



The use of the Great Barrier Reef World Heritage Area and the adjacent coastal hinterland has changed substantially in nature, extent and intensity over the 20 years since the establishment of the Marine Park. It is anticipated that the future demand for use of the Region will increase in extent and complexity. The past 20 years have also seen a substantial increase in community awareness and expectations in relation to the conservation and protection of areas of international importance such as the Great Barrier Reef.

In the Marine Park, GBRMPA faces specific challenges in managing a large and growing reef based tourism industry and increasing commercial and recreational fishing pressure. In addition, the number of rapidly growing adjacent urban and agricultural areas, the continued demand for of integrated coastal and island based tourist and residential developments and the downstream effects of agricultural land use present significant challenges for the future management of the Great Barrier Reef World Heritage Area (McPhail, 1996).

In the past GBRMPA's role in managing use, including tourism use, in the Marine Park was focussed on managing ecological impacts (Kelleher & Dinesen, 1993). It is now clear that in order to properly meet Australia's World Heritage obligations GBRMPA must adopt a more strategic approach to the management of use of the Great Barrier Reef World Heritage Area which takes into account both environmental and socio-economic factors.

## An Overview of Tourism Use

Over the past twenty years, Reef based tourism has grown from a relatively minor use when the Marine Park was established in 1975, with an estimated 150,000 visitor days per annum in the early 1980s (Claringbould, et al., 1984; Driml, 1987) to become the main commercial use of the Marine Park, with 1.5 million visitor days in 1994-5. Tourism is now the major commercial use of the Great Barrier Reef and contributes an estimated direct and indirect economic value to the region of in excess of \$1 billion per annum (estimate based on Driml, 1994).

### The Tourism Industry

The operational capacity of the reef based tourism industry has grown at an average of 10% per annum between 1985 and 1995 with estimates of increases in the Cairns region of up to 30% per annum at the height of expansion in the 1980s (Dinesen, 1995). There are current projections for growth over the next decade of between 3% and 11% per annum (Tourism Forecasting Council, 1996 and industry estimates). There has also been a corresponding increase in the number of operations, diversity of services and the development and use of new technology. While the marine

based tourism industry on the Great Barrier Reef has expanded rapidly over the past 10 years, it is capital and labour intensive and remains highly susceptible to changes in national and international economies, marketing strategies, preferences in holiday destinations and local weather.

The Great Barrier Reef tourism industry is made up of a diverse range of operations, the majority being vessel based, offering a wide range of activities including scuba diving, snorkelling, fishing, game fishing and coral viewing. Specialist vessels such as glass bottom boats, semi-submersibles and large permanently moored pontoons with specially constructed underwater observatories to allow visitors, not able swim, to experience the reef without having to enter the water. The majority of operations can be assigned to one of the industry sectors described in Table 1.

### Tourism Use

Based on GBRMPA permit and use data, in 1994-5 there were 864 permitted tourist programs in the Marine Park with a permitted capacity of over 10 million visitor days per annum. In the above period, the conduct of these programs involved 751 separate tourism operators, the use of 1348 permitted vessels and 23 major structure based operations, the conduct of 36 aircraft-based operations as well as the marine based activities associated with at least 20 major tourism resorts located on islands within the Marine Park.

While the marine tourism industry is able to operate throughout most of the Region, tourism use is actually highly concentrated in the offshore Cairns area and the Whitsunday Islands, in the Cairns and Central Sections of the Marine Park. Based on use data returns supplied by tourism operators to GBRMPA, 95% of all permitted tourism use occurs within the 5% of the Marine Park in the offshore Cairns and Whitsunday areas.

In the offshore Cairns area an estimated 50% of tourists travel out to the reef on day trips aboard large vessels (up to 400 passenger) to one of eight permanently moored tourist pontoons. The remainder use smaller vessels that specialise in diving or fishing trips to specific reefs, islands and cays. This area, with its international airport at Cairns, caters for the majority of inbound international tourists visiting the Great Barrier Reef. The other area of intensive use, the Whitsunday Islands, is popular with domestic and younger international visitors. The area supports a substantial amount of vessel based tourism around the eight island based resorts. Offshore there is one large tourist pontoon based operation at Hardy Reef. The sheltered waters of the Whitsundays make it an extremely popular area for bareboat yacht charters, with nearly 300 vessels available for charter. The remainder of Marine

**Table 1. Major sectors of the Great Barrier Reef marine tourism industry.**

**Vessel based day trip tourist operations** - vessels undertaking day trips to the reef and islands (these can range from small yachts and powerboats of 10m or less with less than 12 passengers to vessels of more than 35m with up to 400 passengers). These operations can be further characterised into one of the following categories:

- **Site specific operations** - offer a regular service (usually daily) to a specific place on one or more reefs
- **Area specific operations** - offer a more or less regular and often advertised service (daily or sometimes over several or more days) to a range of reefs
- **Roving operations** - offer services at demand or opportunity, most of which are restricted to no more than two days access in any seven period to any specific site

**Extended vessel based tourist operations** - these involve vessels of between 12m and 75m with between 6 and 160 passengers undertaking extended trips of usually a few days and up to two or more weeks throughout the reef with overnight stays usually in a number of different locations.

**Bareboats for charter (with or without crew)** - this is a sector primarily based in the Whitsunday Islands and to a lesser extent in other areas. Yachts and power boats of between 8m and 15m with capacity for 4 to 10 passengers are usually available for bareboat charter within a restricted area.

**Cruise ships** - a number of large (greater than 10,000 gross tonnes) foreign flag cruise ships pass through and anchor overnight in the Marine Park and provide a range of tourism experiences in conjunction with island resorts and pontoon based operations.

**Aircraft based tourist operations** - involving the use of conventional aircraft, seaplanes, helicopters and more recently ultralight aircraft for sightseeing, transfers to cays, islands, vessels and resorts.

**Structure based tourist operations** - involving the use of structures, such as tourist pontoons, under water observatories or in a limited number of cases vessels with overnight accommodation, permanently moored at a reef .

**Resort and other shore based tourist operations** - there are a number of major resort based operations in the GBRMPA. These are mainly island based resorts but there are also a number of mainland based resorts adjacent to the Marine Park., also includes beach based activities such as waterskiing, jetskis, small dinghies and parasailing.

Park (almost 90% by area) receives only 5% of the overall tourism use.

### Current Framework for Tourism Use Management

Unlike the management of the other major categories of reef based use which are jurisdictionally complex and involve a number of agencies, tourism use within the region is primarily managed by GBRMPA and the Queensland Department of Environment. No other agency has responsibility for the broad regulation and management of marine based tourism use within the Great Barrier Reef World Heritage Area. The management of land based island and coastal tourism resort development within and adjacent to the Great Barrier Reef World Heritage Area is jurisdictionally complex and such developments can have significant influence on tourism use in the region.

The primary tools used to manage tourism use in the Marine Park to date have been:

- zoning plans;
- environmental impact assessment; and
- permits.

Kenchington (1990) comprehensively describes the framework for the management of the use of the Great Barrier Reef Marine Park and the following is only intended to provide a brief context and a description of the major tools and their implications for tourism use management

#### Zoning Plans

Zoning Plans are the primary tool for managing use allocation in the Marine Park but provide only limited guidance for the management of tourism use. Tourism operations can be conducted in all zones other than the highly protected Preservation and Scientific Research Zones of the Marine Park and in some island national parks where access by the general public is not permitted. Zoning plans do require that all commercial tourism operators hold a Marine Parks permit. Zoning plans have provided a useful basis for the establishment of the Marine Park and the broad management and regulation of a range of uses including tourism. At the time of the establishment of the Marine Park, little was known of the nature and possible impact of tourism use and therefore the requirement under the zoning plans that all tourist operations required permits was a useful mechanism for obtaining a more detailed understanding of the industry and its operations.

Zoning plans also restricted extractive uses such as commercial fishing within the Marine Park, and over time a substantial part of the tourism industry has focused its activities in these non-extractive zones reducing the likelihood of conflict between these two major uses of the Marine Park. The most recent zoning plan for the Cairns Section of the Marine Park was the first time a zoning plan had been used to specifically address the effects of tourism use through the introduction of a "No Structures Subzone" with the objective of maintaining some areas in the Marine Park free of permanently moored structures (GBRMPA, 1992).

#### Environmental Impact Assessment

Before granting a permit as required under the Zoning Plan, the Great Barrier Reef Marine Park Regulations (Regulation 26) require the assessment of every proposal to determine the likely impact on the Reef and the Marine Park. The regulations further require that any impact assessment must address a set of statutory criteria (Reg. 13AC(4)). The majority of applications are individually assessed by or on behalf of GBRMPA by the Queensland Department of Environment. Commercial tourism in adjacent Queensland Marine Parks is similarly administered by the Queensland Department of Environment and most proposals are jointly assessed. In the case of large proposals such as new resorts or major works which have potentially significant impacts, other Commonwealth and Queensland environmental legislation may require additional formal environmental impact statements to be prepared by the proponent. While providing a useful mechanism for the identification and mitigation of the impacts of individual operations, this case by case approach has not been able to address the cumulative impacts of operations.

#### Permits

Subject to the assessment finding that the impacts of a proposal are not unacceptable, a Marine Parks permit may be granted subject to conditions which control the location, use, access and activities of a marine tourism operation. The majority of conditions are to ensure that the impacts or potential impacts of the ongoing operation are minimised. Normally joint permits are granted by both agencies for up to six years and are able to be transferred for the remaining period of the permit. Marine Park permits have become increasingly complex and prescriptive since they were first granted in 1981. This is not unexpected given increasing knowledge of the area and the likely impact of individual activities, and overall increases in the level of use.

Dinesen (1995) summarises the issues that led to a review of the permit system. The review arose following calls from the industry and a recognition of the untenable

resource demands required to deal with the increasing number and complexity of permit applications. The review identified the need to simplify permits and to develop alternative mechanisms for tourism use management including regulatory changes, more detailed regional and site planning and the development of voluntary codes of practice with industry.

In the absence of more detailed regional or local plans, zoning plans have only provided very general guidance for tourism use management and the case by case grant of permits has been the only mechanism available for the allocation of areas and sites for specific uses and operations. While a number of site and regional plans have been developed, these have been of somewhat limited benefit in the management of permitted use.

### **Critical Issues in Tourism Use Management**

Increasing tourism use of the Marine Park and World Heritage area raises a number of critical management issues and concerns. Many of these issues flow from increases in the intensity and concentration of tourism use in some areas of the Marine Park and World Heritage area. Nonetheless these are issues for which solutions are required to ensure ecologically sustainable tourism use and the conservation and protection of the Great Barrier Reef.

#### **Cumulative Impacts of Tourism Use**

The current approach to managing tourism use has provided a reasonably effective system to manage the direct and predictable impacts of each proposed operation and provides maximum flexibility for individual operations. However, it has a limited ability to identify or manage the cumulative impacts of many operations on the environment and on other uses and values of the Great Barrier Reef. Consequently, a complex use such as tourism, that may have significant cumulative impacts, is managed almost entirely through the case by case assessment of individual applications for permits.

Current research information on the impacts of tourism use tends to relate mainly to the ecological impact of day-trip, high intensity use associated with pontoon structures, and in general points to such uses having only limited and manageable ecological impacts (Ayling & Ayling, 1994; Sweatman, 1996). While these types of operations service a high percentage of the visitor demand in the GBRMP, they are a small percentage of the total operations permitted in the GBRMP, and there is little information available on the impacts of the multitude of smaller operations operating in the GBRMP. The current concern about unsustainable levels of anchor damage in the more intensively used parts of the Great Barrier Reef as a result of tourism and recreational use is an obvious example of cumulative

impacts not being able to be managed through existing mechanisms. In the absence of strategic and cumulative impact assessment, permits have been granted on the assumption that each operation individually is unlikely to cause unacceptable or unmanageable impacts.

#### **Latent Capacity**

Current permitted tourism use of the Marine Park is in the order of 10 million visitor days per annum. Based on data returns supplied by operators, in compliance with requirements of the Environmental Management Charge, the actual level of use in 1994-5 was 1.5 million visitor days. There is considerable concern about this difference between the levels of permitted and actual capacity, or 'latent capacity'. It is only since the introduction of the Environmental Management Charge (EMC) in mid-1993, with a mandatory statutory requirement to supply quarterly data returns based on daily logbook entries, that reasonably accurate use data has been available.

The data collected to date also shows that 25% of permitted tourism operations did not operate in the Marine Park at all in 1994-5. In the intensively used Cairns Section, 46% of vessels permitted to operate did not do so at all over the that period (Honchin, 1996). Of greater concern was that nearly 80% of the operations were operating at less than the financial viability threshold of 60% capacity (Coopers & Lybrand, 1990).

While there may be reasonable explanations for some of the latent capacity, for example the seasonal nature of operations and the allowance for some growth in demand when applying for a six year permit, there is significant concern about the ability to manage a possible three-to-five-fold increase in actual use, particularly in the already intensively use areas.

#### **Displacement of Indigenous, Recreational and Tourism Users**

Rapid growth and expansion of tourism use particularly in the vicinity of Cairns, Port Douglas and the Whitsundays has resulted in the displacement of indigenous people from areas used for traditional hunting and fishing and other cultural purposes. While the statutory assessment criteria require assessment of the impact of proposals on the cultural and heritage values of traditional inhabitants, it has been difficult to obtain detailed and sometimes culturally sensitive information to allow these issues to be adequately addressed. The presence of tourists often discourages the use of areas for hunting. The situation has become even more complex with the lodging of several land and sea claims under recently introduced federal Native Title legislation.

In the vicinity of major population centres that are also popular for tourism there has been ongoing displacement of recreational boaters and fishers, commercial fishers and sections of the tourism industry. Areas have been closed to extractive uses such as fishing to protect their natural values and non-extractive uses such as tourism. Structure based operations and those using permanent moorings have displaced other tourism operations or have resulted in a change in the level of use to the extent that recreational users and existing tourism operators have had to move further afield to find suitable remote or less intensively used sites.

### **The Need to Maintain A Diversity of Settings and Experiences**

The tourism industry is the primary vehicle for the presentation of the Great Barrier Reef World Heritage Area. In order for Australia to properly meet its World Heritage obligations to present and transmit the World Heritage values to present and future generations there is a need to maintain a diverse, resilient and productive ecological system while providing for a diverse range of experiences and uses.

Increasingly intensive use of some parts of the Great Barrier Reef has resulted in at least the localised loss of opportunity to access a diverse range of experiences and settings. Existing structure based operations allow for large numbers of people to access the Great Barrier Reef with minimal impact. Similarly a range of smaller operations allow for visitors to access a range of sites in smaller groups or individually. However the increasing intensity of use in these areas reduces the ability of both tourists and recreational and other users to have access to more remote experiences free from other users. The availability of a diversity of settings is a fundamental part of maintaining a diverse and innovative tourism industry on the Great Barrier Reef. Equally there is a need to ensure a range of settings are available for a range of other recreational and cultural uses such as fishing, boating and traditional use.

In a survey conducted for GBRMPA as part of the zoning review for the remote Far Northern Section of the Marine Park, AGB McNair (1995) found strong community support for the retention of the remote and undeveloped nature of the Great Barrier Reef free of significant levels of tourism use. There was also strong demand from both the tourism industry and recreational users to maintain areas for wilderness diving, yachting and recreation.

### **Site Allocation**

At present there is no specific site allocation mechanism and the decision to allocate a site is based on a first come first served basis through the grant of a permit. In the intensively used areas there is now clearly a limit to the

ability to grant further access to specific sites based on many of the concerns raised above. With any limitation on access to sites there is a need to develop a fair and equitable basis for the allocation of a limited resource.

### **Coastal Tourism Resort Development**

There are a number of controversial coastal development proposals for tourist resorts on islands within the Great Barrier Reef World Heritage Area and on the coast immediately adjacent. The planning, assessment and approval processes for such proposals are largely the responsibility of Queensland State Government agencies. These proposals are therefore nearly always outside the direct jurisdiction of GBRMPA, yet there is an expectation that the agency act to protect the values of the Marine Park and World Heritage Area from the actual and perceived impacts of such proposals. Many of these proposals have developed in the absence of appropriate regional planning processes which would normally identify appropriate sites and consider the regional environmental and social impacts of such developments. In the absence of such strategic land use decisions, this has left both Commonwealth and State governments dealing with proposals reactively on a case by case basis within an extremely complex jurisdictional, legislative and political environment.

### **Addressing the Issue**

GBRMPA is addressing these critical issues through a number of approaches including the following:

#### **Better Information for Management**

Introduction of the Environmental Management Charge. The EMC was introduced by the Commonwealth government in mid-1993 as a means of recovering some of the cost of the management of tourism use of the Marine Park. In simple terms there is a charge of \$A1 per person per day when they visit the Marine Park as part of a commercial tourism program. In 1994-5 the EMC charge generated \$A1.5 million. Of the revenue generated, 75% is used to fund research through the CRC Reef Research Centre into the ecologically sustainable development of the Great Barrier Reef World Heritage Area. The remaining 25% is used by GBRMPA to fund tourism use management and training for the industry and other users.

As part of the EMC requirements operators record daily logbook data on the localities visited, the number of passengers and the nature of the activities undertaken. This data has been extremely valuable in gaining a detailed understanding of the level and nature of tourism use of the Great Barrier Reef. The data is being used extensively in the development of plans of management and in research into tourism use.

Establishment of the CRC Reef Research Centre. The CRC Reef Research Centre (CRC) was established in 1993. The CRC is funded by Commonwealth and Queensland Government resource management and industry agencies and involves the fishing and tourism industries, research institutes and James Cook University. The establishment of CRC and the basis of initial funding through the EMC has substantially increased the capacity to conduct research related to the ecologically sustainable use of the Great Barrier Reef including tourism use. There is a substantial seven year research program dealing with a range of environmental, social, industry, training, education and related research issues. A number of useful reports relating to tourism use have been produced to date.

Industry based research. The Reef Tourism Industry Council based in Cairns received federal government funding in 1995 to initiate an industry based research program, Reef Tourism 2005, to develop a Strategic Plan for the future development of the Cairns regional marine tourism industry. The program is being supported by GBRMPA and will provide valuable information on the economic and other aspects of the industry that are at present not well understood.

#### **Development of New Management Tools**

Amendment to legislation to allow for statutory plans of management. In mid-1995, the Great Barrier Reef Marine Park Act was amended to allow for the development of statutory plans of management for areas, species and ecological communities. This is a significant step as it allows for the development of legally binding detailed plans for areas and sites. Importantly there is also a provision to call for a moratorium on the grant of all or particular types of permits for a period of up to 12 months while plans are being prepared.

Development of Statutory Plans of Management. Eleven plans of management are currently being prepared for areas in the Marine Park. Eight of these are for intensively used or sensitive areas in the offshore Cairns and Port Douglas region, the plan of management for the Whitsundays is a review and refinement of the existing draft plan to enable the plan to be implemented as a statutory plan. Given that 95% of all tourism use of the Great Barrier Reef Marine Park occurs within these areas, the plans will play a significant role in the management of tourism use.

The plans are specifically addressing the issues of anchor damage, latent capacity, displacement of other users, and the need to maintain a range of values, settings and experiences through the development of site mooring plans, regulation of the level and nature of access to specific sites and management areas and by providing a range of settings for tourism, recreational and traditional use. While the plans may place limits on the number and

nature of tourism operations at specific sites within the intensively used areas of the Marine Park, there is likely to be significant scope for growth by existing operators at those sites.

Development of use settings. As part of the development of the above plans of management and the review of the Far Northern Section Zoning Plan there has been a clear recognition of the need for the development of broadly applicable use settings in addition to the existing zoning provisions in Zoning Plans. Kenchington (1991) describes the initial attempts made to introduce settings as part of the review of the Cairns Section Zoning Plan. After consultation this resulted in a more limited approach with the introduction of a No Structures Subzone with the intention to leave some areas free of structures and therefore intensive tourism use. It is likely that in the near future there will be a range of use settings that can be applied on a reef wide basis with the detailed implications of such settings being able to be determined through specific zoning or management plans as appropriate.

Site allocation mechanisms. With limits to levels of access to specific sites being proposed in plans of management GBRMPA can no longer rely on the first come first serve approach to the allocation of sites. Alternative site allocation mechanisms are being investigated as are the likely economic implications of options for the industry and modifications to existing impact assessment and permitting processes. Mechanisms will need to be introduced as part of the implementation of the above plans of management, and this will have broad implications for future site allocation and reduce the current reliance on permit decisions for site allocation.

Introduction of Best Environmental Practices. Education is an integral part of managing the Great Barrier Reef World Heritage Area. To increase awareness of how to minimise the impact of activities on the environment, GBRMPA with the Queensland Department of the Environment and reef users including the tourism industry, have jointly developed a guide to the Best Environmental Practices (BEPs) for a range of reef uses. These address a number of activities including waste disposal, anchoring, diving, reef walking, whale watching and fish feeding. The aim of BEPs is to complement existing regulatory mechanisms by increasing awareness of both commercial and recreational users on how to conduct activities on the reef in an environmentally responsible manner.

Introduction of training programs for tourism operators. A tourism industry education program has been jointly developed by GBRMPA and the tourism industry to meet the reef education needs of industry staff and visitors to the Great Barrier Reef. The program has been developed to provide both a self learning introductory course for new staff supported by manuals and videos and an accredited

certificate course recognised by the industry and educational institutions. It addresses the need to provide the basis of quality presentation of the World Heritage area to a dispersed and diverse industry with high staff turnover. The courses will be offered in a number of centres in North Queensland allowing staff to continue training even though they may change locations or employers. The development of the program has been resourced through the use of EMC funds and is provided to industry on a cost recovery basis, with senior industry staff now trained to deliver the course and GBRMPA supplying back up support and materials.

### **Greater Community and Industry Involvement**

GBRMPA needs broad community support for its approach to tourism use management. It has assisted in the establishment of a number of multi-sectoral and indigenous regional consultative bodies with the aim of improving communication between the managers and user and interest groups. GBRMPA is also working with regional and sectoral tourism industry associations.

Regional Marine Resource Advisory Committees. Eleven Regional Marine Resource Advisory Committees (RMRAC) now operate in Queensland coastal towns. Each RMRAC structure varies but usually comprise of at least one representative from tourism, recreational & sportsfishing, commercial fishing, Aboriginal & Torres Straits Islanders, conservation groups and representatives of relevant government agencies. The aim of the committees is to provide advice to marine resource management agencies based on local expertise and a channel of communication between the various user and interest groups. These committees have provided a very useful forum for identifying and addressing use conflict issues and are able to give a balanced response on regional planning and management proposals.

Aboriginal Councils of Elders. A number of Aboriginal Councils of Elders have also been established (Cook, 1994). The elders on these councils are able to speak for their respective traditional land and sea country. Initially these councils dealt primarily with traditional hunting issues but are now increasingly consulted in regard to traditional cultural and heritage issues by both management agencies and those wanting to conduct activities that may have some impact on sites and values of importance to the traditional inhabitants.

Establishing tourism industry liaison networks. GBRMPA is working with a number of regional and sectoral marine tourism associations in the course of developing plans of management and more recently through participation in a regional industry strategic planning project. GBRMPA has also identified the need to liaise with the broader regional tourism industry through regional, state and national

tourism advisory bodies. GBRMPA is also developing closer working relationships with the tourism industry, relevant government agencies and stakeholders to encourage their greater involvement in the management of tourism use at a strategic level. A working group is being formed with representatives of key sectors of the industry and the Commonwealth and Queensland Departments of Tourism to review tourism use management at a strategic level and to provide advice to GBRMPA on tourism use issues on a reef wide basis.

### **Adopting a More Strategic Approach**

Addressing tourism management as a critical issue. The existing approach to management of tourism use has largely been as either one of a number of issues to be addressed through the five to ten yearly section based zoning plan review processes, or through responses to individual permit applications. More recently the development of area or regional management plans has allowed tourism use to be addressed more specifically at this level, but again among a range of other issues. The existing approaches have not facilitated a focussed reef wide strategic approach to the management of tourism use. Equally the industry which is relatively new, has only recently begun to take an organised and strategic approach to representing its interests. There is a need on the part of both managers and the industry to have a better joint understanding of the factors that drive and limit tourism use of the Great Barrier Reef as a whole and of specific sectors.

Co-ordinated application of tools to address issues. Given the complexity of tourism use management in the Great Barrier Reef World Heritage Area, and the range of different issues to be addressed, there is a need for GBRMPA to adopt an overall strategic approach to the management of tourism use of the Great Barrier Reef World Heritage Area. The use of existing and new management tools needs to be co-ordinated to achieve both the short term objectives of ensuring ecologically sustainable tourism use in the more intensively used areas but also to provide a sound basis for the future management of tourism use in the Great Barrier Reef World Heritage Area as whole.

Closer working relationships with the tourism industry at a strategic level. Closer working relationships with the tourism industry at a strategic level are essential for the successful future management of tourism use. The role of GBRMPA is to manage tourism use and not the tourism industry, but it recognises that management decisions can have a substantial effect on the industry. Equally there are mechanisms available to the industry for addressing some issues that can only at best be crudely addressed through a regulatory approach. While there are clearly areas where either GBRMPA or the industry has primary if not sole

responsibility, there are many areas that can benefit from a joint approach to the management of tourism use.

The 25 Year Strategic Plan for the Great Barrier Reef World Heritage Area. The 25 Year Strategic Plan for the Great Barrier Reef World Heritage Area (GBRMMPA, 1994) adopted by GBRMMPA, other government agencies and all major stakeholders in 1994 establishes the long term objectives for the management of the Great Barrier Reef World Heritage Area and identifies the critical issues to be addressed. It identifies the roles and respective responsibilities of all agencies and stakeholders and establishes a number of partnerships between GBRMMPA and relevant agencies and stakeholder groups for achieving agreed objectives and outcomes. The 25 Year Strategic Plan provides the framework for the management of major reef based and adjacent coastal land uses to ensure that Australia's obligations for the protection, conservation and presentation of the outstanding natural and cultural values of the Great Barrier Reef World Heritage Area and its transmission to future generations are met.

Development of a tourism use management program. GBRMMPA is developing a tourism use management program to co-ordinate the use of the wide range of existing and recently developed management tools and activities currently being undertaken across the organisation in the management of tourism use. The agency is adopting an issues based as opposed to the existing tools based approach to the management of the range of critical issues identified in the Strategic Plan. This will allow tourism use management to be addressed in its own right rather than as one of a number of issues in a large planning process or on a case by case basis in the course of a permit application.

## Conclusion

The development of GBRMMPA's approach to managing tourism use has clearly proceeded through a number of phases and in many ways has mirrored the development of the Great Barrier Reef tourism industry. At the time of establishment of the Marine Park and the listing of the World Heritage Area, there was little perceived need to manage tourism use other than to restrict access to protected areas, to minimise potential use conflict through zoning plans and manage impacts by case by case assessment and permits. The absence of any more detailed use settings and site allocation mechanisms meant that the permit decision was a *de facto* use setting and allocation decision tool.

With the rapid increase in tourism use in the 1980s and 1990s the lack of specific mechanisms to manage tourism use were recognised and initial attempts were made to begin to address the issue of tourism use management.

There was only limited success due to the lack of appropriate statutory tools and a reluctance to address the broader social-economic aspects of use management.

With further increases in the intensity and concentration of tourism use in offshore Cairns and Whitsunday Islands it became clear that the existing mechanisms were inadequate to address the concerns expressed by tourism industry, recreational users and Aboriginal and Torres Strait Island people. GBRMMPA has recognised that in order to properly meet its World Heritage obligations it must take into account both the environmental and socio-economic impacts of tourism use.

The development of these new tools and the initiation of processes to encourage greater involvement by the tourism industry and other stakeholders in management at the strategic level will provide the basis for a reef wide issues based approach to the management of tourism use. GBRMMPA believes that with the increasing level and complexity of tourism in the Great Barrier Reef World Heritage Area the successful management of tourism use will require a co-ordinated application of the full range of available management tools. The 25 Year Strategic Plan for the Great Barrier Reef World Heritage Area provides a useful and widely accepted basis for ensuring ecologically sustainable tourism use consistent with our primary objective—the protection and conservation of the unique natural and cultural values of the Great Barrier Reef.

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# RECREATION COASTAL MANAGEMENT IN VICTORIA, AUSTRALIA: REVIEWS LEADING TO ACTIONS

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**Abstract:** *The Australian Resource Assessment Commission's Coastal Zone Inquiry (1993) and the Victorian Coastal Recreation Study (1993) provided strong recommendations for making improvements to coastal management. Now that it is over two years since these studies have been completed, there is a need to reflect on what was recommended and to analyse how the recommendations have been implemented.*

*The Australian state of Victoria will be used as a case study to understand how coastal and recreation management issues are developing. The Victorian Coastal Management Act 1995 set a framework for a new system of coastal management for Victoria's 2000 km coastline. The establishment of the Victorian Coastal and Bay Management Council and the eventual establishment of three Regional Coastal Boards is an Australian first that intends to restore commonsense and coordination to the management of Victoria's coastline by consolidating the 29 Acts of Parliament that guide coastal management activities.*

*The rhetoric and intentions of the new management approach sounds encouraging. This investigation will briefly review what led to the changes in management, explain how these management changes are being implemented and explore the impact of these management changes on Victoria's coastal activities. The impacts of the changes will be analysed through looking for tangible outcomes based on input from a variety of stakeholders in Victorian coastal services.*

**Keywords:** *coastal management recommendations, Victoria, Australia*

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## Introduction

Australia's 36,700 kilometre coastline provides the highest proportion of recreation and tourism opportunities in the country. Prior to the early 1990s the coastal regions were taken for granted and demanded little attention from a comprehensive planning, development and management perspective.

In 1991, *The Injured Coastline*, the report of the Australian House of Representatives Standing Committee on Environment, Recreation and the Arts inquiry acted as a catalyst for the Australian Resource Assessment Commission's *Coastal Zone Inquiry* which set out to "examine and report on the integrated management of building, tourism, mariculture and associated development

in Australia's coastal zone" (Resource Assessment Commission, 1993a, p. 1).

The need to take a more strategic perspective for the coast was recognised by Surf Life Saving Victoria when it developed several studies of beach usage patterns that culminated in the *Victorian Coastal Recreation Study* (Tower and Kain, 1993). This study aimed to assess community needs in relation to issues of recreation, tourism and safety along the Victorian coastline.

The purpose of this paper is to briefly summarise the recommendations from the Resource Assessment Commission (RAC, 1993a) report and the VCRS; and to explore how the recommendations from these investigations have been implemented. The Commonwealth Coastal Policy *Living on the Coast* (1995), identifies the Commonwealth government's position regarding coastal management issues. The Victorian Coastal Management Act (1995) was introduced to establish a central focus for planning issues concerning Victoria's 2000 kilometre coastline. In parallel with Victorian legislative reform there has been administrative reform of putting one agency in control through its coordination of coastal management activities.

The changes to the management of the coastline from a recreation perspective have been significant. Interviews conducted with a number of key service agencies have indicated the changes are having a positive impact and that the delivery of recreation services is improving. Figure 1 provides a chronology of reports, reviews, studies and actions.

## The 1993 Reviews

In 1991 the Australian House of Representatives' Standing Committee on Environment, Recreation and the Arts released the report, *The Injured Coastline*, which identified the degradation of the nation's coast. Subsequent to this inquiry other initiatives were undertaken to further understand the state of the coast.

## The Resource Assessment Commission's *Coastal Zone Inquiry*

The expectation of the Resource Assessment Commission's (RAC, 1993a) *Coastal Zone Inquiry (CZI)* was to focus very specifically on the management issues that are important for the integration of the various services that are involved in Australia's coastal areas. There was a call for a national approach which would provide cooperation among the various agencies responsible for coastal activities through agreed, defined and respected roles and responsibilities in the interests of the nation as a whole.

The approach to bring about this cooperative partnership was to be built around all levels of government agreeing on national objectives and national principles for achieving them; with individual States formulating their own objectives and principles; and local Councils formulating their own objectives and principles. The consistency among all these approaches is for the nationally agreed objectives and principles to set the direction and parameters for the other tiers of government (RAC, 1993b).

The emphasis of the proposed management for the Coastal Zone was a focus on "integrated resource management." This "implies a particular focus on the interactions between various activities and resource demands that occur within the coastal zone and between coastal zone activities and activities in other regions" (RAC, 1993c p. 2, quoting OECD 1991).

### The Victorian Coastal Recreation Study

The *Victorian Coastal Recreation Study (VCRS)* was an initiative of Surf Life Saving Victoria to develop a database of demographic and beach usage patterns. The study aimed to assess community needs in relation to issues of recreation, tourism and safety along the Victorian coastline.

Although management systems were beyond the initial realm of the VCRS, recommendations were presented regarding improvements to existing management. The key management issues were:

- a need for a review of management that would provide a new approach for the development and delivery of services;
- a new management system based on the principles of local input and control utilising agreed guidelines and performance outcomes; and
- a new management system which includes local, regional, state and national coast management plans that incorporate input from all interested agencies.

The nature of the recommendations regarding management from the VCRS are very similar in their intent and content to the integrated resource management directions from CZI. In fact both investigations identified a need for a national direction with scope for state, regional and local interpretation of issues that are relevant.

### New Policy Directions

The reviews of the early 1990s has lead to new initiatives which are designed to address the various coastal management issues in a realistic political environment.

### The Commonwealth Coastal Policy

In May 1995, the Australian Commonwealth Government released its Coastal Policy document entitled *Living on the*

*Coast* (Department of the Environment, Sport and Territories, 1995). The range of initiatives that the Commonwealth Coastal Policy outlines are too numerous to summarise here but there are a few policy directions that need to be identified to highlight the changes that will be impacting on the local delivery of services.

Goals, Objectives and Guiding Principles. The RAC Report (1993a) called for an integrated resource management approach. The previous lack of integration across various coastal management agencies has been a repeated claim that has hindered coastal management. The Goals, Objectives and Guiding Principles of the Commonwealth provide a framework that sets the National Agenda in Coastal Management. In particular the policy provides:

- "facilitation of the continued development and implementation by all spheres of government of cooperative initiatives to deal with coastal management issues that confront all jurisdictions; and
- promotion of community participation in coastal zone matters" (Department of the Environment, Sport and Territories, 1995, p. 4).

Intergovernmental Coastal Technical Group. The Commonwealth, States and Australian Local Government Association will be involved in the Intergovernmental Coastal Technical Group. This will be fundamental in the initiative to encourage cooperation between all spheres of government to improve coastal management.

Broad Directions with Local Controls and Actions. The cliché concept of "think global, act local" is well entrenched in the policy directions of the Commonwealth Coastal Policy. It includes a number of initiatives such as a community coastal action program which among other things will:

- provide opportunities and resources for local residents, volunteers, community groups and businesses to participate in coastal management activities such as enhancement of sustainable tourism, recreation and other activities;
- database development of resources for the collection and dissemination of necessary technical information to increase support for the decision-making process; and
- professional development activities that will increase the skill level and knowledge of relevant government officers, resource development sector and community groups.

These directions will act to encourage and support the local management of coastal resources through the support of Australia's national government. The provision of resources, information and training will increase the likelihood of improved coastal management.

## Victorian Coastal Management Act

The Australian state of Victoria's *Coastal Management Act 1995* is designed to, among other things, "provide for coordinated strategic planning and management for the Victorian coast."

The Victorian coast covers 2000 kilometres and "contains important features of ecological, geological and scientific interest together with landscapes of scenic, archaeological and cultural significance" (Birrell, 1995). Its management is under the control of around 160 agencies, most of whom are Committees of Management that are appointed by the State Government (many of these Committees of Management are actually the relevant municipal government).

The objectives of the act are designed to:

- develop plans, management systems and coastal strategies for resources on a sustainable basis for recreation, tourism, conservation, commerce and similar other uses;
- protect and maintain areas of environmental significance;
- facilitate the development of facilities for recreation and tourism;
- maintain and improve coastal water quality; and
- improve public awareness and understanding of the coast and encourage public participation in coastal planning and management activities (Victorian Coastal Management Act, 1995).

A key component of the Act is the establishment of the Coastal and Bay Management Council and Regional Coastal Boards. The Coastal and Bay Management Council will have as one of its first priorities the preparation of the state's coastal strategy. The Regional Coastal Boards will facilitate the regional coastal planning and coordination through development of Coastal Action Plans as well as act as a forum and provide advise on a number of coastal issues.

The existing agencies currently involved in the management of the coast will continue to operate but instead of assuming their responsibilities in a policy vacuum they will be expected to develop their roles with the strategic directions of the Coastal Council and Regional Boards.

## Rhetoric to Reality

Much of what has happened in the first half of the 1990s has focused on the establishment of a framework for the improvements to the management of the country's coastline. The state of Victoria's initiatives are a good

illustration of how the reviews and policy statements have been implemented.

## Increase in Resources

Probably the most important element that has evolved from the reviews and subsequent policy development has been the "awareness raising exercise" of coastal issues. The coast is now on the National and State agenda. The reviews have raised the profile of coastal issues and provided direction for new resource allocations. Increased funding from both the Commonwealth and state governments has assisted in the development of coastal management initiatives at a local level. The funds for 1995-96 were increased with a number of new initiatives and it is foreshadowed that budgets for the next few years will continue to grow. The fact that these budgets are increasing in the public sector is contrary to many of the trends in other government services. "Razor Gangs" and budget rationalisation are the norm so the fact that Coast Action funding is increasing reflects how much coastal management initiatives have raised their profile.

## Coastal and Bay Management Council

The Victorian Coastal and Bay Management Council was established in August 1995. The Council comprises six community representatives with expertise in conservation, tourism, recreation, commerce, indigenous people's interests and community affairs, one local government representative and three State Government representatives. Its first main function is the establishment of the state's coastal strategy.

Although it is too early to determine, one hopeful outcome of the coastal strategy is assistance to local coastal management. In the past the Committees of Management have had little, if no, direction in their day to day management decisions. The strategic plan may provide the management outcomes which should be the focus for the Committees of Management's local coastal plans.

## Committees of Management

Committees of Management remain as the main management authority for coastal areas in Victoria, but there have been a number of changes that are generating improvements to management practice.

Changes to Local Government Within Victoria there has been a rationalisation of the number of local government authorities from over 200 municipalities to just 78. This has had an impact on coastal management because in a number of areas the local municipal council is the designated Committee of Management. In some areas the reduction of local municipalities has led to the rationalisation of the committees of management and also

led to the local council replacing existing community based Committees of Management. The consolidation of the management to the local government sector has helped to increase the professionalism and general resource base that can be allocated to coastal management issues. Some people have suggested that the changes to local government will eventually lead to the local councils being designated as the Committees of Management across the state but it will be some time, if ever, before this happens.

Amalgamation of Committees of Management. In a number of areas there has been an amalgamation of the small existing committees to form larger and more efficient committees.

The rationale for amalgamating the Committees of Management is based on the introduction of some economies of scale and widening the resource base. The evolution of a more regional perspective through this amalgamation has encouraged greater cooperation and sharing of resources.

### **Coast Action Program**

The Coast Action Program is a Victorian initiative to support locally based agencies to undertake coastal improvement activities. In 1995-96 \$340,000 has been allocated to 72 different foreshore projects and this is likely to double in 1996-97 financial year. The grants made to local groups range to several thousand dollars to less than \$10,000.

Many of the groups who have been funded through this program include community-based agencies such as "Friends of ..." groups, local government and Committees of Management. This type of financial support encourages community groups to undertake activities that capitalise on the energy of volunteers and helps to raise awareness of coastal issues. The types of projects that have received support include environment protection and improvement projects and recreation development projects.

On ground coordinators. The state Department of Natural Resources and Environment has allocated funds to employ "on ground coordinators" to work with community groups and Committees of Management. These people have a role of offering technical advice and support for projects to be developed. Through working with the local groups there is the potential to tap into the resource base of volunteers as well as to get projects developed within national, state and regional policy directions.

### **Information and Awareness**

One of the initiatives within the *Victorian Coastal Management Act 1995* is to raise awareness and understanding of the coast.

Word of mouth. One of the mechanisms that is difficult to manage but is essential in raising awareness is to encourage people to talk to friends, colleagues, etc. about issues of the day. At the community level the range of local projects supported through the Coast Action Program has helped to address and raise issues of concern. It is a logical conclusion that many of the people who are involved in the Coastal Action Projects and the people who work with Department of Natural Resources and Environment's coastal coordinators are having their awareness of issues raised. Although this is not necessarily raising the coastal profile through the mass media, it is raising the awareness and increasing the information base for key decision makers.

Formal networking activities In the past there has been very little opportunity to share information and experiences regarding coastal management. Recently, forums have been presented to assist individuals involved in coastal Committees of Management to share their experiences and to discuss how they are addressing different issues. The success of these events and the goodwill that is being generated among groups will encourage more information sharing and networking among groups and individuals involved in coastal issues.

### **Community Involvement in Management Decisions**

The number of people directly involved in coastal management has decreased due to the amalgamation of local government and rationalisation of community based Committees of Management. However, the opportunities for community input to coastal management issues is likely to increase due to a commitment to have more community involvement.

The Coast Action Program has provided support for "Friends of...coast groups" which will encourage more people to be involved in local coast development activities.

Current Committees of Management also seem to be committed to increase their dialogue with various coast based groups such as surf life saving clubs, board riders clubs, etc. The amalgamation of councils and coastal Committees of Management has provided them with the resources to be able to maintain a better relationship with community groups.

### **Understanding the Developments**

The lessons to be learned from Victoria's coastal management initiatives need to be placed into a context so others involved in coastal management issues can learn from what is happening.

It appears that the intention of the new coastal management approach is the implementation of "integrated resource management" as outlined in the *Coastal Zone Inquiry* and the *Living on the Coast* documents. An interpretation of the process based on community development principles provides a context that can be easily interpreted in a variety of other settings to address coastal management challenges.

### Community Development

Much of what is happening in the development of coastal management in Victoria can be placed into the context of community development. Community development is a process of social action in which people organise themselves and take action that will address issues that are important to them with a minimum reliance on outside resources (Hochman, 1986). Although the content of the different reviews have not specifically embraced the concept of community development there are features from this type of process that is leading to the success of the actions along Victoria's coast.

Ward (1986) indicated that there are five steps to the community development process:

1. Identification of a problem. The reviews and studies of the early 1990's have helped to do this on a state and national level. Local initiatives are helping this to happen at the local level.
2. A process of learning takes place. This process has been happening subsequent to the reviews as local groups and government reflect on the issues that are important to them. Within Victoria the amalgamation of local councils and the rationalisation of some of the existing coastal Committees of Management have assisted them to learn about the issues and identify how to proceed with their coastal management tasks.
3. Objectives and strategies are formulated and the groups take the time to learn how to address and implement these actions. This is the current level of development in Victoria. The National direction has been established through the *Living on the Coast* policy document. The state directions and plans will be implemented soon through the Strategy Plan from the Coastal and Bay Management Council. Subsequent to this, it is expected that the Regional Coastal Boards and the specific coastal Committees of Management will prepare their coastal plans for implementation.
4. Actions are taken, and
5. The whole process is evaluated. It is too early for the impacts of this to be recognised but there does appear to be the potential for this to happen as the coastal management developments are implemented across the state. There is a commitment for ongoing monitoring and evaluation provided the coast remains on the National and State agenda.

The role of the "on-ground coordinators" is another aspect that reinforces the mechanisms of community development. A worker operating with community development strategies functions as a facilitator who advises and encourages community action without actually implementing the specific actions themselves. The use of these workers is not essential but it does assist in helping the local groups to develop and implement actions that fit within the wider national and state objectives.

### Conclusion

It is encouraging to see the enthusiasm and optimism in which individuals involved in coastal management issues are embracing the new challenges. The answer to the question of "are the reviews leading to actions?" is a resounding yes. Although much of what is being developed is moving slowly and the new programs are being expanded at a cautious rate, there is real progress in what is being developed. The increase in awareness and the funds that are being targeted towards coastal issues are having an impact and are influencing the service delivery at the local level. There have been a number of significant actions since the reviews of the early 1990s.

The keys of success that need to be considered as others try to learn from what Australia and Victoria are trying to do can be summarised by the following points:

- provide a national and state level policy guide that can be implemented at a local level;
- encourage local and community input to address local and regional issues that fit within the broad policy directions;
- encourage a community development process so the actions that are being implemented are "owned" by those who will feel the impact of the actions; and
- provide adequate resources over a sufficient period of time so new initiatives can be put into operation and become the new methods by which services are managed and delivered.

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# FRAMEWORKS FOR DECISIONMAKING IN MANAGEMENT

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**Abstract:** *Knowledge of the number, location, and condition of sites for tourism and recreation purposes can assist managers and planners in identifying alternatives and evaluating the consequences of other resource aides in developing strategies to prevent or mitigate undesirable impacts, while taking advantage of positive changes to provide a range of desirable public benefits. A generic problem confronting planners and managers in many areas is that many of these potential sites are widely dispersed over large areas, making field inventories expensive. More problematic, however, is the lack of a framework that identifies the key attributes and conditions of sites that make them valuable for tourism and recreation. This paper notes a case study in which the utilization of the correct decisionmaking framework would have facilitated the development and change of the Lake Kachess area in the Cascade Range east of Seattle, Washington.*

**Keywords:** *planning framework, decisionmaking variables, limits of acceptable change*

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## Introduction

A number of years ago, we published a monograph entitled *The Recreation Opportunity Spectrum: A Framework for Planning, Management, and Research* (Clark and Stankey, 1979). As we were completing the final version of the paper, we found ourselves struggling for a way to communicate to readers a sense of the kinds of problems with which the recreation opportunity spectrum was intended to deal. We settled on a short preface that sketched out the history of development and change around the Lake Kachess area in the Cascade Range east of Seattle, Washington. The preface described how, over about 75 years, the area had evolved from a remote and primitive setting to one characterized by modern, intensive development. Once used by only a few, today the area supports very high use levels. Yet, over this period of change, it was our contention that visitors to Lake Kachess were happy with what they found.

Our paper went on to point out that many of the changes that had occurred at Lake Kachess had been the result of managerial responses to emerging problems. More visitors led managers to establish

more sites; increased use levels led to increased resource impacts, so various engineering and hardening actions were undertaken. When sanitation problems were imminent, first pit toilets, then vault toilets were installed. And so on. But again, with each management response, new people arrived, happy with what they found.

Lake Kachess, we suggested, reflected an example of what has been described as the "tyranny of small decisions." The transformation of the area from a little-used, primitive recreation venue to an intensively used and developed location did not occur overnight, but in "small" increments; a change here, a change there; some purposeful, others not; some within the control of area managers, others imposed externally. Collectively, however, they constituted a substantial shift in the kind of place Lake Kachess offered recreationists.

The story of Lake Kachess has its analogue in coastal and marine tourism management. Kuta Beach in Bali or Waikiki in Hawaii reveal a similar evolution in the kind of opportunity provided and the type of tourists served. The speed with which such changes unfold and the extreme difficulty (if not impossibility) of reversing them means that it is important that we have a capacity to think about and to appropriately frame issues, possibilities, and implications in such a manner so as to minimize the likelihood of undesirable change while maximizing the likelihood of desirable and thoughtful change. To what experience and criteria might we turn to in striving to develop a framework to help us achieve such ends?

Are the settings offered at Lake Kachess, Kuta Beach, or Waikiki today the "right" ones? Do they represent what should have been provided? Or, did somewhere along the way we lose a more valuable setting? Or, further still, is the "best" setting yet to come?

Obviously, these are problematic questions. There are no right or wrong answers to them. However, what we do know is that the changes at Lake Kachess, Kuta Beach, or Waikiki benefited some visitors, were irrelevant to others, and were the reason why others decided to no longer return. In short, each change benefited some and penalized others. But as above, typically such changes simply "happened"; that is, they were not the result of an explicit, deliberate, and conscious action but rather simply reactions to problems.

## Frameworks for "Wicked Problems"

In our combined 50 years in outdoor recreation research, we have become increasingly convinced that one of the most important contributions we and our colleagues can make to managers and policymakers is the development of conceptual frameworks within which the kinds of issues embodied in the Lake Kachess example can be approached. Notice we do not say "solved"; solved seems to imply that somewhere out there exist "right" answers. However, few of these kinds of issues



have “right” answers; in fact, typically there are many possible “right” answers. Problems of this character have been described as “wicked”; i.e., “‘wicked’ in a meaning akin to that of ‘malignant’ (in contrast to ‘benign’) or ‘vicious’ (like a circle) or ‘tricky’ (like a leprechaun) or ‘aggressive’ (like a lion, in contrast to the docility of a lamb). We do not mean to imply malicious intent” (Rittel and Webber, 1973).

Wicked problems are common in the natural resource field, including recreation and tourism management. In part, this is because of the fundamental quality of what makes a problem “wicked” in the first place. For example, as we consider the problem of identifying the “right” kind of setting for Lake Kachess today, it makes a great deal of difference if we consider outdoor recreation demand and supply only within the central Washington Cascades, versus the state of Washington, versus the Pacific Northwest region, and so on. What is the appropriate scale our analysis should include? Here we encounter a fundamental characteristic of a wicked problem; it has no “stopping rule,” no clear bounds to the problem and its analysis (Allen and Gould, 1986). And any choice of bounds or limits can be criticized, from one perspective or another, as favoring some kind of outcome.

A framework, the dictionary tells us, is “a structure for supporting or enclosing something else, especially a skeletal support used as the basis for something being constructed; it is a fundamental structure, as for a written work or a system of ideas.” Frameworks, as we use the term, provide a “mental scaffold” that provides a way of *thinking about problems*; they help us “frame” the issue, consider alternatives, understand relationships, and consider implications. They help us think about alternative ways in which problems can be stated, of who might be affected by decisions, and of important links with other actors, events, and institutions. Finally, frameworks operate to help make explicit the assumptions under which our actions are undertaken.

To illustrate the role of frameworks, we turn to the substantive issue of how tourism might be better integrated with environmental protection. This is a recurring issue in discussions about tourism development around the world (including discussions at this Congress) and provides a setting in which the question can be considered as to how a useful framework might be developed.

### Key Characteristics of Planning Frameworks

We would argue that any effective framework must accommodate three key characteristics of an issue such

as integrating tourism and environmental protection. These include:

- The interface between tourism and environmental protection ultimately involves trade-offs among competing socio-cultural values (e.g., there are trade-offs between the provision of economic benefits to local communities and the protection of bio-diversity);
- Complex, interdisciplinary, and “wicked” problems cannot be resolved through simple, reductionist, or linear approaches; and
- Because decisions ultimately involve the exercise of social choice, planning decisions and implementation processes must accommodate the full range of stakeholders.

The core idea embodied in the three points above is that natural resource management in general, and tourism management in particular, are socio-political activities; they involve the production and distribution of differing sets of values and an associated differential distribution of who benefits and who pays. Some values are readily measurable in settings such as the marketplace; others are extremely difficult to define and measure, but nonetheless are just as “real.” All decisions or choices involve benefits; all involve costs. Working through this extraordinarily complex algorithm requires innovative and integrative approaches; traditional ways of “doing business” are simply inadequate.

Such aspects became apparent to us as we developed the Recreation Opportunity Spectrum concept. They also have been key ideas in developing a framework within which the generic problem of establishing an appropriate relationship between recreation and tourism use and associated environmental impact has been addressed. Both recreation and tourism managers have long been concerned with this latter issue. The question of “how much use is too much use?” has likely occupied as much attention among managers, researchers, and policymakers over the past 30 years as any other single issue. Typically, the concept of “carrying capacity” has been tabled as the framework within which such a question can be addressed. However, for a variety of reasons which reach beyond the purpose of this paper, the carrying capacity idea has proved largely ineffective in helping develop policies for mitigating the relationship of use and impact (despite a history of research that transcends 30 years and over 2,000 publications!).

### The Importance of Asking the Right Questions

It is not too much to ask why this is so. We would suggest that, first of all, the answer rests in the nature of the underlying question. That is, the question of “how much use is too much use?” presumes a determinable answer. However, what we have found, and which in a sense is the experience revealed in the Lake Kachess example, is that most areas have a variety of capacities. Depending upon what kind of objectives and experiences are important, the resultant answer can vary considerably.

Thus how the question is framed is crucial. Getting the question right is the first and perhaps most crucial step in developing means of coping; in short, if we don't ask the right question, it is virtually impossible to get the right answer (Clark and Stankey, 1991). And in considering the importance of getting the question right, it quickly becomes apparent that the question of who gets to participate in framing the question(s) is equally significant. People from different experiences, backgrounds, and perspectives will identify different questions. Thus, the nature of the forums in which questions are identified is critical; venues that are "closed" to participation, either through deliberate restrictions, oversight, or through subtle restrictions on the nature of participation (e.g., only written input, with supporting data, is considered) effectively constrain the question formulation stage. In our example here, it was only when we began to think of the issue (i.e., the relationship of recreation/tourism use to environmental impact) as a socio-political problem, involving decisions and choices affecting the allocation and distribution of values and public access to resources, as opposed to a biological problem, that we began to see that new approaches to framing the basic question and, accordingly, the most appropriate approach to problem resolution, would be required.

#### "No Choice" is Not a Choice

Because recreation/tourism sites possess a variety of capacities, by implication; a variety of choices exist as to what kind of activities, opportunities, and experiences might be provided at a given location. Any given choice will facilitate and favor some while disadvantaging others. Each choice will lead to a differing stream of consequences and implications. Moreover, any choice (including "no decision") will lead to change because we are dealing both with dynamic ecological and social systems, the idea that we can maintain the *status quo* is not possible.

The basic point is that choices are necessary and inevitable and those choices produce consequences and implications. Most importantly, the judgments exercised in making those choices will reflect the values of those who participate in making the decisions. However, the consequences of those choices often reach far beyond the limited circle of decisionmakers; the failure to consult with and involve those affected by decisions means the ability to implement successfully such decisions is increasingly problematic. Thus, for a process to be sustainable (i.e., implementable), it is necessary that the processes through which choices are made must integrate the perspectives and values of a wide range of stakeholders (Lang, 1990).

#### Choices Need to be Informed

It is also necessary that the process be informed. By this, we mean that it takes into account the best available knowledge. In the case of developing a framework for resolving conflicts between recreation/tourism use and environmental protection, it was important that a solid understanding of the relationship between use and impact exist; in what ways and amounts did environmental conditions change in response to differing types, amounts, and distributions of use? A substantial literature on this issue has emerged over the years and this provided a sound base from which to work. However, such relationships are highly idiosyncratic and site-specific. Thus, we also supplemented our understanding of this relationship with the knowledge and observations held by people who lived, worked, and played in these settings. In short, we acknowledged that there are a variety of ways of "knowing" and this informal (experiential or indigenous) knowledge was crucial to building a comprehensive understanding.

By opening up the process to such knowledge, two important benefits were gained. First, it helped encourage "mutual learning" among all the participants: researchers, managers, and citizens. Each came to understand that others held important knowledge and that they could learn from one another. Ironically, scientists, who were at least initially most reluctant to accept this precept, found that the more open approach led to an increased appreciation on the part of citizens about their specialized knowledge and a heightened level of legitimacy about that knowledge. Second, it served to create a sense of understanding and support among various stakeholders, thereby increasing the likelihood that decisions would enjoy political support and that science underlying the decision would, in fact, be used.

#### The Limits of Acceptable Change Framework

From these fundamental qualities of a framework came the idea of the Limits of Acceptable Change (LAC) as a framework for examining the relationship between recreation use and environmental impact (Stankey et al., 1985). It addressed the kinds of questions with which many had long struggled using the carrying capacity model. However, the LAC was grounded in a fundamentally different question; rather than asking "how much use is too much use," it asked "what conditions do we desire?" Such a question acknowledged both the idea that we faced social choices as well as the inevitability of change. It also shifted attention away from a focus on inputs (e.g., amounts or types of use) to a focus on outputs (i.e., the conditions that we sought to maintain or achieve).

It did this by joining the technical planning process (one with which most managers and planners were familiar and comfortable) with a socio-political process as a means of identifying the objectives that the planning effort ultimately sought to achieve as well as building the political consensus

necessary to successfully implement the plan. In joining these two distinctive yet essential processes, the LAC process helped facilitate four specific activities:

1. It created a forum in which the kinds of conditions judged to be acceptable and appropriate for a given location could be specified. This was largely a prescriptive phase, concerned with questions as to *what should be*.
2. It created a setting in which an analysis of the relationship between desired conditions (identified in Step 1 above) could be compared to existing conditions. This phase largely focused on the acquisition and utilization of knowledge, whether obtained from science or from the informal knowledge of stakeholders.
3. It created a process through which alternative choices could be tabled and debated; specifically, these choices took the form of alternative management proposals for an area. Thus, it took information developed in Step 1 (i.e., differing conceptions as to what was acceptable and appropriate), fashioned these into differing management alternatives, and fostered discussion as to the consequences, both environmental and social, associated with each alternative.
4. It created a process through which continuing monitoring and evaluation could be undertaken. This created a feedback loop to the overall planning process, a particularly important feature given the relatively high levels of uncertainty surrounding our knowledge. This phase also created an opportunity for continual learning and adaptation.

In summary, the LAC framework, as illustrative of any useful framework, is at its core, nothing more than a framework for thinking about problems. Although many specific frameworks to deal with the problem of use and environmental impact could be developed (e.g., there are now at least four major derivative versions of the LAC in use by recreation and tourism managers), they all share certain basic qualities. These include:

1. They provide a systematic, traceable set of procedures. Simply put, they are visible and replicable, with underlying assumptions and rationale specified.
2. They utilize the best available knowledge, from whomever holds it. Again, in short, they "value knowledge, not who holds it" (FEMAT, 1993).

3. They have a capacity to adapt to changing conditions, demands, and knowledge. They reject a "black box" approach to planning.
4. They recognize the fundamental socio-political nature of the planning process and provide a setting in which expressions of value are sought and utilized.
5. They are on-going, non-linear, and inclusive of the full range of interests. In such frameworks, planning is seen as a iterative process, where the relationship between knowledge and values is constantly undergoing change.

## Conclusion

As we suggested at the outset, frameworks provide a necessary structure within which scientific knowledge, public values, institutional considerations, economic factors, and other decisionmaking variables can be placed, connected, and tested. Given that alternative choices always exist, frameworks should facilitate a thoughtful presentation and discussion of the different consequences and implications associated with different decisions and actions. They are also useful in testing the significance of alternative assumptions about such things as future demand and supply, shifts in public policy, costs, and so forth. They help create a visible and traceable record of how and why decisions have been taken (and others rejected), making it possible to reconstruct the rationale for previous actions and to determine whether earlier decisions should be revisited.

When such frameworks are lacking, we see the kind of scenario revealed in our story of Lake Kachess occurring repeatedly. Decisions that are purely reactionary are undertaken, often with little understanding of the long-term consequences associated with them. And with such decisions comes an increased likelihood that important recreation and tourism experiences as well as environmental values are lost inadvertently, perhaps irreversibly. These are costs that tourism and recreation managers and planners should take every step to prevent from occurring.

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# REGULATORY COMPLEXITY: AN EXAMINATION OF HAWAII'S PERMIT STRUCTURE FOR COMMERCIAL OCEAN RECREATION

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**Abstract:** *In Hawaii, permits are part of a broader regulatory framework that includes state statutes, state administrative rules and county ordinances, and the issuance of citations for violations of regulations. The current permit structure that relates to ocean access is multi-jurisdictional. The associated complexity makes it difficult for commercial operators, who are required to obtain these permits, to comprehend and comply. This situation has resulted in confusion in the market place, and has caused the public, the commercial ocean recreation businesses, and the regulatory agencies considerable concern.*

*This paper examines Hawaii's regulatory structure from the perspective of permit requirements for commercial ocean recreation access to the resource. The objectives of the analysis are: 1) to review and summarize the major types of permits issued by key state and county agencies in Hawaii, and 2) to clarify the decision processes for obtaining these permits. This work establishes the basis for formulating a regulatory regime which simplifies existing complexity and eliminates confusion for a more efficient permitting process.*

*This analysis is based on a series of five facilitated workshops involving 17 state and county regulatory agencies, at which permit procedures were reviewed and methods to improve the regulatory process were discussed. This work was initiated after several years of receiving an increasing number of requests from commercial ocean recreation businesses for clarification on the types of permits required to operate legally in the state of Hawaii and the sequence in which these permits needed to be obtained.*

**Keywords:** *Hawaii, commercial ocean recreation, permitting process, regulatory structure, jurisdiction*

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## Background

Since 1987, when the Governor's Task Force on Ocean Resources Tourism Development was established to review issues surrounding the ocean recreation industry (Governor's Ocean Resources Tourism Development Task Force, 1988; MacDonald and Corbin, 1989), confusion about the regulatory framework, particularly the permit

system, has been a major problem in managing commercial ocean recreation in Hawaii. Later assessments (Clark and MacDonald, 1991; Hawaii Ocean and Marine Resources Council, 1991) confirmed this earlier finding.

Hawaii's ocean recreation industry has seen phenomenal growth in the past ten years, generating annual revenues of \$128 million in 1981, \$269 million in 1986 and \$560 million in 1990 (MacDonald and Markrich, 1992; MacDonald and Deese, 1995—Appendix C). Annual revenues of nearly \$750 million and \$800 million have been projected respectively for 1995 (MacDonald and Markrich, 1992) and 1988 (MacDonald et al., 1995). In general, the economic value and impact of this industry are well documented (also Markrich, 1993). Additionally, the commercial ocean recreation industry is an important component of the lifestyle of Hawaii's residents, as it includes competitive events and spectator attractions such as canoe, kayak and yacht racing, surfing contests, ocean swims, fishing tournaments, etc.

For several years, the Ocean Resources Branch (ORB) of the State of Hawaii's Department of Business, Economic Development and Tourism (DBEDT) received an increasing number of requests from commercial ocean recreation businesses for clarification on the types of permits required to operate legally in the state of Hawaii and the sequence in which these permits needed to be obtained. To address these concerns, ORB began researching the requirements necessary to obtain these permits, at which time it became apparent that there were numerous problems with the process of permit application and issuance. These problems arose from a highly complex regulatory structure in need of better integration, one that was largely multi-jurisdictional in nature and lacked clear and concise guidelines to lead a prospective permittee unambiguously through the process.

## Regulatory Structure

Commercial ocean recreation activities in Hawaii occur on almost all islands. These types of activities range from renting masks, fins and snorkels or beach mats to selling catamaran rides, canoeing lessons or a host of other activities based off of state and county public lands and waters. Access to the water is gained through state harbor facilities and boat ramps, county or state beach parks or across state conservation lands (all lands seaward of the high wash of the waves).

Depending on the type of commercial activity occurring and the place of origin, both state and county permits may be required. A brief summary of the regulatory structure, as constituted by the respective agencies' jurisdictions and their most relevant functions, is described below:

## State of Hawaii

Department of Land and Natural Resources (DLNR). All commercial activities occurring out of small boat harbors, boat launch ramps or on the waters of the state are regulated by the Division of Boating and Ocean Recreation (DOBOR).

All commercial activities originating out of state parks are permitted by the State Parks Division .

All commercial activities occurring on or crossing state conservation lands are regulated by the Land Management Division (LMD).

Some commercial activities in specifically designated Marine Life Conservation Districts (marine parks) are regulated by the Division of Aquatic Resources (DAR).

Enforcement for violation of state regulations or permits is carried out by the Division of Conservation and Resources Enforcement (DOCARE). The State Marine Patrol was transferred to DOCARE in July 1996 from the Department of Public Safety. DOCARE is now responsible for enforcing all state boating and ocean recreation regulations.

Department of Transportation (DOT). Certain commercial harbors under the jurisdiction of the DOT Harbors Division (DOT-Harbors) support commercial ocean recreation activities. DOT-Harbors issues permits for these activities. On Oahu, both Honolulu Harbor and Kewalo Basin support major commercial ocean recreation activity. On the neighbor islands, minimal commercial ocean recreation activity is based out of commercial harbors.

Department of the Attorney General (AG). Violations of state regulations or permits are prosecuted by this department. AG representation was a necessary component of the facilitated workshop process, to assist in clarification of regulatory authority.

Office of State Planning. Hawaii's Coastal Zone Management (CZM) Program works in partnership with the counties by placing special controls on developments along the shoreline. These shoreline controls are exercised in designated areas called "special management areas" (SMA). Each county determines whether or not a commercial ocean recreation activity is considered a development, thus requiring a permit in the SMA. The CZM Program was transferred to DBEDT in July 1996.

## Counties

In Hawaii there are four counties: the City and County of Honolulu, Hawaii County, Maui County (inclusive of the

islands of Maui, Molokai, Lanai and Kahoolawe) and Kauai County (inclusive of the islands of Kauai and Niihau).

Planning Departments. In the counties of Hawaii, Maui and Kauai, the Planning Departments work in partnership with the state CZM Program to administer Hawaii's CZM Law through SMA designation and to provide permit reviews. On Oahu, the City and County of Honolulu's Department of Land Utilization (DLU) works with the CZM program in this capacity.

Departments of Parks and Recreation. In the City and County of Honolulu as well as the counties of Hawaii and Maui, the Departments of Parks and Recreation may require permits for commercial activities occurring in county parks. In Kauai County, permit authority for commercial activities in county parks rests with the Planning Department.

## Providing for Interagency Cooperation

In 1992, the Coastal and Ocean Management Policy Advisory Group (COMPAG) was established by then Governor John Waihee to provide oversight for implementation of the Hawaii Ocean Resources Management Plan and to provide input to Hawaii's Coastal Zone Management Program. Membership in COMPAG was comprised of the directors or designated representatives of all state and county agencies with programmatic interest in coastal and ocean affairs. ORB represented DBEDT on the COMPAG, presented the regulatory concerns expressed by businesses regarding ocean access and permit requirements, and proposed a series of actions to help clarify and possibly streamline how permits were issued. The proposed actions are listed below.

1. Review and summarize the types of jurisdictions that exist and identify all state and county agencies that issue permits for ocean access.
2. Outline, as examples, some of the problems that exist in obtaining permits.
3. Obtain approvals from heads of all appropriate agencies to have key staff participate in a group process to rectify problems and increase effectiveness and efficiency of the permit system.
4. Conduct a series of facilitated workshops to formulate options for a more coordinated and comprehensive permit system.
5. Present findings and options to the COMPAG for collective review and approval.
6. Formalize an integrated permit process that is agreed to by all respective state and county interests, that addresses all regulatory requirements and that meets the needs of the agencies and businesses alike.

7. Work with the regulatory agencies to better inform ocean recreation businesses of the permit requirements and application process.

### Clarifying the Permit Process

With concurrence of the COMPAG, ORB invited representatives from each of the agencies listed above to participate in a series of five facilitated workshops during 1992. The significance of the workshops was evidenced from the beginning by the commitments each agency gave to participating. For the first time ever, all 17 state and county regulatory agencies involved in issuing permits for commercial ocean recreation activities were discussing the process with each other. This alone accomplished much to open lines of communication that had not otherwise existed.

From the onset, it became apparent that so many different variables existed in determining when a permit was needed and what defined its issuance, that a great portion of each meeting was taken up having each agency define its permit policies and procedures for the rest of the group. To lay the foundation for analysis, representatives were given standardized matrices on which to record their permit requirements. Representatives were asked to work closely with their agencies to obtain full concurrence on the information they provided. Often, if a state agency had multiple offices and issued permits in more than one county, this meant meeting with representatives from each office to obtain the complete picture. In several cases, it was reported back that the same state agency had been processing the permit differently in each county, as different offices of the agency were not all using the same forms or criteria for issuance.

Having the participants work through the matrices with their agencies and obtain consensus had two important outcomes: 1) it encouraged each agency to work towards a standardized methodology for issuing permits in cases where such did not exist, and 2) it enabled each agency to develop clearer policies on why and how they issued permits. Even in cases where policy was thought to be consistent, the sharing of situations between the regulatory authorities often resulted in an agency realizing it had never had to deal with a type of situation before and would need to rethink its policy to include the newly introduced variables.

### “Commercial Ocean Recreation” Defined

In the process of each agency reviewing how and why they issued permits and more clearly articulating their policies for the rest of the group, it became obvious that even how

commercial ocean recreation was defined varied from agency to agency. Throughout the series of meetings, the following definition of commercial ocean recreation was crafted and redrafted until it met with the entire group's approval.

- “Commercial ocean recreation” is defined as the utilization of ocean resources for ocean recreation-related activities or services, where the person receives compensation for the activities or services, except for the transport of commodities and passengers under Public Utilities Commission (PUC) license for international or interstate commerce.
- “Ocean resources” include but are not limited to the submerged lands, beaches, shoreline, living resources or water surface or column or any other designated area.
- “Ocean recreation-related activities or services” include but are not limited to those activities or services designed for profit such as: a) exchange, buying or selling commodities, or rental of equipment; b) providing of services (vessel, charters, diving, food service operations, and/or guided tours, etc.); and c) utilizing ocean resources (access, livery and/or other designated use, etc.).
- “Person” includes but is not limited to an individual, firm, partnership, corporation, trust, association, joint venture, organization, institution, or any other legal entity.
- “Compensation” includes but is not limited to monetary fee or in-kind services, e.g. exchange of services.

Of note, this definition was used recently by the Maui County Planning Department as the basis to draft new rules for issuing permits for commercial ocean recreation activities in county parks.

### Outcomes of Analysis

#### Permit Types

Permits required for ocean recreation businesses are classified into two broad categories based on whether the activity to be permitted occurs in the ocean or on land. If access to the ocean is through a state facility, only state permits are involved; if access includes crossing public lands, both state and county permits may be required. In all there are 46 major permit types based on the classification scheme erected, plus numerous minor ones, that control commercial ocean recreation businesses operating from state and county lands and on state waters.

The following tables were developed for activities. If a business is considering a structure or development, a whole set of other permits may be required (e.g., construction permits, grading permits, United States Army Corps of Engineers permits, etc.). Additional consideration must be given to compliance with Chapter 343, Hawaii Revised Statutes, in meeting the requirements for an environmental assessment or an environmental impact statement.

Table 1 provides an overview of the major types of state permits required for operating on the ocean or accessing the ocean through a state harbor or boat launch facility. Table 2 provides details of just the commercial use permits required for state harbor facilities, slips and boat ramps. Similar matrices summarizing the details of the other ocean permit types have been prepared as well but are not presented.

Table 3 provides an overview of the major types of state and county permits required for operating from the land. Permits particular to Hawaii County are provided as an example of county requirements. Related, and in some cases additional types of permits exist for Maui and Kauai Counties and the City and County of Honolulu. Table 4 provides just the details of the SMA permits issued by Hawaii County. Similar matrices summarizing the details of other permit types listed in Table 3 have been prepared as well but are not presented.

### Permit Process

Diagrams outlining the decision process for obtaining a commercial ocean recreation permit from the State and Hawaii County, are depicted respectively in Figures 1 and 2. Hawaii County is chosen as an example because of the relative simplicity of its process. The processes for Maui County and the City and County of Honolulu are much more complex by comparison. In all counties, determination of whether or not a commercial ocean recreation activity is appropriate is based first on zoning district designation. If the activity proposed is in an inappropriate zone, the activity will be denied and no county permits will be issued.

For the purposes of graphic presentation in Figure 2, zoning determinations are shown as preceding SMA determinations. Under state CZM law, if an activity is "development" within an SMA, the SMA must precede other permits. However, whether zoning and SMA determination are processed serially or concurrently depends upon the practice of each county. If the activity is "development" in an SMA, the county SMA determination must precede any state permitting. If not, county zoning will still apply, but any state permitting can proceed independently without waiting for the county zoning determination.

Depending on the type of commercial activity proposed and where the activity originates (e.g., off a beach, out of a harbor), it can take from a few months to several years and a significant financial investment to obtain the necessary permits. These up-front costs (time and money) relate to permit application, while additional expenses may be incurred once the permit is obtained. These expenses can be \$900 per year for a City and County of Honolulu Parks and Recreation permit to over 2% of a company's annual gross revenues for some state DOBOR permits (see also Table 2).

### Status and Conclusions

The workshops led to general agreement on the basic process for obtaining permits and the sequence in which they needed to be obtained. Single points of contact for all permits were identified; DLNR-DOBOR for state permits and the Planning Departments for the counties of Kauai, Maui, and Hawaii, or the Department of Land Utilization for the City and County of Honolulu. This does not mean that these agencies would be the only ones to issue permits. However, it does define a starting point and a place for businesses to go for information about which permits are needed.

The opportunity to formally institutionalize this basic process within DLNR has been delayed due to the major review and revisions being made to that agency's conservation district use regulations and application process. After several years, this situation still is not completely resolved.

Standardization of permit processing procedures in each agency led to administrative homogeneity and greater consistency in implementation. Asking each agency to develop clear policies on why and how it issued permits has clarified ambiguities regarding when a permit is needed. These actions have resulted in less confusion among the commercial ocean recreation businesses and the regulatory agencies.

Although the workshops achieved clarity of process as represented by Figures 1 and 2, streamlining or simplification to achieve greater efficiency in the issuance of commercial ocean recreation permits is yet to be achieved. This will require further agreement among all agencies involved. Resumption of these workshops for that purpose is highly desirable. It would also seem appropriate for such a group to evaluate the apparent lack of cohesive state policy on commercial ocean recreation,



Table 1. Overview of major state permit types for ocean recreation businesses operating in the ocean. Acronyms are explained in the text.

AREA (Ocean)	PERMIT (Type)	CONTACT AGENCY
State harbor facilities, slips and boat ramps [see Table 2 for details]	•Commercial use permit(s)	DLNR-DOBOR (for small boat harbors)  DOT-Harbors (for commercial harbors)
Non-designated ocean recreation management areas	•DOBOR permits •No controlled ocean sports <sup>1</sup>	DLNR-DOBOR
Designated ocean recreation management areas	•Special commercial operating area permit for controlled ocean sports  •Commercial permit for all equipment (except beachmats, bodyboards, masks, fins and snorkels)	DLNR-DOBOR
Marine life conservation districts (MLCD)	•Commercial use permit (currently required at Old Kona Airport MLCD only)	DLNR-DOBOR w/DAR
Ocean waters events	•Ocean waters events permit <sup>2</sup>  •If involves commercial harbors	DLNR-DOBOR  DLNR-DOBOR w/concurrence of DOT-Harbors
<p><sup>1</sup> Controlled ocean sports are: thrillcraft, parasailing operations, commercial water sledding and high speed motorized vessels</p> <p><sup>2</sup> Depending on where the activity occurs, related land-based permits (e.g. County Parks permit, SMA permit, etc.) must also be obtained.</p>		

Table 2. Details of selected commercial use permits issued by the state for ocean recreation businesses operating in the ocean.

PERMIT	ALLOWED USES	AGENCY	REQUIREMENTS	RESTRICTION(S)/ AREA	MONTHLY FEE(S)
Commercial use permit in small boat harbor	Moor in small boat harbor	DLNR-DOBOR	Proof of: 1) Ownership 2) Vessel dimensions 3) Registration/ documentation 4) Coast Guard capacity 5) Master's certificate 6) Insurance	Specific harbor assigned	2x mooring fee or 2% of the gross <sup>1</sup>
"Vessel Moored Elsewhere" (VME) outside harbor area	Use of small boat harbor for loading and unloading	DLNR-DOBOR		Same	VME: \$100 or 2% of the gross <sup>1</sup>
Launch Ramp Use permit	Use of launch ramps	DLNR-DOBOR	Proof of: 1) Ownership 2) Registration/ documentation 3) State co-insured	As defined on permit	\$75 or 2% of the gross <sup>1</sup>
Commercial use permit in commercial harbor	Pick up and drop off passengers in commercial harbor Moor in commercial harbor	DOT-Harbors DOT-Harbors	Proof of: 1) Ownership 2) Vessel dimensions 3) Registration/ documentation 4) Coast Guard capacity 5) Certificate of inspection if more than 6 passengers 6) Master's certificate 7) Insurance	Commercial harbors within applicable district/island	\$115 or 2% of the gross <sup>1</sup>  [ <sup>1</sup> whichever is greater]

Table 3. Overview of major state and Hawaii county permit types for ocean recreation businesses operating from the land. Acronyms are explained in the text.

AREA (Land)	PERMIT (Type)	CONTACT AGENCY
<b>State:</b>		
Seaward of the shoreline to the end of state jurisdiction <sup>1</sup>	•DOBOR permits	DLNR-DOBOR
State parks	•DOBOR permits •SMA approval	DLNR-DOBOR w/State Parks County Planning Departments
State Land Use Districts: Conservation	•DOBOR permits (if no structure involved) •Temporary variance (if structure is for less than one year) •Conservation District Use Permit (if permanent structure) •SMA approval	DLNR-DOBOR DLNR-LMD DLNR-LMD County Planning Departments (or DLU)
State Land Use Districts: Agricultural and Rural <sup>2</sup>	•State Land Use Commission Special Use permit (less than 15 acres) •State Land Use Commission permit (more than 15 acres) •SMA approval	County Planning Departments (or DLU)
State Land Use Districts: Urban	•All urban districts are managed by County Zoning Codes	County Planning Departments (or DLU)
<b>Hawaii County:</b>		
Zoning areas: Residential, Residential/Agricultural, Agricultural, Unplanned Industrial	•Commercial ocean recreation businesses not permitted except with Use permit approval •SMA permit (see below)	County Planning Department
Zoning areas: Resort, Commercial	•Commercial ocean recreation businesses permitted outright with area plan approval •SMA permit (see below)	County Planning Department
Zoning areas: Open	•Use permit •SMA permit (see below)	County Planning Department
Zoning areas: All	•Use permit •SMA permit (see below)	County Planning Commission

Table 3. Overview of state and Hawaii county permits for ocean recreation businesses operating from the land (continued):

AREA (Land)	PERMIT (Type)	CONTACT AGENCY
<b>Hawaii County (continued):</b>		
Special Management Area (SMA) [see Table 4 for details]	<ul style="list-style-type: none"> <li>•Exempt</li> <li>•Minor permit (if determined to be development and involves structures and/or land improvements)</li> <li>•Major permit (if determined to be development and involves structures and/or land improvements)</li> <li>[If only transiting, and if located in appropriate zoning area, no SMA approval is required]</li> </ul>	County Planning Department  County Planning Department  County Planning Department (also need County Planning Commission approval)
County parks	<ul style="list-style-type: none"> <li>•Concession agreements, e.g. food service, snorkeling equipment rental (awarded to high bidder through public bidding process)</li> <li>•SMA permit (see above)</li> </ul>	Department of Parks and Recreation  County Planning Department
Shoreline Setback Area	<ul style="list-style-type: none"> <li>•Shoreline Setback approval (if involves minor structures and/or activities)</li> <li>•Shoreline Setback Variance permit (if involves major structures and/or activities)</li> </ul>	County Planning Department
<p><b>State Notes:</b></p> <p><sup>1</sup> Counties have the authority under Chapter 205A, Hawaii Revised Statutes, to change their boundaries to seaward of the shoreline. None have done so thus far, but an additional set of requirements may be added should any county choose to do this.</p> <p><sup>2</sup> Also see County Zoning Codes for activities occurring in Agricultural and Rural State Land Use districts.</p> <p><b>Hawaii County Notes:</b></p> <p>In all districts: yacht harbors, boating facilities and other major recreational uses including accessory uses, may be of a commercial or non-noxious industrial nature. The intent of this permissive regulation is to allow, where appropriate, major recreational developments having complete and homogenous facilities. None of these uses may be established in any "Open district" unless the proposed use, in its entirety, is compatible with the stated purpose for adopting the Open district.</p> <p><b>Open District:</b></p> <p>"Purpose and applicability. The Open district applies to areas that contribute to the general welfare, the full enjoyment, or the economic well-being of open land type use which has been established, or is proposed. The object of this district is to encourage development around it such as a golf course, county club, and park, and to protect investments which have been or shall be made in reliance upon the retention of such open type use, to buffer an otherwise incompatible land use or district, to preserve a valuable scenic vista or an area of special historical significance, or to protect and preserve submerged land, fishing ponds, and lakes (natural or artificial tide lands)." Reference: Hawaii Zoning Code (Chapter 25).</p>		

Table 4. Details of the Special Management Area (SMA) permits issued by to Hawaii County for ocean recreation businesses operating from the land.

PERMIT	ALLOWED USES	AGENCY	REQUIREMENTS	RESTRICTION(S)/ AREA	FEE(S)
SMA Exempt	If not development as defined in Chapter 205A HRS and if permitted in zoning districts	Planning Department	Must be allowable under rules of Planning Commission (however, may be reviewed for shoreline setback rules)	SMA (see county maps)	None
SMA Minor	Uses permitted in zoning districts and shoreline setback	Planning Department	<ol style="list-style-type: none"> <li>1) Is development</li> <li>2) Valuation not in excess of \$125,000</li> <li>3) No significant adverse environmental, ecological, or potential cumulative effects</li> <li>4) Consistent with Chapter 205A, county general plan, zoning and shoreline setback rules</li> </ol>	SMA (see county maps)	None
SMA Major	Uses permitted in zoning districts and shoreline setback	Planning Department	<ol style="list-style-type: none"> <li>1) Is development</li> <li>2) Valuation in excess of \$125,000</li> <li>3) Significant impact</li> <li>4) Consistent with Chapter 205A, county general plan, zoning and shoreline setback rules</li> </ol>	SMA (see county maps)	\$200 (for processing)

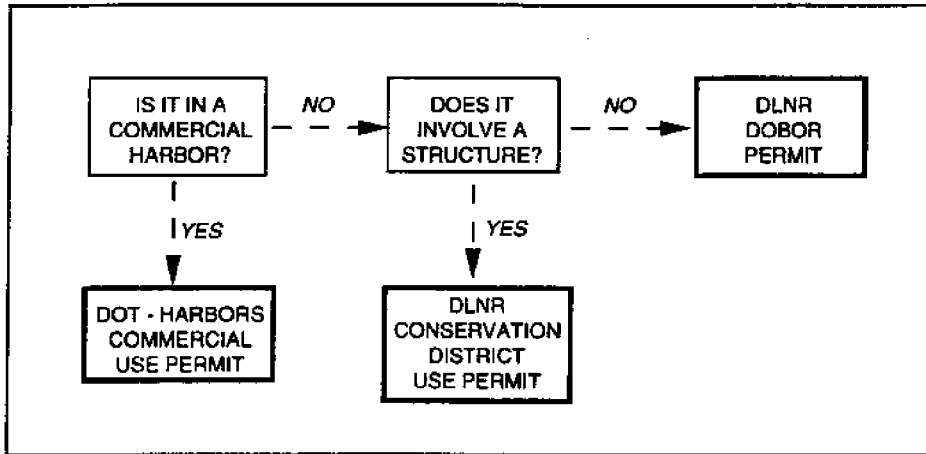


Figure 1. Diagram of the decision process for obtaining a commercial ocean recreation permit from the State of Hawaii. Acronyms are explained in the text.

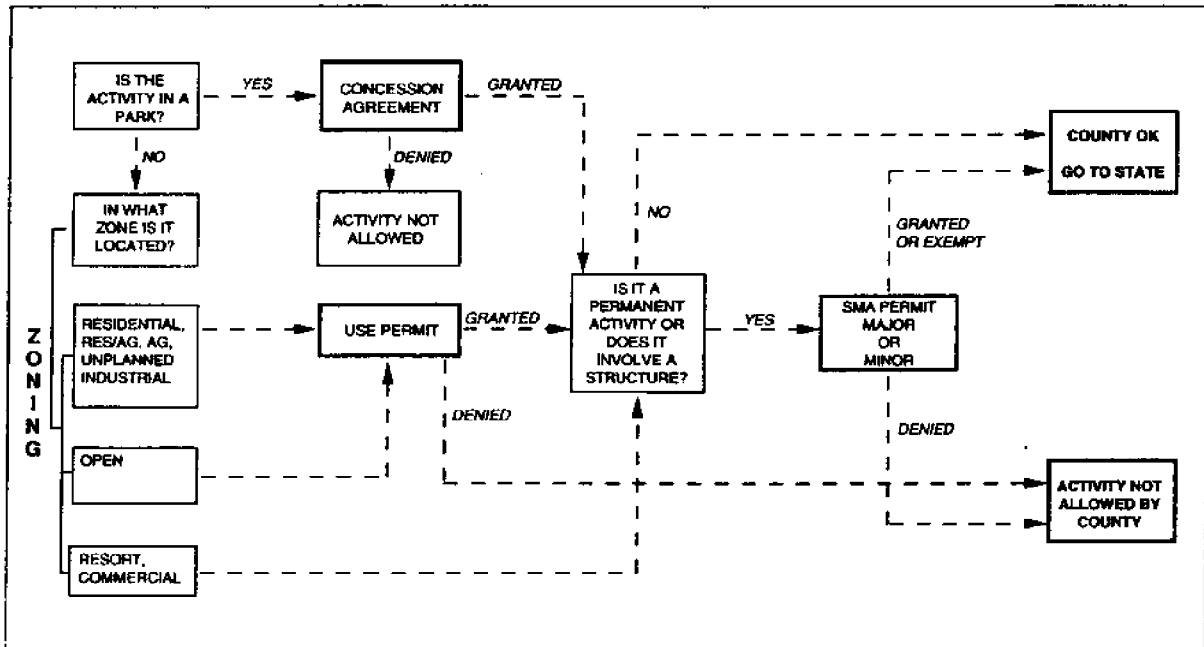


Figure 2. Diagram of the decision process for obtaining a commercial ocean recreation permit from the County of Hawaii. Acronyms are explained in the text.

which should include recognition of environmental needs, carrying capacity constraints and existing and future opportunities.

## Acknowledgments

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# USING BRITISH COLUMBIA'S COASTAL TOURISM RESOURCE INVENTORY IN LAND USE AND TOURISM PLANNING

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**Abstract:** *The government of British Columbia has a strong tourism mandate which includes ensuring that tourism interests are reflected in land use and resource planning processes. Tourism marketing for the province is based on the "SUPER, NATURAL BRITISH COLUMBIA" theme which highlights scenery, wilderness, fish and wildlife, mountains, forests and coastline.*

*In recognition of the relationship between tourism and natural resources, the tourism ministry developed a map-based tourism resource inventory methodology that uses geographic information systems (GIS) technology, and applied it to the entire 27,000 kilometers of Canada's Pacific coastline. The inventory shows the relative strength of individual areas to support a variety of tourism activities and developments.*

*Strategic in design, the coastal inventory has been used for land use planning including the identification and ranking of candidate protected areas, special management areas and priority tourism use and development areas. The GIS-based inventory is the first of its kind in Canada. It encompasses existing tourism use as well as capability for future use.*

*Tourism capability is derived through computer modeling developed in consultation with the tourism industry. Modeling inputs consist of data bases depicting values important to tourism. Each model defines the combination of natural and cultural resources, and infrastructure needed to support specific tourism products such as coastal cruising, kayaking, resort development and sport fishing. When existing use is overlaid with capability, future use and development opportunities emerge.*

*The inventory has proven valuable for the development and implementation of land use plans. Its use in pin-pointing tourism development opportunities appears weak. Such inventory shortcomings will be addressed to the extent possible through regular updating. A methodology for more detailed tourism resource inventories which focuses on priority tourism areas is now being developed.*

**Keywords:** *coastal tourism inventory, land use planning, GIS, tourism resources*

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## Context

### Tourism on British Columbia's Coast

British Columbia, Canada's western-most province, is renowned for its natural beauty and ecological diversity. One million square kilometers in size, it harbors numerous mountain ranges including the Rockies, magnificent forests, lakes, rivers, valleys and plains, and the greatest variety of wildlife species in North America. Increasingly important to its strong tourism industry is the 27,000 kilometers of predominantly wild and remote Pacific Coast which attracts more visitors and residents every year (Figure 1).

A majority of British Columbia's population lives along or near its southern coast with Vancouver (the Province's economic center) and Victoria (its capital) housing 56% of the province's 3,750,000 people. Other communities including Aboriginal communities, are much smaller, relatively isolated, and widely scattered along its shores.

Already known for the Inside Passage, a sheltered inland water-way stretching from Washington state to Alaska and frequented annually by numerous cruise ships, the coast has also been a sport fishing and more recently, whale watching Mecca. The West Coast Trail, a rugged, 60 kilometer hike through coastal rain forest and along surf-pounded beaches, is consistently in high demand. Kayak and charter boat tours are becoming popular activities in even the remotest coastal locations. The Queen Charlotte Islands contain South Moresby/Gwaii Haanas National Park, known as "the Galapagos of the North" for its species richness and diversity.

The Province markets itself as "Super, Natural British Columbia," a tourism theme that capitalizes on its striking natural features. The catchwords "Clean, green and safe" also apply. Total visitor expenditures in 1994 were an estimated \$6.3 billion, with the industry growing at roughly the same rate as the economy at 5.1%. Visitor expenditures in marine tourism in the same year were approximately \$670 million (excluding ocean-front accommodation), a 40% increase from 1989.

Because of its many natural and cultural assets, British Columbia has certainly had its share of land use controversies. The Province is 95% Crown (publicly) owned, therefore debates and decisions on land use and resource management have been hot and recurring. The most recent (and hottest) land use controversy has been in Clayoquot Sound. Situated on Vancouver Island's west coast, the Sound contains snow-capped mountains clothed with old growth forest, fjords, numerous islands and Pacific Rim National Park, famous for Long Beach which attracts nearly one million visitors annually. Proposed logging, First Nations' rights and environmental concerns catapulted the area onto the world media stage several years ago.



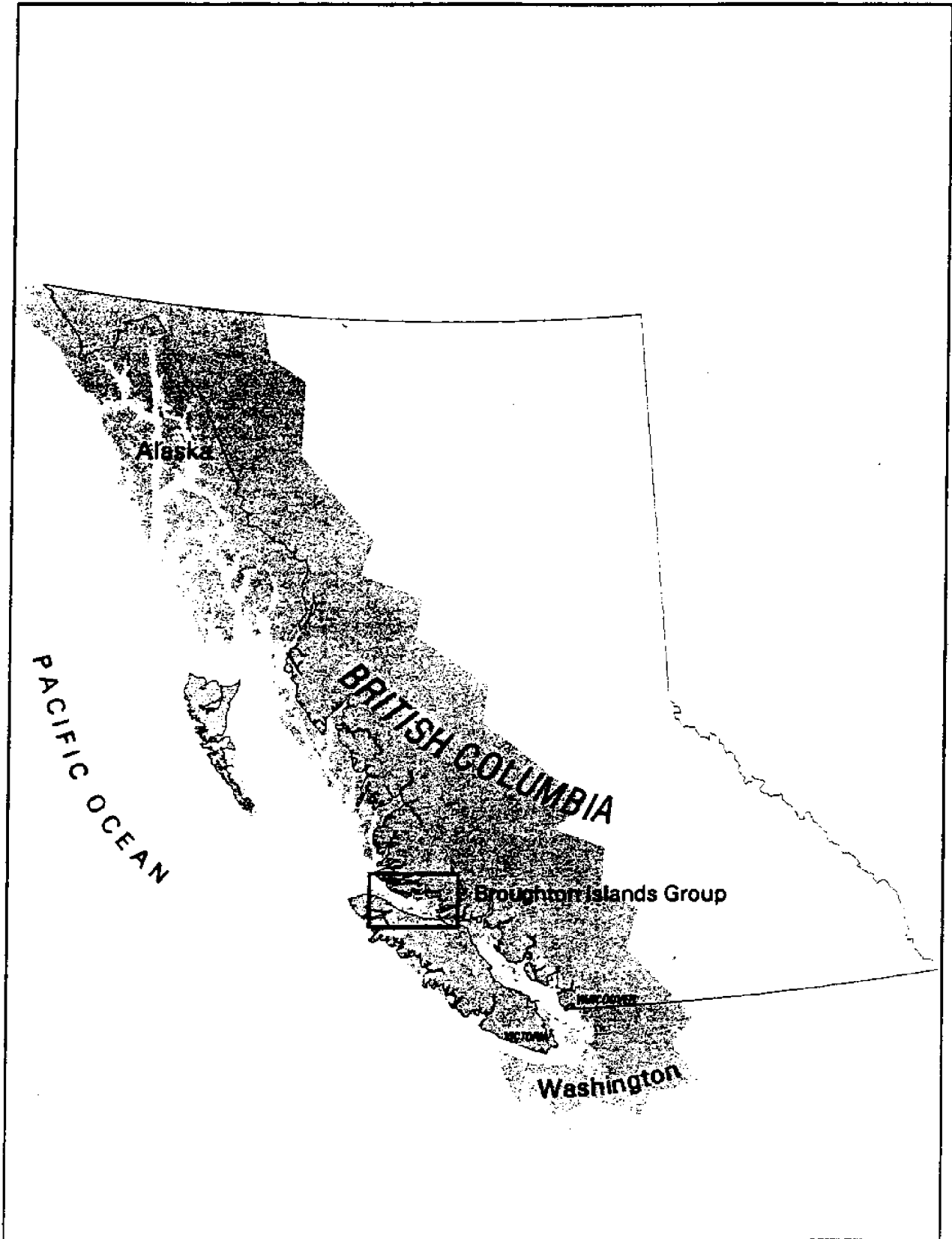


Figure 1. Location of coastal tourism resource inventory.

**Land Use Planning**

Land use conflicts have raged throughout the Province for the past 25 years. To bring certainty to all sectors, the Provincial government initiated land use planning processes that engage all stakeholders in interest-based negotiations. Simply stated, all those with a direct stake in an area's land use participate in the planning process by identifying their interests, representing them in negotiations, and together arriving at a plan all can hopefully accept. The goal is consensus.

Participants generally work with four land use zones: Protected Areas (Parks), Low Intensity areas (where scenery, wildlife, cultural, recreational/tourism and biodiversity have priority), Integrated resource areas (where all resources have equal priority), and Enhanced Resource Use areas (where resource development has priority). Private land is not included in the negotiations. The overall objective behind the land use planning is to provide greater certainty for all. Another is to have a representative 12% of the Province set aside in Protected areas. To diversify and maintain a vibrant economy is also of key importance. In short, sustainable development is the goal. Treaty negotiations with First Nations has also started in earnest recently, with jurisdiction over land and resources a key ingredient.

To be part of the land use negotiations, the various stakeholders must identify their interests and values, map them if possible, and decide what type of land use and resource management is appropriate to maintain those values. Although theoretically easy, this work had never been done for tourism.

In the planning process, a Geographic Information System (GIS) is used to overlay the various stakeholder maps. Where land use interests are compatible or in conflict then becomes apparent, with the conflicts addressed through principled negotiation.

**Inventory Development and Use**

The province recently revised the provincial Tourism Act, enabling the Ministry of Tourism to reflect tourism interests in land use plans and resource management decisions. In response to the need to have tourism interests represented in land use planning, the Ministry set out to develop a methodology to inventory and map those lands and resources important to tourism, and to apply it to the entire coastline of British Columbia.

**Developing The Methodology**

Key in developing the inventory methodology was the establishment of a steering committee comprised of representatives from each of the major coastal tourism sectors including cruise ships, marinas, charter boats, sport fishing lodges, kayaking, and wildlife viewing. Government agencies with a coastal jurisdiction (Environment, Parks, Lands, Forests, Aboriginal Affairs, Federal Department of Fisheries and Oceans) were also invited on the committee. Another key decision was to use GIS to store, manage, update and analyze the gathered information. A number of operating criteria were established to guide inventory development. They were:

- the use of existing resource data wherever possible;
- capacity to conduct tourism resource analysis at a broad planning scale of 1:250,000;
- consistency with the Province's emerging corporate GIS standards;
- a credible and rigorous approach to information assembly; and,
- ease of data updating.

In considering what to include in the inventory, the essential question is: which resources are important to the tourism experience being sought? For example, an area where the natural resources provide good capability for an exclusive sport fishing lodge experience may be defined as follows in Table 1.

Table 1.

<b>ESSENTIAL RESOURCES</b> (necessary for product to exist)	<b>QUALIFYING RESOURCES</b> (define product's level of quality)
<ul style="list-style-type: none"> <li>• larger fish within traveling distance from lodge</li> <li>• sheltered waters for float plane use and boat moorage</li> <li>• remoteness (greater than 1 km away from road access)</li> </ul>	<ul style="list-style-type: none"> <li>• scenic setting</li> <li>• other nearby activities to</li> <li>• enjoy besides fishing (e.g., beach, trails)</li> <li>• wildlife to view</li> <li>• heritage resources</li> </ul>

The tourism resource inventory contains a series of resource maps which represent the important resources identified, as above, for all important tourism products. A map showing the location of marine mammals for example, was prepared from existing surveys conducted by the Federal Department of Fisheries and Oceans. A map of coastal old growth forests, useful for scenic analysis, was created from satellite imagery.

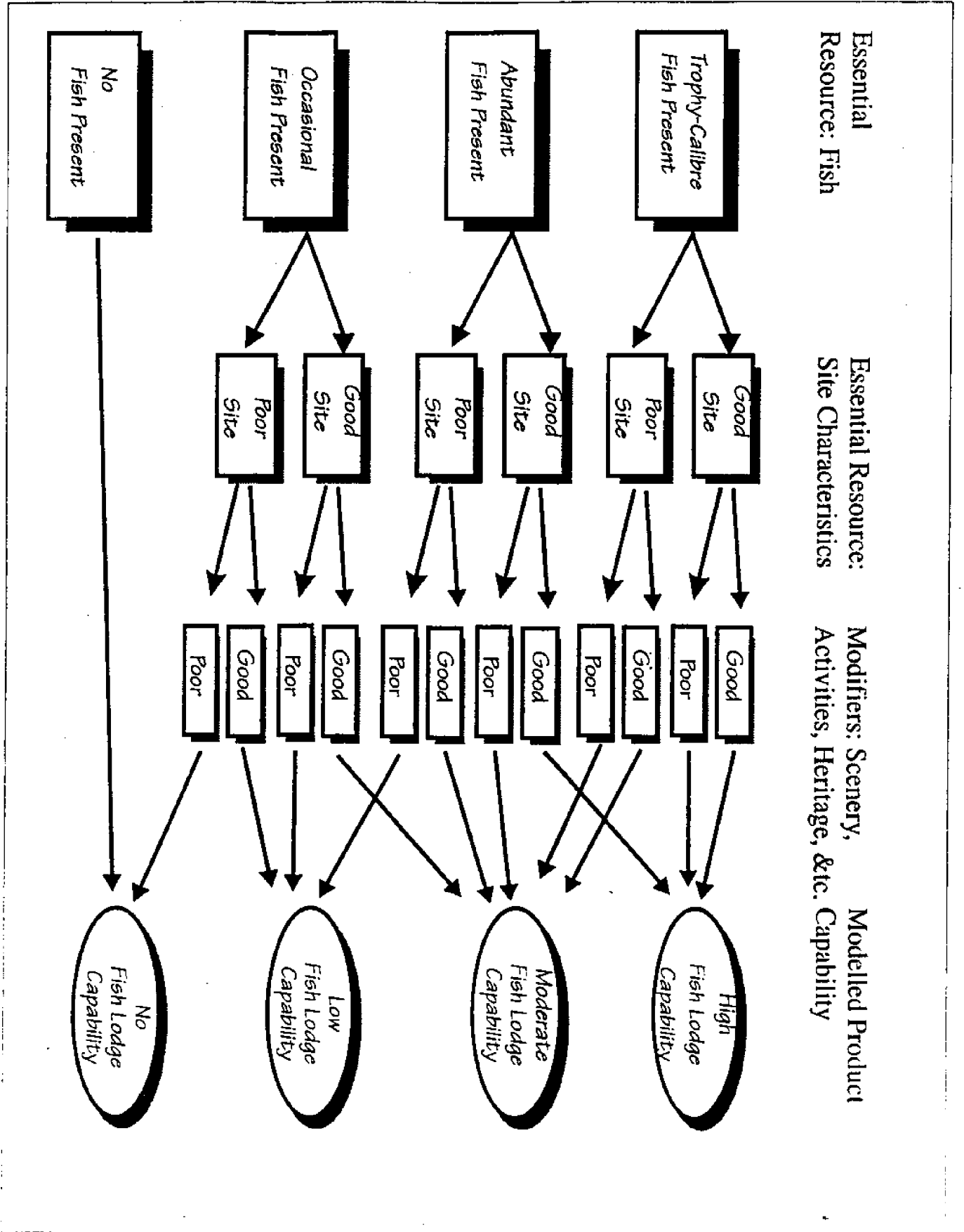


Figure 2. Tourism product model for saltwater sports fishing lodges.

For the coastal inventory, the following products were analyzed in this manner:

day cruising	day sport fishing
multi-day cruising	multi-day sport fishing
small cruise ship	marinas
day kayaking	heritage/culture
multi-day kayaking	lodge/resort

The combination of resources needed to support any given product were arranged in a model (Figure 2) so that the level of capability (high, medium or low) could be assessed. The model in turn was translated into an algorithm for the GIS to use, to produce a resulting product capability map. These capability maps (Figure 3 (see Figure 1 for location)) were reviewed with the steering committee and based on their input, the models were adjusted until the maps depicted real life as closely as possible. The individual product maps could, in turn, be combined to produce an overall capability map.

### Using the Inventory

To date, the inventory has been used for identifying, delineating and ranking candidate coastal protected areas, in regional and sub-regional land use planning, and to a limited degree in tourism planning and treaty negotiations with First Nations.

Land use planning outcomes have been encouraging for tourism. For example the majority of areas important to tourism on Vancouver Island's rugged west coast have either become Protected Areas or Low Intensity Areas (where non-extractive resource use has priority). The industry therefore has greater certainty that resources will be managed to maintain their value to tourism. Major tourism facility development is focused on private lands on the island's east coast. The social acceptability of developing low impact facilities in Low Intensity Areas (and perhaps even in Protected Areas) will be explored through land use plan implementation.

Two tourism maps are submitted into any given land use planning process. The first is overall capability as described above. The second is an existing use map (Figure 4) which depicts the location of all tourism facilities and areas frequented by tourists. A typical use area will show the location of a lodge or resort and access route to it, the land and water areas which clients use for various activities, and the scenery, natural and cultural features that provide the setting for the activity.

When existing use and capability are compared, initial assessments of unused capability and potential development opportunities can be made. Data collected when inventorying existing use includes

capacity and utilization information, therefore the ability of existing infrastructure to absorb additional use can be estimated before new development is considered. Sustainable development principles are adhered to in such analyses.

### Lessons Learned

What have we learned so far? In terms of the inventory, the decision to follow the predetermined criteria was sound. Relying on existing data wherever possible meant that costs to compile the inventory were reasonable in comparison to the costs of bringing the interests of many other sectors forward. It cost approximately \$6.00/km of shoreline to compile the original inventory, and updating costs are approximately \$1.00/km/year. Using other agencies' data in the inventory also translated into them accepting our inventory results more readily (a nice thing in negotiations where unaccepted data has no relevance). The 1:250,000 scale proved highly useful because the land use planning processes ended up using that scale, and it allowed us to cover extensive areas quickly.

We found that the inventory's main strength is its ability to objectively compare one area's tourism capability to all other areas. It does not state how much better a high capability area is compared to a moderate or low capability area. However what can be said is that all else being equal, it is better. The inventory has also proven useful in isolating areas where tourism values are concentrated, that contain the resources to support a variety of activities at high quality levels and therefore warrant special management, consideration or protection.

A methodology is now being developed to inventory these areas at a detailed 1:20,000 scale. Detailed inventories will identify specific tourism development opportunities and operational resource management requirements to maintain the area's value for existing operators. The 1:250,000 scale tourism inventory has been unable to do this except in broad terms. Just as important is its ability to identify areas not important to tourism in which other resource interests can operate more freely without jeopardizing tourism experiences.

In terms of GIS, the inventory complied with all emerging corporate GIS standards, which ensured fairly easy data transfers between Tourism and other agencies, and made analysis in land use planning processes simpler. Using GIS has made data updating quick as well. The costs of acquiring a state-of-the-art GIS that could perform the required business functions was expensive however. The training curve needed to attain operational efficiency was also steep and at times, frustratingly long. A bonus of GIS that has surpassed all expectations, is that after using it for several years, data managers now can produce very high

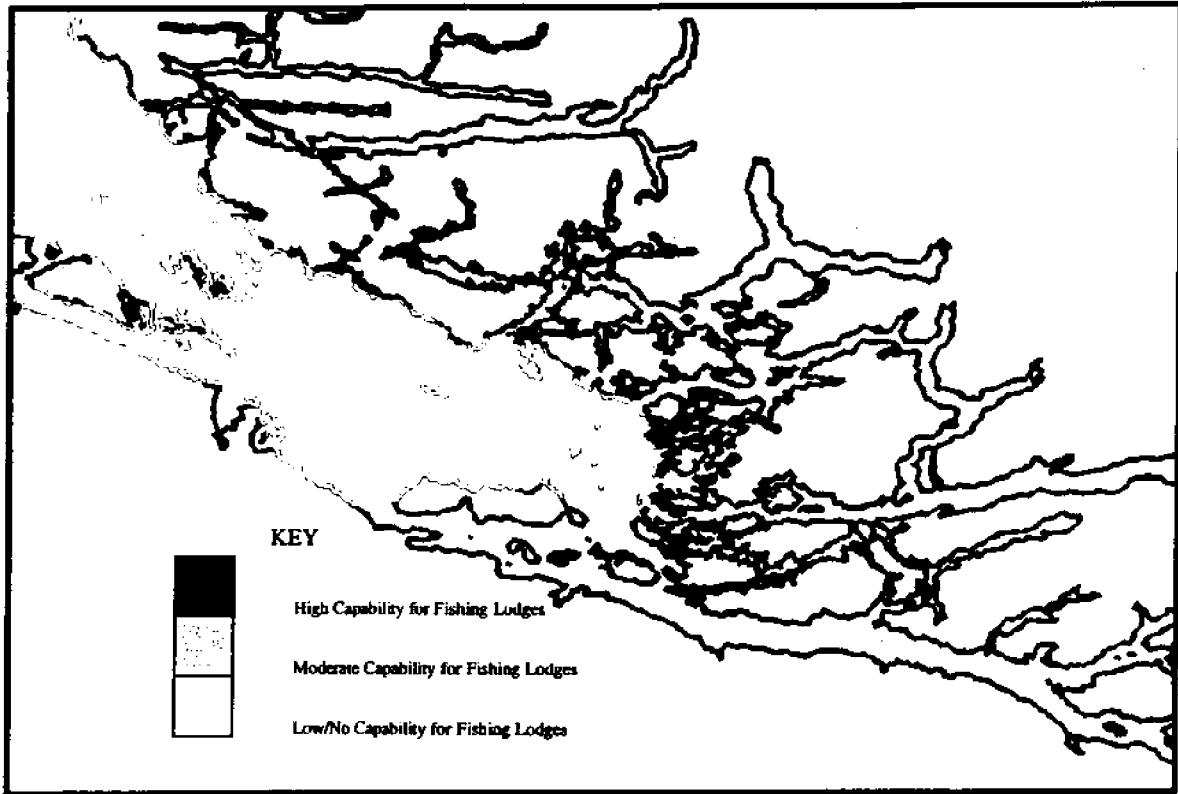


Figure 3. Modelled fish lodge capacity.

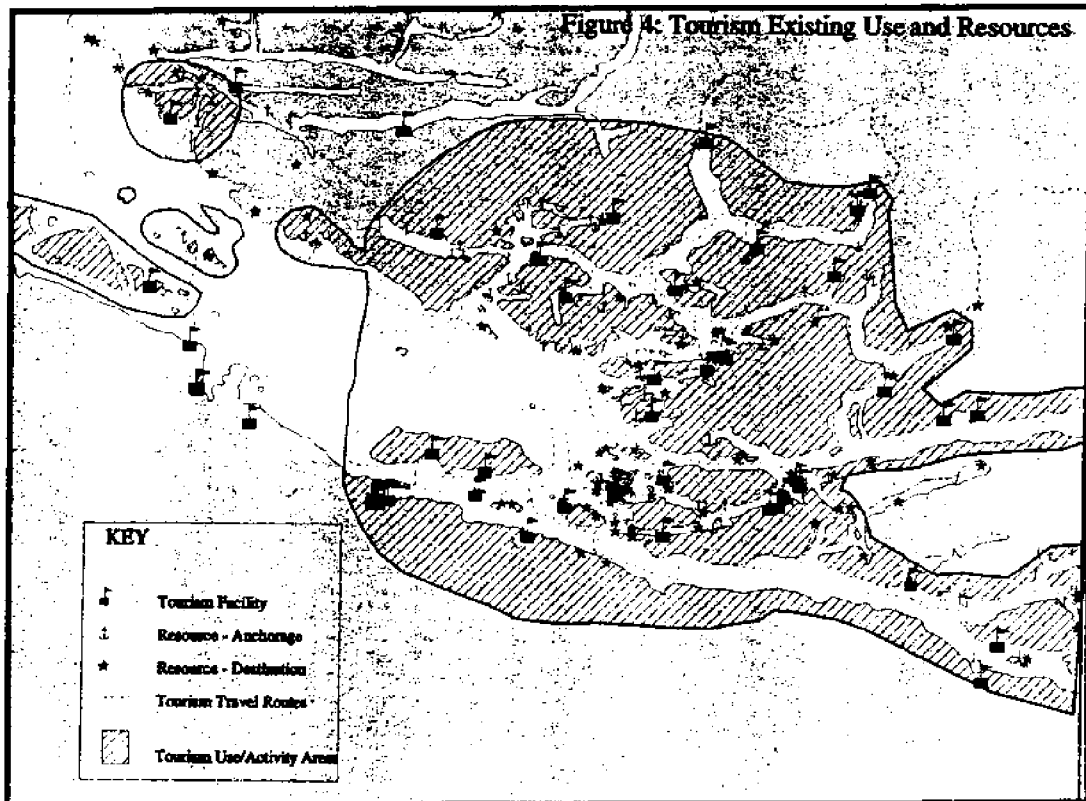


Figure 4. Tourism existing use and resources.

quality maps that are both easy to read and pleasing to view. The analytical capability that GIS provides allow us to get maximum value out of the data, and has enriched our work.

### Uses and Outcomes

The coastal tourism resource inventory has been used in a variety of land use planning applications. In hindsight, our initial decision to develop the inventory in consultation with the tourism industry was wise because in planning processes, the industry knew where the data came from, what it meant, and how to interpret it. There was therefore acceptance of the inventory findings. The inventory was also accepted by other government agencies because it was built, in part, from data they had initially provided.

The key tourism interests, "the bottom line" in land use negotiations, have been to protect those resources that the existing tourism industry relies on. In an era characterized by increasing demands on finite resources, the maintenance of the status quo for tourism is sometimes a feat in itself.

A second priority in land use planning, is to maintain areas that have future tourism potential. For much of the sparsely inhabited and wild coast of British Columbia, future capability appears at least as important as present use. Some existing tourism operators however, see future growth as additional competition to their own businesses, therefore do not heartily support it.

In addition to inventorying the coast, the entire 100,000 square kilometers of the Province has been inventoried as well, allowing us to now look at a provincial overview of tourism capability and use. The cost of this was approximately \$1/square kilometer. The intent is to update it every three years while the information is in demand.

# A GIS-BASED APPROACH TO INTEGRATED MARINE TOURISM PLANNING IN INDONESIA

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**Abstract:** *The Indonesian archipelago comprises some 17,500 islands. These have a coastline of roughly 81,000 km (the world's second longest after Canada), and form the basis of an extensive Exclusive Economic Zone (5.8 million km<sup>2</sup>). In view of the diversity, economic importance and sheer extent of coastal ecosystems and resources, current National development planning places considerable emphasis on coastal and marine resource management.*

*This emphasis is being articulated in both sectoral and cross-sectoral planning initiatives. Amongst the latter is the Marine Resource Evaluation and Planning Project (MREP) which is one of the most significant integrated coastal and marine planning projects undertaken to date in the Asia-Pacific region. The MREP Project will produce a range of strategic, spatial zoning, resource management and contingency plans for priority areas within ten of the 27 Indonesian Provinces. In combination, and via linkages to other resource studies and development plans, MREP plans will form a comprehensive planning framework for sustainable coastal and marine resource use.*

*Tourism is rapidly emerging as a significant resource use in most MREP Provinces—the project will thus play an important guiding role in tourism development, particularly in those Provinces for which tourism master plans have not been prepared and where development options are not constrained by an existing pattern of tourism development. This paper describes the approaches to integrated coastal and marine planning which are being employed within MREP and their relationship to tourism development. A key component of the planning approaches being employed is the use of geographic information systems (GIS) to assist in the definition, analysis and presentation of various planning options. GIS tools have not been widely used to date in tourism planning, but offer considerable potential and power. This paper describes some of the potential and pitfalls of GIS use for this purpose.*

**Keywords:** *Indonesia, GIS, comprehensive planning tourism development*

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## Introduction

### The Context for MREP

With its limited land area (1.9 km<sup>2</sup>), vast tropical marine estate and coastline, large (190 million) and unevenly distributed population and rapidly growing economy, Indonesia faces many opportunities and challenges (Dahuri, 1995). Until relatively recently, national strategic planning was focused primarily on development of land and freshwater resources—an understandable focus in view of the need to secure food supplies, to stimulate industrial activity and to enable Indonesia to develop an internationally competitive economy. The first long-term (25-year) development plan, which ended in 1993 was highly successful in this regard. Indonesia achieved self sufficiency in rice production (the national staple food) and its economy now ranks with the other "Asian tigers" as one of the world's fastest growing.

In the course of preparing for the second long term development plan a re-appraisal was made of the role of various sectors and resources in the national development process. As part of that re-appraisal, it was recognised that marine and coastal resources should be given greater strategic emphasis in the national economic development process (Sloan and Sughandy, 1994). A 1987 BAPPENAS study revealed that these sectors and resources account for 22% of national GDP and have the potential to make an even more significant contribution, particularly in the Eastern Provinces.

Long term (25-year) development plans are implemented by a series of 5 yearly development plans (Repelita). In Repelita VI (1994-1999), marine and coastal resource development has been identified as a priority focus within the strategic context of national development (PCA, 1993) and is readily linked to other strategic planning objectives relating to economic diversification (including tourism development), regional development, community involvement and technology transfer. In order to meet these targets, the government has formulated a series of coastal resource inventory, planning and institutional strengthening projects. One of the first of these to be implemented has been the Marine Resource Evaluation and Planning (MREP) Project. The overall goal of MREP is to "... plan and manage marine and coastal environments and resources in order to meet Indonesia's objective of sustainable development" (ADB, 1992). Specifically, the project aims to:

- improve the marine and coastal planning and management capability of the ten Provinces included in the project (see Figure 1); and

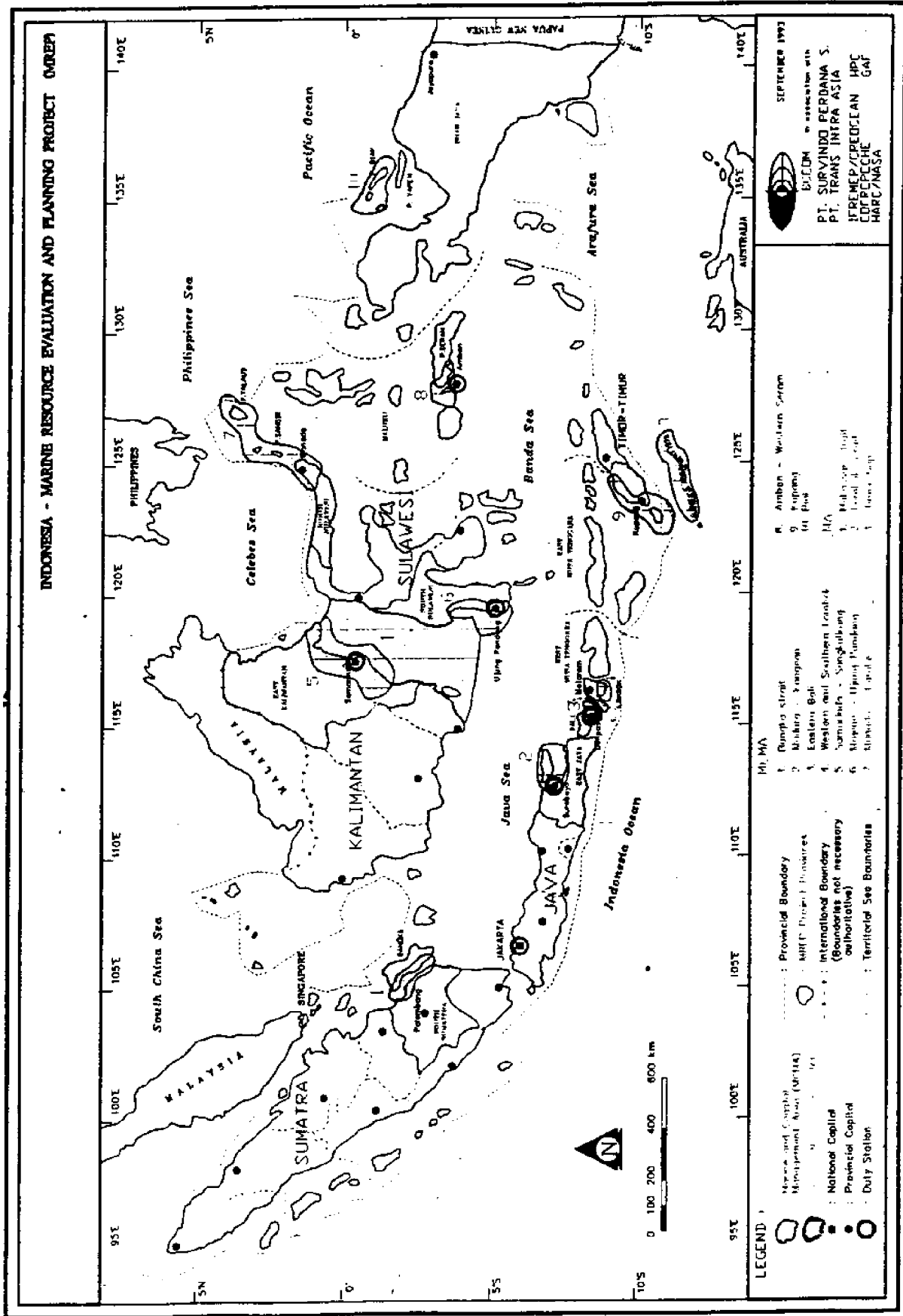


Figure 1. Location map of the project areas.



- further strengthen the existing marine and coastal information system with a view to maximising the benefits to be obtained from the optimal use of marine and coastal resources.

The project is funded by a loan from the Asian Development Bank complemented by national funding. The project commenced in 1993 and is scheduled for completion in 1998. Consistent with the dual project aims, the project is structured in two parts, as shown in Figure 2. This paper primarily describes MREP activities within the sphere of Part A of Figure 2 as these are most directly concerned with integrated planning, although it is noted that Part B activities are closely interwoven with Part A activities as Part B agencies provide the data on ecological systems and processes and the information systems platforms to support planning activity.

### Tourism in Indonesia

The East Asia-Pacific (EAP) Region has become one of the leading global tourism regional growth destinations, with average annual growth rates on nearly 9% in the 1980s and early 1990s. As a result of this growth, the EAP Region now receives around 7% of the global tourism market (compared with 3% in 1980).

Within the EAP Region, Indonesia has been particularly successful in attracting tourists and tourism investment (Hobson, 1994). Growth in inbound tourism was the highest in the region in the 1980s (up to 20% per year) and continued strongly in the 1990s (around 11% per year). Despite a recent slowing in growth rates (7% in 1995), as shown in Figure 3, Indonesia now enjoys a strong market base (more than 4 million visitors) and there are high expectations for continued strong growth (Anon., 1995). While data on domestic tourism are limited, Dutton (1994) notes that there has been strong growth in intra-regional travel and a significant increase in demand for a wide range of recreational activities, particularly in coastal locations. These trends parallel a rise in living standards and reflect a growing interest in non traditional leisure activities. Despite these trends, he does, however, note that commercial marine tourism activities remain dominated by foreign tourists and that these activities are concentrated in Bali and Java.

Repelita VI proposes to support and encourage tourism development, particularly in Eastern Provinces, via a mixed strategy (PCA, 1993) of:

- environmental and cultural conservation and enhancement;
- integrated planning and coordination of private and public sector investment;
- improvement of facilities, infrastructure and promotion;

- community involvement and participation; and
- education and training.

## Coastal and Marine Tourism Planning

### An Emerging Synergy: ICAM and Tourism Planning

As noted by Dutton and Hall (1989), successful tourism development can occur by chance, by design and by a combination of both. Wong (1991) notes the influence of "chance" factors in the development of the Pattaya coastal resort area in Thailand. Such developments are usually the result of a short term opportunities and are typically less robust in that they fail to adequately consider the relative balance of economic, ecological and social factors which determine the sustainability of tourism development. Auyong (1995) notes that while these factors are often diverse and difficult to fully take into account in tourism planning, integration of these factors by careful design of tourism development is essential if that development is to be sustainable over time.

Sustainable tourism development can thus considered as conceptually similar to emerging principles of integrated coastal area management (see, for example, Boelaert-Suominen and Cullinan, 1994) in that both require active, multi-level, multi-sectoral, adaptive and ongoing planning. There are relatively few examples of such integrated planning within Indonesia, the EAP region, or globally (Auyong, 1995). However, there is obvious potential for cross fertilisation of approaches to general coastal area management and coastal and marine tourism planning, particularly in view of the pre-eminent role of coastal locations in the EAP region as foci for tourism development (Wong, 1991).

### The Tourism Market System as a Basis for Integrated Planning

As a means of forcing a re-appraisal of traditionally supply-driven approaches to tourism development, Dutton and Hall (1989) proposed that the tourism market system should be re-oriented to place greater emphasis on the tourist experience, as indicated in Figure 4. They argued that the tourist experience is the pivotal factor in the interaction between demand for and supply of, tourism products and the major determinant of the success and sustainability of tourism operations.

As illustrated clearly in numerous global case studies of marine and coastal tourism (see, for example, Wong, 1991; Hitchcock, King and Pamwell, 1993; Harriott and Saenger, 1995), a great many factors influence the long term development of coastal and marine tourism. In all cases, it is apparent that while supply of facilities, attractions and services can meet or encourage tourism demand, ultimately

# MREP

(Marine Resource Evaluation and Planning Project)

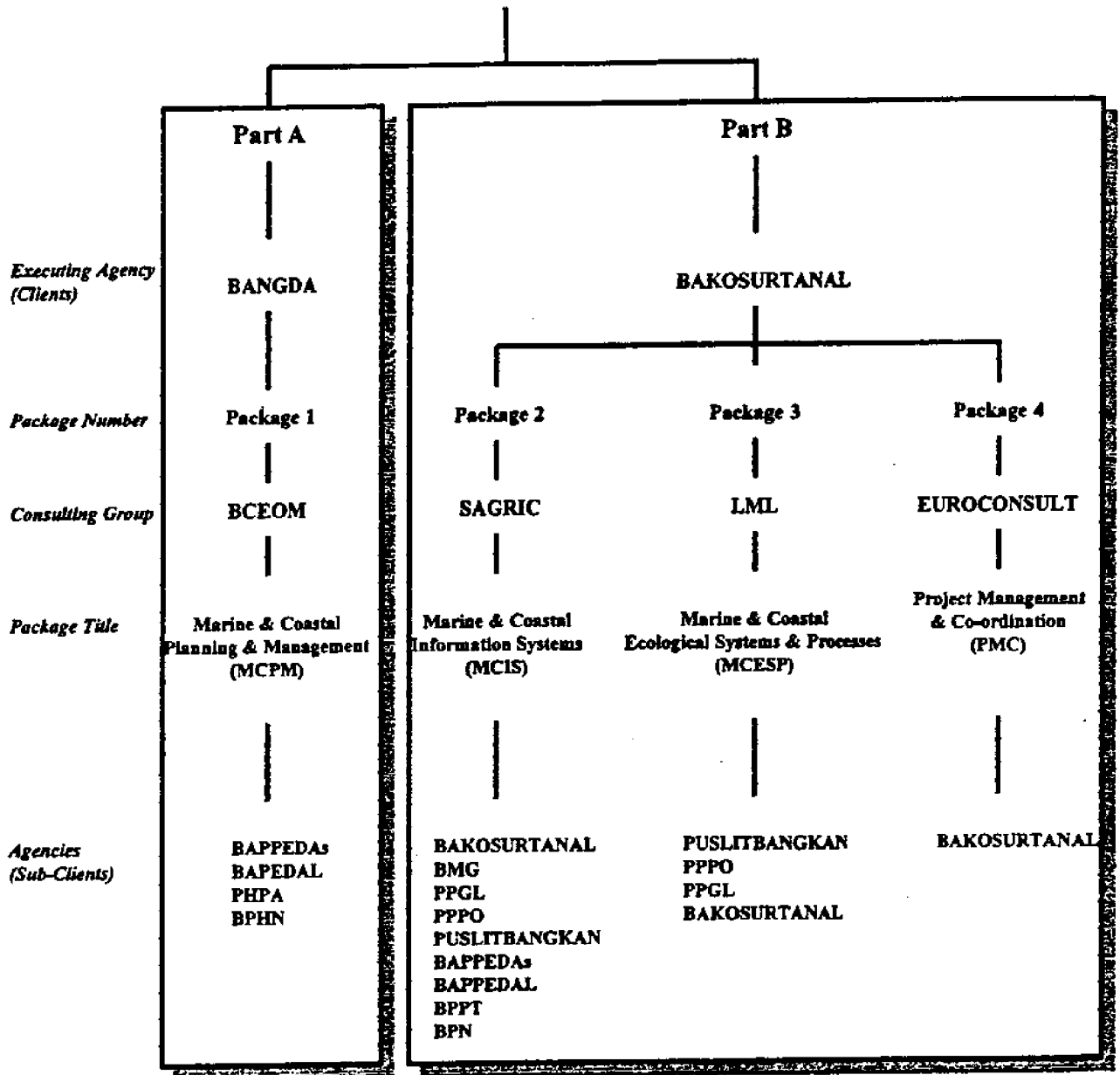


Figure 2. The functional structure of MREP.

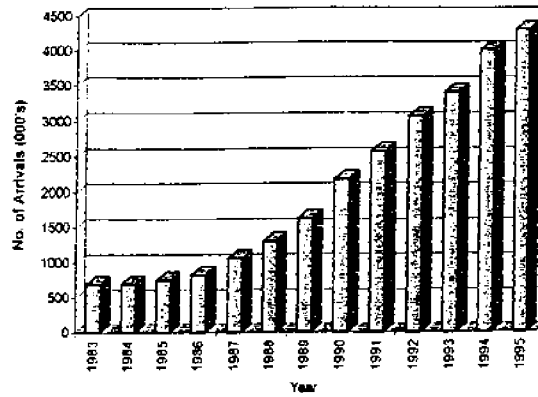


Figure 3. Growth in visitor arrivals to Indonesia 1983-95 (RDC, 1994).

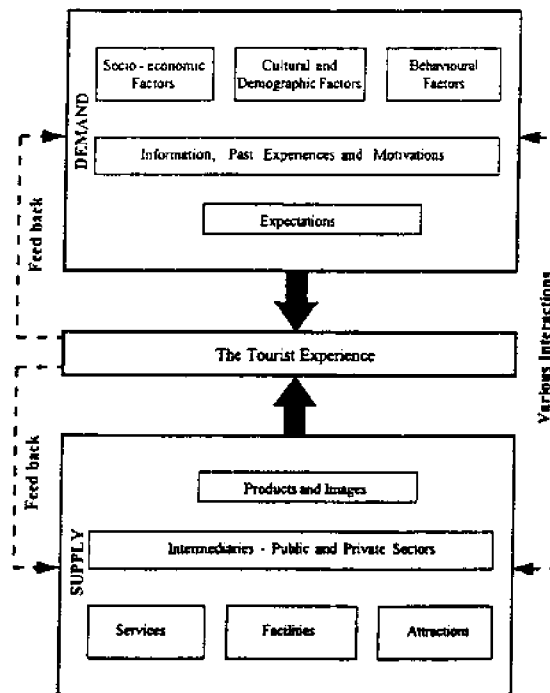


Figure 4. Simplified tourism market system (Dutton, 1996).

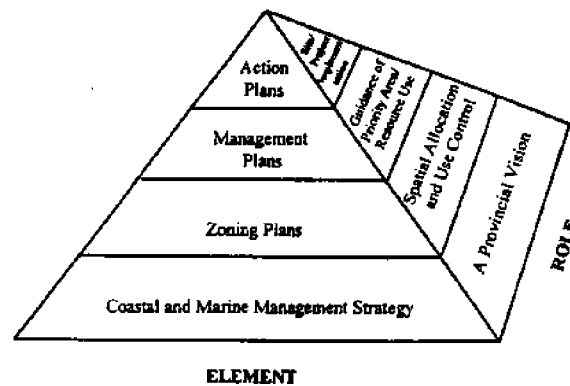


Figure 5. Framework for integrated coastal and marine planning (MREP, 1995: Part A Konsultan Tim and Bappeda SulSel).

it is the tourist experience which determines whether those developments will continue to be viable and sustainable. This principle was reinforced in Indonesia in 1995 when a reported cholera outbreak in Bali led to the cancellation of bookings by a large number of Japanese tourists and resulted in significant employment and income losses (Anon., 1995).

Such events reinforce the importance of both understanding the full range of potential influences on tourism demand (the various factors outlined in Figure 4), of designing appropriate images and products to meet tourist expectations and to maintain a capacity to adjust both in the light of experience. In short, it is clearly not sufficient to view tourism planning as a "one off" activity—planning must be an ongoing process, constantly refined to meet (and where possible anticipate) market trends (Dutton, 1996).

### The Role of MREP

MREP does not specifically target tourism planning, as tourism is just one of the myriad of coastal resources uses which occur throughout Indonesia. Rather, the project is seeking to define the most appropriate uses for currently unplanned coastal and marine areas and to ensure that all such uses are founded on sustainable use principles. In some areas of the ten MREP Provinces, notably Bali, Lombok and North Sulawesi, tourism is a dominant use of coastal and marine areas and is thus given special attention. In other provinces, there is considerable interest in tourism as a form of economic diversification and as a complement to existing or proposed conservation initiatives.

MREP thus incorporates numerous activities which are of direct and indirect relevance to development of coastal and marine tourism in Indonesia. These elements reflect the project aims described earlier. Via the combination of all project components outlined in Figure 2, MREP is providing:

- extensive training (both national and overseas) of Provincial staff in the theory and techniques of integrated planning and in related fields (e.g., use of information technology). With increasing emphasis on decentralisation of decision-making authority to the Provincial level, it is essential that Provincial planning agencies (BAPPEDA) have sufficient expertise to formulate and implement the suite of plans necessary to achieve National, Provincial and local development aspirations. One key aspect of the training program to date has been to develop an "in country" training capability in various Universities and institutions which will enable training efforts to be sustained beyond the notional project life.
- legal and institutional reform and support necessary to achieve an integrated and sustainable approach to coastal and marine resource use. One of the most

significant initiatives in this regard has been the formal establishment of Provincial Task Forces and Steering Committees in each Province. These multi-agency forums provide active oversight of planning activity and an unprecedented opportunity for information exchange and transfer between agencies which had previously worked primarily on a sectoral basis.

- a structured and holistic multi-level planning framework for integration of planning effort in coastal and marine areas. At a National Technical Workshop in November, 1995, the Integrated Coastal and Marine Planning framework outlined in Figure 5 was formally endorsed as the basis for Provincial planning (MREP Konsultan Tim and BAPPEDA SulSel, 1995). This framework provides a systematic basis for broad level strategic and zoning planning which then establishes a basis for tourism and other kinds of sectoral management.
- technology, tools and resources to support planning efforts of National and Provincial agencies. These range from "state of the art" survey tools, information systems hardware and software to more basic, but equally essential, physical facilities and equipment.
- an improved information base for decision-making. Via the work of academic, research and technical institutions, contractors and NGOs, a vast range of information has been acquired. Much of this information is spatially referenced (a requirement for processing by geographic information systems), acquired via a range of survey techniques (remote sensing to ground studies), interdisciplinary (spanning the physical, biological and social sciences) and available in a range of formats (digital to hard copy). Given the scale of the areas included in the project (the Provincial coastal and marine management areas shown in Figure 1 range in size from five to 20,000 square kilometres), diversity of environments, resources and uses studied and lack of precedent for this type of effort in many areas, the resultant databases are of immense national significance.

## The Use of Geographic Information Systems in MREP

### The Use of Geodata in Planning

There is an active and ongoing discourse within the discipline of planning regarding the most efficient and effective basis for data use within any planning activity (see, for example, Crapper, 1981; Green, Rix and Cadoux-Hudson, 1994). As experience with those few studies which have maintained records of data use efficiency has shown, inefficient use of data can lead to, at best, wastage of resources, and, at worst, ineffective plans (Dutton, 1992).

Questions about the most appropriate data for, and the role of data in, any planning study are best addressed on a project by project basis, although there is emerging agreement that the selection of appropriate data processing systems can be as important as the selection of appropriate data. In this regard, the relatively recent advent of powerful automated spatial data processing systems has greatly enhanced the suite of options available for data processing and paved the way for closer integration of the data analysis and plan formulation stages of a planning study. Contemporary geographic information systems (GIS) enable data users to directly interrogate data sets without recourse to specialist input from data providers, although, such input may still be necessary to ensure proper interpretation of results. More importantly, given that the majority of data which are of interest in the fields of coastal area management and tourism planning can be spatially (or "geo") referenced, modern GIS systems allow for integration of data, analysis of trends, evaluation of options, visualisation and presentation of results in novel ways, covering larger areas and providing outputs in shorter time frames than traditional (typically manual) methods (a particular advantage in studies where data may be re-processed regularly). Caution is, however, needed in the application of GIS technology, particularly where experience in spatial planning is limited, or where such technology is not widely available and fully understood - both conditions apply in Indonesia at present.

#### GIS Databases for MREP

In the process of implementing MREP, data collection agencies initially developed a series of prototypes designed to test the suitability of GIS applications for specific planning applications. These training exercises enabled the adequacy of data to be evaluated and developed competency in use of the standard project software (ARC/INFO). Following these initial trials, a combined prototype was developed (MREP Secretariat, 1995) which established data standards and structure in a format suitable for further application and development by Provincial planners. The essential structure of that prototype is shown in Figure 6.

As indicated in Figure 6, it is proposed that the combined prototype will be further refined and developed within the specific application environment of Provincial planning agencies. That process has now begun, with the development of planning information systems (PIS). The PIS will extract selected data layers from the combined prototype (Figure 6) and use these data initially for the production of a series of 1:250,000 zoning plans in each of the Provincial Marine and Coastal Management areas (Figure 1). The PIS can then be used for more detailed (1:50,000 or finer) forms of planning (notably the other levels of the planning framework shown in Figure 5).

Figure 7 shows the broad structure of the MREP PIS. Within the "Thematic Layer" of the PIS, it is proposed to combine data on a range of bio-physical and socio-economic attributes. These data can then be overlain or otherwise combined for the purposes of:

- Evaluation-testing of scenarios, assessment of data quality, detection of trends, etc.;
- Prediction-projection of scenarios, modeling of ecosystems, species distribution, human impacts, etc.;
- Management-formulation of management zones and schemes, etc.; and
- Formulation of new projects

#### Applications of the MREP GIS for Tourism Planning

As indicated above, while MREP does not specifically focus on tourism planning, the information systems and various plans being developed will have a range of direct and indirect implications for tourism planning. Direct applications include:

- (a) Production of inventories of existing tourism facilities, attractions and activities. Not all Provinces currently have these data available in spatially referenced or digital form, nor are the data readily available to key decision making agencies. This 'product' will thus improve both the information base for decision making as well as enable further, more systematic analysis of development needs and impacts (in terms of tourism impacts on other resource uses and vice versa).
- (b) Identification of coastal and marine areas which are suitable for tourism uses. This component of the zoning process obviously will have a significant effect on the availability of areas and resources for different types of tourism development and activity. This 'product' will significantly enhance the ability of National and Provincial agencies to develop locally viable tourism industries, to further assess tourism development options in new development areas, to assess the tourism carrying capacity of potential development sites and to promote investment opportunities.
- (c) Modeling of development options at sub-regional and local scales. While the PIS will have a minimum resolution of 1:250,000, many of the data in the Thematic Layers will be input at a scale of 1:50,000, thus enabling more detailed analysis of tourism development options. For example, by combining various environmental (e.g., beach, climate, biotic) thematic layers, infrastructure (e.g., distance to transport nodes, from airport, etc.), legal (e.g., land ownership), social (e.g., availability of labour force) and other decision criteria it will be possible to assess the feasibility of supply of various types of tourism development at the sub-regional/local scale. These data can then be further evaluated in terms of demand


**DATA COLLECTION  
and PROCESSING**

- Aerial photography
- Satellite imagery
- Base maps
- Thematic maps
- Surveys
- Existing data

image  
and  
data  
processing

**DATABASE**

data base  
creation



database  
creation

**PLANNING**

use of  
database  
for  
GIS-  
assisted  
planning  
and  
management

(of marine and coastal  
areas/resources)

**Prototype I**  
*contents of  
database*

a.k.a. MREP GIS  
a.k.a. supply database

**Prototype II**  
*Planning  
method*

a.k.a. MREP PIS  
a.k.a. demand database

Figure 6. The combined MREP GIS prototype (MREP Secretariat, 1995).

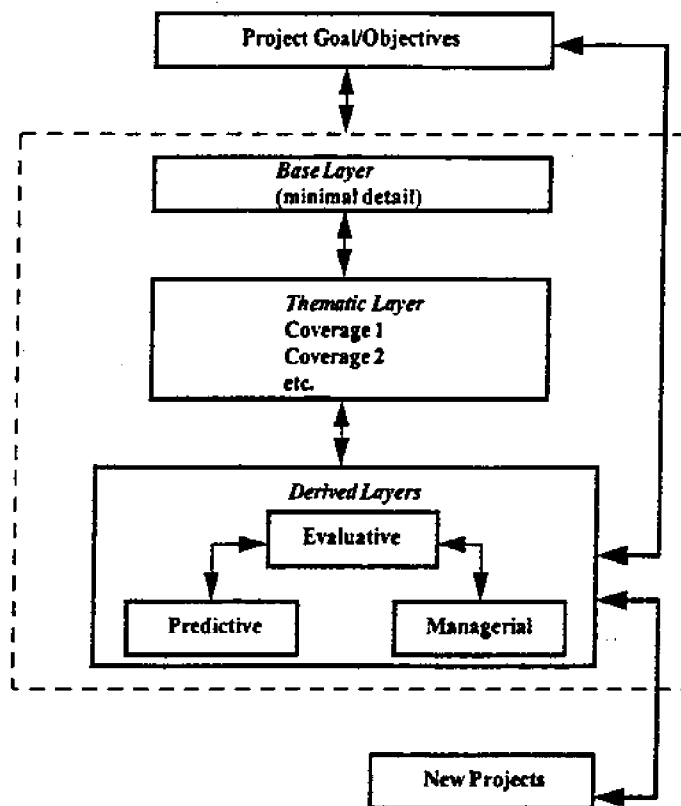


Figure 7. General Structure of the MREP PIS (Dutton, 1995).

analyses (some of which may supply additional evaluative criteria—for example, relating to consumer preferences) to facilitate product development.

- (d) Definition of areas of current and potential conflict. In the course of development of zoning plans for each management area, areas of conflict (actual or potential) between tourism and other resources uses (fisheries, industry, etc.) and even between different types of tourism activity (e.g., diving vs. fishing) can be identified. While not all of these may be readily resolved by zoning, this 'product' of the PIS will enable appropriate forms of planning intervention at each level of the Provincial planning framework to be assessed and should facilitate effective integration of tourism planning with other sectoral planning.
- (e) Identification of key areas for more intensive planning effort (management plans, master plans, site plans, etc.). By identifying conflict areas and other areas which need more specific planning attention, the PIS can be used to evaluate management options and model the impacts of various types of change.
- (f) Assessment of the social, economic, environmental or other costs (including opportunity costs) of tourism development proposals. The MREP database will be maintained within a Provincial Data Centre by each regional planning agency and will be available for spatial analysis of future development proposals. With experience, it should be possible to incorporate some of the power of GIS technology into future environmental impact assessment and other types of feasibility studies.
- (g) Monitoring of development patterns. All of the data layers being developed within MREP are supported by extensive metadata—these will form an important basis for development/change monitoring.

Potential (indirect in that they are not part of the immediate domain of MREP) applications of the PIS for tourism planning are equally diverse. They range from the production of promotional materials (using map and other graphic outputs from the GIS or combinations of maps and images and text) to the use of the GIS/PIS for innovative research purposes (e.g., assessing tourism impacts on migratory marine species).

## Lessons and Directions

Most of the potential applications of the MREP GIS for tourism planning described above have not yet been fully trialled. At the time of this presentation, these capabilities are still being developed, formats and standards for data management are being developed, application frameworks (the final content and structure of the PIS) are still under development and source data are still being collected or compiled prior to conversion to digital format. Training programs in the use of GIS systems and integrated

planning methods are underway and development of administrative procedures for maintenance of a Provincial GIS capability is also continuing.

Nonetheless, various demonstration and training exercises have conclusively demonstrated the appropriateness of GIS systems for the types of applications outlined above. Evaluation of these exercises has enabled revision of database and GIS design prior to completion of the full system, thus leading to cost savings and more efficient use of resources. Some of the data sets already produced have also enabled Provincial planning agencies to deal with current coastal and marine tourism development issues on a more informed and confident basis.

With completion of Province-wide coastal and marine management strategies, which are the foundation of integrated planning framework outlined in Figure 5, by the end of 1996, each MREP Province should be well placed to clearly articulate strategic directions for tourism development. These will then form the basis of more detailed planning effort (zoning and management plans) in the remaining two years of the project.

For organisations interested in developing similar capabilities, the following guidance can be provided, based on the initial experience of MREP:

- It is essential to establish and maintain a close dialogue between data collectors and data users from the earliest possible stages of a GIS-based planning study. In this way, data needs can be clearly targeted, enabling more focussed data collection and increased data use efficiency. Such dialogue is essential to the effective use of GIS technology as data are the most expensive part of a GIS.
- While GIS systems provide considerable power and flexibility, the learning curve for sophisticated software such as ARC/INFO is relatively steep. To fully utilise such software requires a considerable investment in training and must be reinforced by 'on the job' experience in using local datasets. For complex activities such as integrated coastal and marine planning, it may be desirable to develop experience in planning techniques using manual methods initially so that the context of later GIS use is properly understood.
- Many of the concepts relating to integrated planning (from coastal management and tourism) which are freely debated in the literature are more difficult to operationalise in a day to day decision-making context. In this regard, Indonesia is developing an approach which is based on global best practice, but which has a form and interpretation which is specific to the national socio-cultural context. Any global 'models' should thus be carefully evaluated in the light of local needs, culture and practice before adoption or adaptation.

- Although this point has already been made above, it is worth reiterating the importance of a process-orientation to planning. Even at this early stage of MREP plan development, it is apparent that the planning process being established will need to be refined and continually developed in the long term - it is not merely sufficient to construct a GIS database - such data must be linked with ongoing planning effort, maintained and updated over time. To achieve this will require establishment of an institutional capacity for planning and information management which is beyond the immediate MREP project horizon.
- Finally, although not a core component of MREP, tourism planning is proving to be a key consideration in the development of integrated coastal and marine plans. Instead of dealing with tourism as a separate activity, MREP is overtly seeking to integrate tourism development within a broader planning framework which emphasizes the sustainability of resource use. Such an approach has the potential benefit of enabling co-ordinated decision making and facilitating resolution of conflicts between tourism and other competing land/sea uses.

## Conclusion

Indonesia is now at a key stage in development of its vast resources. Increasing attention is being given to marine and coastal resources and to the development of sustainable approaches to resource utilisation. The MREP Project is playing an important role in improving understanding of resource availability, in assisting in the development of resource utilisation strategies and in developing an ongoing institutional capability for information management and integrated resource planning.

Geographic information systems technologies are a central component of the MREP project and have already proven to be of potential value for both broad scale spatial planning (zoning) and for more detailed sectoral or spatially-oriented planning, including tourism planning. Although GIS technology must be applied carefully in order to achieve short term outputs, this investment is likely to return considerable long-term benefits if ongoing planning effort is sustained.

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# TOURISM: THE KEY PLAYER IN THE ECOLOGICALLY SUSTAINABLE DEVELOPMENT OF THE GREAT BARRIER REEF

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**Abstract:** *Tourism on the Great Barrier Reef is a major and growing industry. Currently, it is estimated as worth more than A\$1 billion p.a. and attracts about two million visitors per year. Reef tourism is mostly nature-based and generally non-extractive involving about 600 tourism operators providing a wide range of activities.*

*The Great Barrier Reef, declared a World Heritage Area in 1981, has been actively managed since the establishment of the Great Barrier Reef Marine Park Authority 20 years ago. Management strategies are based on multiple use zoning and ecological principles. While most commercial use is subject to permit and regulation, an ethic of "education rather than regulation" is espoused. An evolving approach of industry self regulation, accreditation and codes of practice is being developed between managers and industry.*

*In 1993, a cooperative Reef research network was established as part of an Australian Cooperative Research Centre Program, bringing together major science institutions, management agencies and industry groups in a joint venture for ecologically sustainable development of the Great Barrier Reef World Heritage Area.*

*The CRC Reef Research Centre undertakes an integrated program of research and development, training and extension, to expand Reef-based industries and provide information for better management and decision making. The Centre's programs are funded jointly by Reef industries, State and Commonwealth governments, and research institutions.*

*The Great Barrier Reef provides a model for sustainable tourism in the context of national policies for ESD, the responsibilities for stewardship of the GBRWHA and providing further opportunities tourism growth. The interaction of industry groups and Reef managers in dealing with challenges such as increased people pressures, use conflict and equity, benefits and disbenefits, is discussed.*

**Keywords:** *marine tourism, Great Barrier Reef, marine park, cooperative research*

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## Introduction

Tourism in Australia is a leading industry. The Great Barrier Reef (GBR) is a major region and contributor to the economic value of the industry. Tourism in the GBR has been active for many decades but it is only in the last decade and a half that it has matured to a highly professional and comprehensive range of enterprises. The GBR tourism industry of private sector operators and investors has developed in a framework of government management of the Great Barrier Reef Marine Park (and more recently, the Great Barrier Reef World Heritage Area). Like the GBR tourism industry, the Marine Park management agencies have been innovative and globally trail-blazing in their approach to their charter of conservation, protection and wise use of the GBR. The development of the industry and the Park have not been without conflict and this history provides a model for consideration in other parts of Australia and globally. Many of the elements of this development and the issues to be confronted in the future are not unique to the GBR tourism industry and Reef managers.

## The Setting: The Great Barrier Reef

The Great Barrier Reef is not a single place or physical entity. It is an ecological region comprising a range of geomorphological structures (islands, cays, reefs, lagoons) and tropical-island and marine habitats (coral reefs, seagrasses, mangroves) with coral reef structures, ecosystems and processes predominating as the core natural features. The globally unique size and diversity of the natural structures, marine and terrestrial habitats, and the plant and animal species, linked through physical, chemical and ecological interdependency, create the ecological entity of the Great Barrier Reef.

The Great Barrier Reef World Heritage Area (Figure 1) extends more than 2000 km north-south along the continental shelf of Queensland covering 348 700 km<sup>2</sup>—about 1 1/2( times the area of Great Britain—and is the world's largest marine protected area—the second largest protected region of the globe, after Greenland.

The Great Barrier Reef has an array of coral reef types (fringing, ribbon, platform) and a diversity of marine life forms, habitats and nesting and breeding grounds for birds, marine reptiles and mammals. The variety of physical and biological forms, habitats and species contribute to the special nature of the GBR and are fundamental to its attraction and opportunity as a tourist and recreational destination.

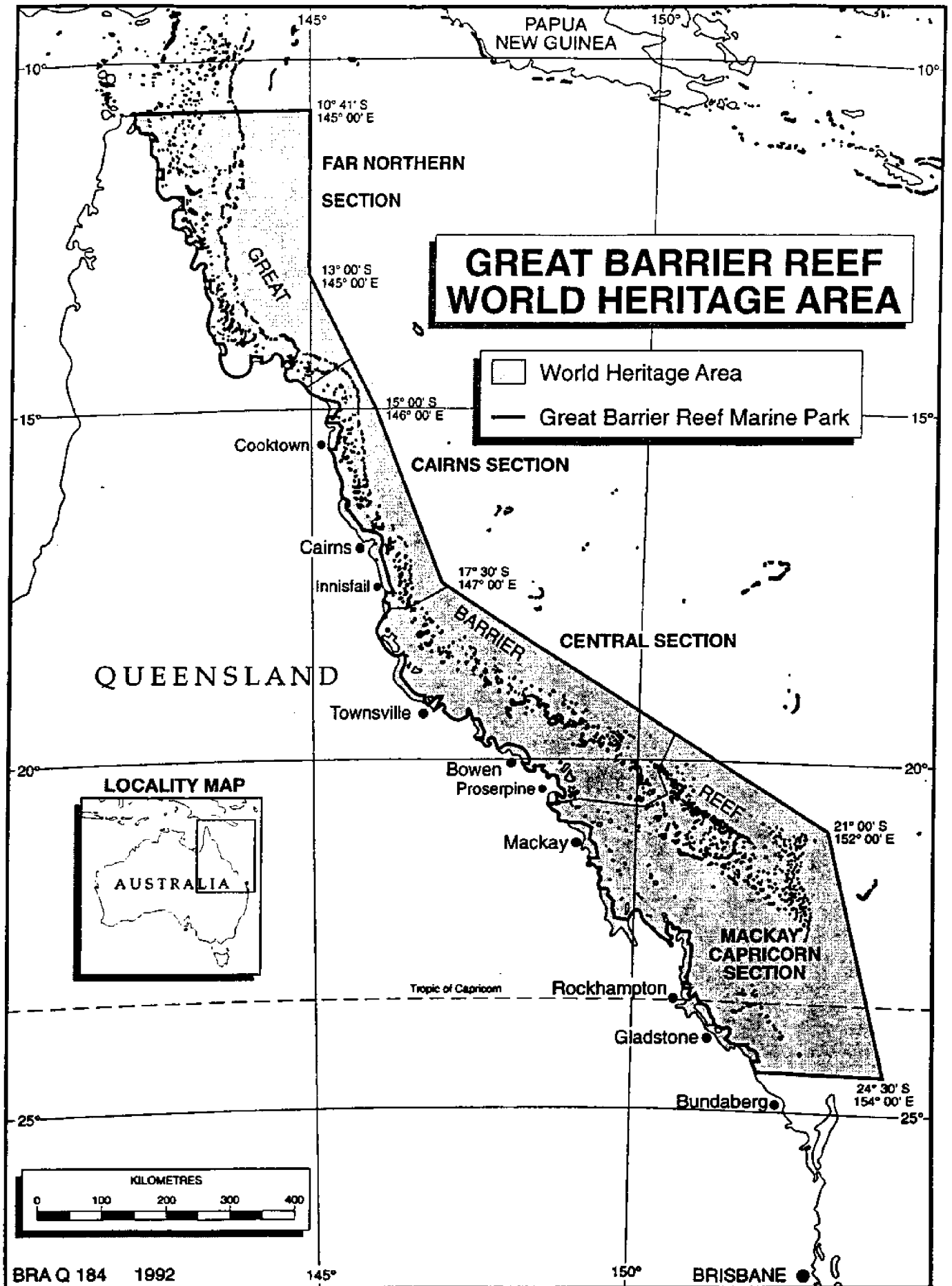


Figure 1. Great Barrier Reef World Heritage Area.

Regions of the Great Barrier Reef are readily accessible from the Queensland mainland. Towns and cities along the southern two-thirds provide primary access points for passive and active Reef use; the northern third of the Great Barrier Reef is relatively less accessible. Urbanisation and coastal land use of catchments for agricultural (e.g., sugar cane, bananas and other intensive crops) and grazing have, over the last 200 years of European settlement, contributed to changes in the quantity and quality in catchment discharge to the Reef waters. Coastal infrastructure (ports, marinas, aquaculture industry), and land-based industrial development is limited.

The Great Barrier Reef remains in a relatively pristine condition, in global terms and apart from small areas near major ephemeral river discharge and towns has been unduly affected by human activities (Kelleher, 1990). The potential for impact from land-based activities and land use remains a major concern and is a constant focus for the responsible management agencies and research activities.

The Great Barrier Reef is recognised globally for its ecological value and importance, along with cultural and scientific importance. It has perceived and realised economic value to Australia (Geen and Lal, 1991; Driml, 1987, 1994; Hundloe et al., 1988). Sustaining these values provides challenges for Australia in stewardship and management of the Great Barrier Reef World Heritage Area in order to ensure protection and conservation and access and use. The special nature of the Reef as a regional ecosystem entity and its relatively pristine condition are the key elements for the marine tourism and recreation industry. The challenge has been, and continues to be, the maintenance and retention of these special qualities.

### **The Industry: Reef Tourism**

Tourism is a major industry in the GBR with an estimated economic value in 1991–92 of about A\$1.2 billion involving more than 2.2 million visitors (Driml, 1994). Fishing and shipping/port industries in the GBR World Heritage Area are also significant economic activities.

The structure of the tourism industry is strongly based on vessels and boating accessing the Reef from the Australian mainland. However, 26 resorts on 22 islands are popular destinations accounting for 16% of the commercial accommodation in the GBR region, including mainland resorts, during 1989–90 (Otterson, 1992). Green Island, the major day-trip island destination, attracts 300,000 visitors per year. Over the last 15 years, the number of resorts has increased by six (most islands are Queensland National Parks and sites are limited) and total bed

numbers have more than doubled to 1991 (from 3,000 to 7,000) (Kelleher and Craik, 1991). The mainland coast has experienced extensive resort development, especially in the Cairns and Whitsunday regions; visitor-nights in mainland and island resorts were 22.3 million in 1991–2; up 70% from 1984–5 (Driml, 1994).

The tourism industry in the GBR is predominantly environmental or nature-based, and generally involves tourists in boat/vessel activities although helicopter and fixed-wing aircraft flights occur locally. Visitation by vessel-based day-trips predominate with extended and overnight cruises, cruise ships, yacht charter, island transits and charters for specific activities (e.g., gamefishing) representing specialist and additional activities.

A special feature of the tourism industry in the GBR has been the development and installation of pontoons at reef sites throughout the area, especially through the Cairns to Whitsunday regions. The 19 pontoons throughout these regions serve as day-trip destinations serviced by modern, luxury high-speed (25 knots) catamaran and "wavepiercer" vessels carrying up to 300 passengers. Mainland-to-pontoon transits of up to two hours provide opportunity for "educational" briefings on the GBR and special features of the destination.

Major tourist activities at resort islands and pontoon destinations include: scuba diving, snorkel, "resort-dives," glass bottom boat semi-submersible trips, underwater observatories, and limited reef walking.

Elsewhere seasonal whale watching, sailing, windsurfing, and motorised sports (water-skiing, parasailing) and fishing are major demand activities. The diving industry has expanded enormously with more than one million scuba dives and two million snorkelling activities in 1992 (David Windsor, pers. comm.). Camping on coral cays and opportunities for "wilderness experiences" are niche markets of ecotourism operations.

Passive and active tourism opportunities and activities differ regionally throughout the Great Barrier Reef, reflecting Reef access and natural structure, and support infrastructure, such as international and domestic airports. Domestic visitations exceed international visitor numbers although there are regional differences, again reflecting direct airport access. The Cairns sector is strongly commercial with day-trips to reef pontoons, Green Island and Low Isles and diving and fishing expeditions dominating over private recreational visits. The region attracts a high level of international tourists flying directly to Cairns International Airport. Domestic tourists predominate in the Whitsundays and southern region. Resort islands, reef pontoons, sailing and motor cruising activities are major attractions in the Whitsundays-Mackay

region with its multitude of high islands and spectrum of beaches and cruising waters.

Even then it was an attraction, offering relatively low-key activities associated with resort islands, cruising and day trips, diving and fishing. Over the last 15 years, the industry has increased dramatically and is predicted to have potential to double again into the turn of the century, particularly with the Sydney Olympics in the year 2000.

Today's highly professional tourist industry in the Great Barrier Reef developed as a result of innovative approaches by private sector operators to sustainably utilise the unique natural features of the Reef. Key features have been the development of new technologies (vessels, pontoons, marine engineering infrastructure), improved and expanded transportation and infrastructure, and private sector investment for quality of visitor experience.

Technology improvements for new and faster vessels carrying up to 600 passengers at 30–40 knots is likely to expand the cruising-pontoon tourism activities. On the other hand, tourism demands for educational or scientific-based opportunities and total ecotourism experiences provides another direction for development.

### The Context: Management and Development

In 1975, the Australian Government enacted the Great Barrier Reef Marine Park Act which provided a legal framework for planning and managing the Great Barrier Reef. The Act provided for the establishment of the Great Barrier Reef Marine Park Authority (GBRMPA) to manage and plan for protection, conservation and "wise use" of the Reef, a Consultative Committee of interest groups and government agencies, specified functions of the Authority (including preparation of zoning and management plans, education and management programs), and provided for cooperative functions with the Queensland Government. In 1981, the Great Barrier Reef was entered into the World Heritage List.

The Great Barrier Reef Marine Park Authority is the principle management agency for the Area, with the Queensland Government's Department of Environment responsible for most day-to-day management activities and management of State marine parks and island national parks. Other Queensland authorities are responsible for relevant activities including fisheries.

The Great Barrier Reef Marine Park Authority has the goal "to provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity through the care and development of Great

Barrier Reef Marine Park" (GBRMPA 1993). In practice its management objective has been to provide for conservation and multiple use. Human use is integral to the approach and managed to be "ecologically sustainable" (Craik, 1992), whereby economic development and environmental maintenance are not antagonistic but that they are compatible goals in the sense of the Brundtland Report (WCED, 1987; ESD, 1990).

A cornerstone of management of the Great Barrier Reef has been zoning, to ensure separation of conflicting activities so that while some areas are protected from use, other areas are provided suitable for particular activities (Kenchington, 1990) e.g., *General Use Zones*, *National Park Zones* and *Preservation/Scientific Zones*. Commercial and recreational use (including fishing) is allowed in the *General Use Zones*. The *National Park Zones* allow "look but do not touch or remove" activities.

Zoning plans allow for tourism, under permits, to occur in 99.8% of the Marine Park. Zoning Plans are complemented by a range of special area/use instruments including: Regional Management Plans, Reef Use Plans, Special Management Areas, Site Plans and Reef Appreciation Areas (Otteson, 1992). In practice, it has been estimated that tourism utilises 0.02% of the total Park area (Burgess, 1993).

Enhanced public awareness over the last two decades of the unique and special qualities of the Great Barrier Reef is apparent in the wider community and in the boardrooms and actions of the Reef industry users. "Education not regulation" has been a deliberate approach by GBRMPA and other day-to-day management agencies. Putting aside this awareness and any sense of altruism, it makes sound commercial sense for the tourism (and other) industry, with investments of millions of dollars in expenditure, to ensure the sustainable nature of the Great Barrier Reef environment on which each enterprise depends.

The 25 Year Strategic Plan for the Great Barrier Reef World Heritage Area 1994–2019 helps "to ensure the persistence of the Great Barrier Reef World Heritage Area as a diverse, resilient, and productive ecological system, while retaining opportunity for a diverse range of experiences and was consistent with Australia's obligations under the World Heritage Area." The Plan is the product of three years consultation between more than 60 organisations representing management agencies (Commonwealth, Queensland State), Aborigine and Torres Strait Island groups, Reef user groups (tourism, fisheries, scientific) and interest groups (conservation, coastal land use and agriculture). The internationally acclaimed Strategic Plan has extensive "ownership" by the array of stakeholder organisations who individually and

collectively are implementing the Plan in their activities of use and management.

Over the last few years the Australian government has been acting to enhance a range of international agreements, treaties and concepts relating to the environment and especially to the marine sector, for example, United Nations Convention on Law of the Sea (UNCLOS) (and EEZ commitments), International Convention for the Prevention of Pollution from Ships (MARPOL including "Special Area" designation for the Great Barrier Reef), United Nations Conference on Environment & Development (UNCED) (Agenda 21). National legislation dealing with Native Title (GBRMPA 1994) and Queensland State legislation for a revised Fisheries Act have implications for the processes and mechanisms of management and use of the Great Barrier Reef which are currently being evaluated.

Government actions have to date imposed a number of costs on users of the Reef, falling mainly on commercial operators rather than recreational users. Issuing of permits for tourism and other commercial operations on the Reef include significant costs for applications and bonds are required on infrastructural development (e.g., pontoons, moorings) to allow GBRMPA to remediate sites should the operator be unable or unwilling to remove damage or abandoned structures. Conditions of practice and often a requirement for independent environmental monitoring of sites are usually attached to operator permits.

In 1993, an Environmental Management Charge (EMC) was instituted by the Australian Government (through GBRMPA) levying a charge of A\$1 per head on tourism activities in the Marine Park to assist in meeting the increasing cost of management and associated research on the Reef. The introduction of the EMC was not without discontent in the tourism industry—it remains applicable only to commercial tourism and does not apply to recreational users of the Reef. Of the revenue 25% contributes to management activities and 75% is applied to key research issues through the CRC Reef Research Centre—a joint venture between the tourism industry, the management agencies (GBRMPA, Queensland State agencies) and research agencies (Australian Institute of Marine Science, James Cook University).

### Cooperative Reef Research

The CRC Reef Research Centre is one of over 60 Australian CRC's bringing together outstanding researchers from universities, research institutes, management agencies and private industry. Over A\$46 million is pledged for the CRC Reef Research Centre until the year 2000.

The Centre emphasises the importance of developing internationally competitive industry sectors, especially tourism, and offers some of the best research teams working with private industry. It is managed by a board of nominated representatives from its partner organisations, and a Director. Each of its five programs have a Program Leader and individual research tasks are developed with industry advisory groups focussed on achieving practical outcomes. The Centre uses a significant proportion of the environmental management charge (EMC) funds for research and development projects. In effect, 75 cents in every A\$1.00 commercial operators pay to GBRMPA is directed to the Centre's program. Other government contributions will be over six times this amount, to a total of A\$46 million. Companies can enjoy financial support under the CRC Program while retaining full research and development tax incentives normally available to them. The five programs are:

1. **Regional Environmental Status Program**—Aimed at understanding and controlling water quality, sediment flow, effects of nutrients and pollution, impacts of cyclones, crown-of-thorns starfish, and other natural processes to the Reef.
2. **Operations Program**—Aimed at finding solutions to problems associated with increasing human use of the Reef, particularly tourism and recreational activities.
3. **Engineering Program**—Aimed at developing new engineering practices for the design, construction and operation of Reef facilities and coastal developments.
4. **Education Program**—Aimed at providing scholarships and support for outstanding tertiary students to conduct research into special areas.
5. **Extension and Training Program**—Aimed at facilitating interactive communication with Reef industry groups, researchers and management agencies, and distributing research results.

The Centre was established to keep pace with rapid marine industrial, policy and technological change. It has increased private investment in R&D, and therefore industry involvement and commercialisation of research benefits. It has helped build a new partnerships between knowledge providers and knowledge users.

Australia's national CRC Program is bridging the gap between reef researchers, educational institutes, government managers and private industries. It supports long-term high quality scientific and technological research which contributes to Australia's national objectives, including social and economic development.

But any type of network demands cooperation to be effective. The reason for undertaking collaborative research is to get some advantage—to achieve something that would be more difficult or more unlikely to achieve without collaboration. Advantages can flow to individuals, organisations and regions through collaboration. Collaboration helps:

- get access to intellectual or physical resources
- spread the risk or the cost of some ventures
- learn from your partners
- build community support and participation
- access additional funds targeted at issues
- set industry standards, methods or approaches

### The Future: Tourism and the Reef

Tourism in the Great Barrier Reef region has potential to double over the next decade, particularly with the Sydney 2000 Olympics. Sustainable development will require the maintenance of balance between the conservation of Reef qualities and use by tourist and other industries.

Tourism activities on the Reef are mostly environmentally oriented towards appreciation of environmental features and qualities rather than resource harvesting. It is anticipated that the "ecotourism" direction will expand (Department of Tourism, 1994) and as a consequence the tourism industry will be fully reliant on: maintenance of high water quality, relatively pristine environmental features and a diversity of settings, access to key resource sites on the Reef across the wide geographic range, and an ability to meet tourist expectations for a range of experiences and quality of experience within a variety of settings.

Managing the implications of the external issues on the sustainable development of the Reef will require an awareness and understanding of scientific findings and consultation by industry and Reef managers with other national and state management agencies. The internal issues will require information and consultation within the interest groups of the Reef. Here, resource allocation and an array of social elements largely dealing with access and amenity are the central issues.

The Reef area is not unique in having conflict between commercial and recreational fishing interests over access and entitlement to fish stocks. While commercial fisheries operate a major industry in the Great Barrier Reef (economically valued about A\$400 million pa; Driml, 1994), recreational fisheries are considered to be of about half that value and comprise a significant part of the tourism and recreational use of the Reef. Commercial operations are working to improve financial return with a constant or diminished catch by value-adding initiatives.

Part of the recreational fishery (tourism sector) are practising catch and release, but resource harvesting for table use remains a primary goal. Access and allocation of the apparently finite fisheries stocks remains at issue.

Broad public concerns have been expressed about retention of areas of the Reef devoid of structures (moorings, pontoons), especially near population centres. In the Cairns region of the Great Barrier Reef, a *No Structure Sub Zone* has been introduced covering 22% of the reefs in this relatively high visitation sector. "Carrying capacity" is a major issue; a current difficulty is understanding of the term and translation of perception to realities in a measurable way to guide Reef managers in the ecologically sustainable use of the Reef.

Resolution of the social issues (principally access, amenity, and opportunity for a range of visitor experiences) through consultative processes seems less tractable at this stage; government determination looms large. The major difficulty is the lack of coherent databases and information to subtend the emotional arguments of interest groups.

Reef management agencies need to maintain a rational and dynamic approach to environmental and social balance in use of the Great Barrier Reef, gain enhanced knowledge of the ecosystems and their response to impacts and importantly, sustain an understanding of the thresholds for maintenance/growth processes in Reef ecosystems. Scientific research needs to actively address Reef issues through applied science, delivering timely and unambiguous outcomes to managers and industry, based on data, not dogma. The new joint venture—CRC Reef Research Centre—between the tourism industry, Reef managers and Reef research institutions, supported in part by the Australian Government will contribute significantly to the provision of useful scientific results from its issues-driven, applied research approach.

Continued and enhanced consultation and an adaptive management approach will assist the process and outcomes. Reef managers and the tourism industry are working to put in place codes of practice for sectoral activities and key Reef sites. Industry self-regulation and accreditation schemes are being developed. These incremental and cooperative developments are part of the process of developing maturity in the tourism industry and Reef management agencies.

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# COMMUNITY, ENVIRONMENT AND TOURISM: A SUSTAINABLE PARTNERSHIP

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**Abstract:** *Ecotourism and community-based tourism are growth niche markets in tourism. This case study presents the involvement of a community and local environment centre to establish a community based ecotourism product, in the Sydney seaside resort of Manly.*

*The study discusses the potential for community based ecotourism within cities such as Sydney. To examine this, a region already successful in tourism and containing a wealth of natural assets was chosen for review. This area within sight of Sydney's skyscrapers includes national parks, other natural bush reserves, beaches, marine and harbour reefs of significant biological interest and built environment with significant heritage. Led by the Manly Environment Centre, there is strong community interest in the environment, and desire to explore the potential of tourism as a means of conservation education and income generation.*

*The objectives of this initial study were:*

- *to investigate and describe the environment; the environmentally minded community and the small business community involved in tourism;*
- *to investigate potential ways for these three interests to interact for mutual advantage of ecological and economic sustainability, and community involvement in tourism planning and product development;*
- *to establish a year long pilot study leading to guidelines and educational materials to promote and sustain community based ecotourism in a cityscape; and provide a model for community involvement in tourism planning.*

*The paper will highlight how the partnership between community and environment is essential in the sustainable tourism equation. It contends that sustainability requires:*

- *valuing all elements that make a tourism product—the natural assets, the community context, the financial potential, and the infrastructure*
- *integrating all elements*
- *developing cooperative partnerships*

**Keywords:** *ecotourism, community, environment, partnership, sustainability*

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## Introduction

Ecotourism and community-based tourism are major growth areas. There appears to be advantages in regional economics, sustainability of the industry and ecological sustainability over more traditional mass tourism, in this trend. One tends to think of ecotourism as involving a relatively undegraded natural environment remote from major urban areas. However, Sydney NSW is fortunate in being one of the few major cities in the world to have large areas of natural bushland within its boundaries and in particular, is fortunate in being intersected by large areas of waterways. Therefore there is a potential to add ecotourism to Sydney's already valued tourist activities. Sydney is also fortunate in having ecologically minded community interests. This includes groups such as the NSW Wildlife and Rescue Service, various regional and local conservational societies and bush land regeneration groups. Thus, an opportunity exists to combine eco and community based tourism with all their advantages of sustainability in the ecological, social and economic senses.

The question arises—what is the potential for a sustainable community based ecotourism industry within cities such as Sydney. To examine this, a region already successful in tourism and containing a wealth of natural assets was chosen for review, with a view to establishing a twelve-month study into this activity. This area, Manly, is within sight of Sydney's skyscrapers and yet includes national parks and other natural bush reserves, beaches, marine and harbour reefs of significant biological interest and built environment with significant heritage. Manly community, led by the Manly Environment Centre, also has strong community interest in the environment, and has been proactive in exploring the potential of tourism as a means of conservation education and income generation.

## Background to the Program

It is our contention that a sustainable industry will be one that is well integrated, planned and managed with other industries and with the "host community." Tourism literature supports this position. The role of the host community has been stressed by many authors, and community participation in tourism planning much discussed. But there is little evidence of successful implementation of this approach. Community participation is considered an important aspect of decision making in many areas but mostly not within the context of the development of an "industry." It is particularly important in tourism because it is so reliant on public goods for its product, and the goodwill and co-operation of local people. How tourism is managed depends on how it is viewed. There is, for example, debate about the status of tourism as an industry.

Tourism is an unusual phenomenon, because despite its obvious economic importance globally, it defies common definition of an industry. It does not produce a distinct product; the customer, the tourist, consumes 'product' from many different businesses, and these businesses, such as transport, entertainment, food service and so on, may not differentiate the 'tourist' customer from others, and may not even see themselves in the tourism business; hence the supply-side of the market is ill defined; how revenue from this 'industry' is counted is therefore questionable; and the consumer travels to the product. Most of these features make it unusual. Without wanting to extend the discussion about whether it is or is not an industry, it is important to realize that there are several unusual characteristics of this important economic activity. The characteristics are inherent in the difficulties encountered by tourism planners and regional tourism managers, without attempting to cast the net even wider to also consult the wider community in planning processes. Yet, it is important.

Murphy (1985) states "whether one classifies tourism as an industry or not, one cannot ignore the resource base which is its *raison d'être*, or the delivery system which permits people to utilize those resources, if tourism is to be understood and managed for the benefit of society. Modern tourism must develop and protect its attractions." As Murphy identifies, it is a resource-based 'industry.' These resources are the social setting of the tourist experience and product; the environment and the 'uniqueness' (cultural context). These are all public good resources which the 'industry' or 'businesses' do not own or even have responsibility for their management. Yet they 'sell' them as part of the tourist experience. Hence, these resources require very careful management, and normal business practices, or management and planning strategies are not necessarily appropriate for the partially industrialized (Leiper, 1989), highly fragmented and transient nature of tourism.

The move toward greater public participation needs equally careful consideration. Simmons (1994) suggests "mechanisms must be chosen to match the desired output from participation and the current stage of planning." Wearing & McLean (1996) include an excellent section on techniques for community participation.

To further complicate the process, there are many variables beyond the control of those responsible for tourism planning and management. Not the least of these are the different value systems of the tourism business, the host community and the visitor. To the host community, the assets, the public goods are the heritage and essence of the community. For the visitor, who by definition does not belong and does not remain at the location, is investing discretionary time and income (and often relatively large amounts of the latter), on the visit. They usually intend to 'get good value for money' and 'make the most of the visit.'

They may not expect or intend to return and so will perceive the assets from a very short term perspective. Likewise, the business operator/owner/developer may not belong to the local community, or region or even host country. Like the tourist, they will be interested in maximizing their return, and may have very short term objectives with little knowledge or regard for the desires or aspirations of the host community. These differences create many ethical, social and economic concerns. The planning process can help to ameliorate these if it assists in the formation of a shared community vision for that community, and helps to define and articulate the community's shared values for their social, cultural and ecological environment. This would enable and empower local government authorities to make informed development decisions, and assist tourism marketing efforts to attract visitors who are more aware of the local assets and their importance to the community.

Most tourism planning is business/economically-oriented with numeric goals of ever increasing numbers of visitors. There are many examples world wide, and sufficient experience and knowledge to know that 'more is not better,' either for the small businesses involved in tourism (the concept of 'profitless volume') or the local community or the visitor. All are dissatisfied as a location becomes 'popular', crowded and spoiled. Hence the way the local tourism 'product' is conceived, developed and sold has considerable impact on its sustainability.

Substantial amounts of government tourism marketing and infrastructure dollars are spent supporting the large vertical operations as they are the most visible; and vertical marketing strategies are seen to be very efficient. Only those companies involved in the vertical integration benefit.

A sustainable approach that encompasses social, cultural and environmental elements not only economic elements involves horizontal integration and provides benefit to the wider community, not only those generating an income (through their business or employment) from tourism. For example, local culture should feature in all tourism, not only in 'cultural tourism.' "Community cultural planning is an important building block ensuring that programs of cultural tourism benefit residents and tourists alike" (Scott, 1991).

Sustainability requires:

- valuing all elements that make a tourism product:
  - (1) the natural assets,
  - (2) the community context,
  - (3) the financial potential, and
  - (4) the infrastructure
- integrating all elements in an authentic way
- developing co-operative partnerships which minimize cost, and maximize benefit/efficiency

Benefits to residents from this approach, which remain after the tourists have gone may include:

- revival and maintenance of the environment, heritage and cultural features, and
- enhanced and developed 'cultural capital.'

Culture is a whole way of life with material, intellectual and spiritual content. It is related to a place, to a community and its people. It has elements of the past (heritage), present and future (Young, 1995).

Tourism involves the visitor experience of the 'way of life of the locals.' There is an element of learning. Learning about history, geography, social science, natural science, customs, food, religion, etc.

The essence of the tourism product involves:

- sense of place/pride/history
- uniqueness
- authenticity

These are equally desirable and part of the successful mix of any regional tourism activity, not just 'cultural tourism.' These elements can come only from localized, community-based, horizontal integration. "Tourists want to go where locals go—to be part of the local scene" (Coombes, 1995). The element of learning, of curiosity, of exploring other cultures is in all forms of tourism. The extent may vary. The focus should be to enhance local assets through tourism, rather than tailor culture to particular tourists. That is, it should be supply led not demand driven.

Communities can share their region with visitors, enhance the return to all the community and enhance civic pride. Sporting events, general exhibitions, festivals, local shopping which are an integral part of the communities' life, are part of tourism.

Like all development, tourism must be planned. Not only so that tourism is profitable, but so it is acceptable and hence sustainable. Success depends on how that planning is done who is involved and the aims and objectives. Countries like Thailand with a very rich culture planned for cultural tourism. They achieved a 317% growth over ten years (Murphy, 1991). Massive success, or was it? We are all aware of the significant costs to the host 'Thai' community and their values. Craik (1995) warn that cultural tourism is developing as a new niche in response to economic crises; exhaustion of traditional attractions such as beaches and fauna; the shift away from mass tourism and demands of more sophisticated tourists. As the impetus for this development has been economic imperative rather than altruistic search for a more sustainable form of tourism, cultural tourism itself may exacerbate problems rather than solve them.

The community needs to be excited and willing to share, but also needs to agree to and understand the limits. The concept of the "Limits of Acceptable Change" are discussed most often in relation to natural assets such as National Parks. There are many other assets that the community values which need to be protected. With good planning, tourism can not only protect but enhance these assets by raising awareness of their value.

If locals identify what elements of their community are important and why—locals learn more about themselves. Tourists will value what locals value if planning encourages them to do so. The creation of appropriate tourist information, transport systems, signage, and hospitality can reinforce those values. Building cultural training into human resource development for the industry can assist to create informed and enthused hosts.

How do small business operators 'capture' those essences and involve a sense of place and community in their product? We believe Tourism Partnering is the answer. The concept of partnerships across small businesses, (local, state and federal) government and community allows the creation of supportive networks. They enable "no risk venture" or "win/win enterprise" to develop. The basis is that all partners value sharing rather than the conventional parochial competitive approach to doing business. Part of the process of forming partnerships needs to involve 'cultural mapping' of the regions assets, values and identity. Local government, tourism organizations and small business all need to participate together with community groups. Consultation is not enough.

Partnerships can form around geographic location—precincts—themes—activities. They can link the obvious such as local government with community, or one operator with another. It is necessary for tourism operators to link with community through partnering, if there is to be an authentic cultural element.

Partnerships can be exciting and link the unlikely to create new product, new ideas and opportunity and interest. Synergies are created. Large and small business can benefit equally. Non-tourist operations and the general public will benefit.

Successful Tourism Partnering is where business and the resources of tourism develop harmonious and sustainable relationships.

Tourism Partnering takes advantage of existing tourism markets through aggregation of enterprises and tourism resources into non-competing units to form high yielding opportunities. The business opportunities in tourism partnering can be described in marketing parlance as "horizontally integrated."

This description compares with the high volume tourism market typified in much of Australia's international tourism. Much of the volume business tourism generated out of operations from Asia and North America can be best described as "vertically integrated." Vertical integration involves operations "owning" the customer for a large part of the tourism experience through company "owned" travel agents, accommodation, shopping experiences and transport arrangements. The organizations created to represent this sector of the industry are also vertical (and narrow) in their focus.

Table 1 illustrates this difference with mainstream most often representing vertical structures and soft involving horizontally integrated operations:

Table 1. (Bickerstaff, 1995)

Mainstream or "Hard" Tourism	"Soft" Tourism
<ul style="list-style-type: none"> <li>• large group size</li> <li>• office-based companies</li> <li>• high volume/low margin</li> <li>• appearance</li> <li>• features</li> <li>• consistent</li> <li>• isolated</li> <li>• industry-driven</li> <li>• based around purpose-built features</li> <li>• "been there, done that"</li> </ul>	<ul style="list-style-type: none"> <li>• small group size</li> <li>• home-based companies</li> <li>• low volume/high margin</li> <li>• substance</li> <li>• benefits</li> <li>• diverse</li> <li>• integrated</li> <li>• client-driven</li> <li>• based around existing features</li> <li>• "I understand"</li> </ul>

To be successful and sustainable as a small, non-integrated business in tourism, the enterprises can join forces with the resources which make up the tourism product:

- the community, its precincts, its arts, its businesses, its government;
- the environment, cultures and history—all of which have a shared ownership bestowed in the community and its participation in the tourism process; and
- the tourism businesses and the associated tourism support infrastructure involving local government, regional development organizations, transport infrastructure.

The benefits to individual tourism businesses arise from their capacity to compete and gain access to new tourism markets. This means the new business that is generated through Tourism Partnering is potentially higher yielding (more profitable) and more sustainable in terms of the community's ownership of the resources.

Tourism business can become horizontally integrated by alignment across a category, such as:

- Nature based operators working with artists, interpretative guides, transport and accommodation in their region.

- Regionally based galleries, museums, attractions linked with adventure tours.
- Theme-based product (heritage, nature, adventure, entertainment) links across regions and inter-regional markets.

Market segments which suit integration include: heritage, environment, entertainment, scenic, arts (visual, performing, craft-based, culinary), rural (or regional industry, i.e., military, maritime, education, forestry etc.).

Partnering allows for growth of tourism enterprises, broadening the market opportunities and minimizing the impact of small individual businesses competing in a market beyond their size and mass. The higher the local content, the more authentic, the more appealing and the greater the community becomes part of the product. This in turn facilitates greater ongoing participation in the tourism planning process, which must involve constant evaluation, monitoring and reconsideration.

Oelrichs (1994) explains:

The landscape (regional, setting or site) values are some of the most widely distributed, most accessible, most abundant, most productive, most cost effective and most efficient to access, most conservable, most protectable, most sustainable, most community friendly ways of establishing and guaranteeing a "unique selling position." Then, is it not the most sensible way to go, to draw the theme and purpose of a tourism activity from the landscape (ecology overlaid with culture) to use as the foundation for ones tourism venture, town, regional, or even a national tourism plan

The elements of successful Tourism Partnerships is:

- collaboration
- community participation
- developing high yielding sustainable business through non-competitive partnerships utilizing horizontal tourism segments which exist in your region
- all partners are equal
- developing a genuine sharing attitude in a "win/win" or "no-risk enterprise"
- a management plan with clear structures for involvement and clear objectives
- identify all stake holders with an interest and make involvement non-threatening and enjoyable
- embrace the communities and the resources which sustain your tourism business
- identifying the 'assets' and 'values' of the community through a process of 'cultural mapping' and determine limits of acceptable change to these assets
- creating a unique and interesting tourism product/precinct

## Manly Ecotourism Partners Case Study

In this case study we seek to illustrate an evolving partnership of environment, community and tourism.

The Manly peninsula is situated approximately 12 kilometers east from the center of Sydney. It has unique assets for a cityscape. Surrounded by ocean and estuarine waters, it is endowed with national parks and has a strong community interest in promotion and protection of its natural assets. The area is a major tourist destination, at 8.5 million visitors per annum (Manly Visitors Information Bureau). Manly already offers a variety of environmental experiences for tourists, including scuba diving and bushwalking throughout its national parks and reserves.

Led by the Manly Environment Centre, the area has developed a strong community environmental culture. The Centre is a focal point for local conservation and community groups. It has extensive contact with voluntary conservation groups working to preserve and enhance the natural environment. Education is a strong focus of these groups. They have extensive local knowledge and experience of their local environment which they enjoy sharing with residents and visitors alike. In this situation a unique opportunity exists for a city area, to integrate community, ecological attributes and tourism.

It has been proposed to investigate the opportunity to link these co-developing interests with the following potential benefits:

- for the community, a greater understanding of the value of Manly's ecological attributes by others, enhancing support for their activities;
- for the tourist, providing contact opportunities with the local environmental culture and community—a true basis for endemic tourism;
- for the business community, enhancement of the attraction base for "long stay" and "returning" tourists; and
- for the environment, an opportunity to control access and increase protection of sensitive ecological areas by only allowing guided tours in small groups and involving tourists in the environmental restoration/protection process.

The project, to take place over the next 12 months, proposes to identify local ecological assets such as rock platforms, distinct bushland, native fauna habitats and restoration projects, suitable for the production of packages for education of interested ecotourists. These packages when produced would identify the local community groups associated with restoration and regeneration of native flora and fauna (such as WIRS) and would show how these groups are protecting the environment. The project would also identify tourist interests and needs with the help of

local tour operators. These packages would be designed for marketing of the product as well as providing education concerning the survival of native habitats and their species within a city landscape. The project will then produce a pilot package involving the appropriate community group.

### What are the Objectives of the Project?

- To promote value of the natural environment by linking the environmental attributes of a region and the community associated with their protection to economic activity associated with tourism.
- To use this process as a model for other regions which are currently urbanizing. The objective being to demonstrate that preservation of the local natural environment is compatible with economic activity in the form of ecotourism.

The development of a package would bring together tourists with an interest in nature based tourism and a voluntary conservation group dedicated to education and preservation. It is hoped that this will be a model project for communities across Australia.

The package would include tours, of local bushland, for small groups of tourists. This would include a local guide and the opportunity to meet a wildlife or bushland carer who would personally expand upon the role of their local group. Opportunities for the tourist to become involved in wildlife or bushland care will be identified.

An information package for the tourist to take home which would not only enrich their personal experience but which they could share with their relatives and friends.

## Manly Ecotourism Partners Preliminary Study

However, in order to initiate this program the question arises, "what is the situation now?" To answer this, a preliminary review was undertaken by the University of Western Sydney-Hawkesbury, and the Manly Environment Centre. The objectives of this review, were to determine the numbers environmental assets in the Manly region, the numbers of active community groups with the potential and interest to be involved in tourism and to identify the types of business interests associated with tourism in the area. These objectives were address by investigation of tourism research literature, Manly regional literature and by attending meetings with community and tourism interests and local government.

The review revealed that: Manly has numerous environmental assets; the major ones include the following:

- 25 km of harbour and ocean frontage,
- 19 beaches,
- 49 bush reserves,
- North Head, sandstone cliffs, coastal heath vegetation (National Park), and
- Harbourside Walk, sandstone cliffs, coastal heath vegetation (National Park).

Manly also has numerous environmentally-minded community groups. The current active groups include:

- Bushland Volunteer Network
- Cabbage Tree Bay Consultative Group
- Wildlife Information and Rescue Service (WIRS)
- Association for Growing Native Plants
- Project AWARE Workshop Participants (rock platform awareness)
- Anglers Action Group
- Manly Community Streamwatch Team (Water Quality Monitoring of Manly Lagoon)
- 12 Precinct Groups (Community Representatives)
- Save Manly Dam catchment (Resident Group)
- Manly Lagoon Residents Committee
- Manly Waste Action Group
- Bird watching groups

As would be expected, tourism at Manly involves a large number of small businesses from tour operators to retail outlets and accommodation providers. It has been estimated that tourism generated employment at Manly is approximately 2000 jobs (Larcombe & Associates, 1993).

### Interaction Between Environment, Community, and Business

It was identified that there has been significant tourism interest in Manly's natural assets—it's beaches, national park and reefs (although the interest at this time is generally short term and of a mass tourism nature). This activity has quite extensive involvement of small business. Quite separately, there is strong community interest in the restoration and protection of the region's same natural assets.

Needs of both tourism and the environmental community have emerged from this preliminary investigation. These include:

- for tourism, ways of extending stays of visitors to the area, and
- for the environmental community include support in valuing the environment and help to undertake remedial and protective works.

The objective of the proposed pilot study is to achieve this interaction.

On the basis of this initial investigation, UWS-H in conjunction with the Manly Environment Centre and the Manly Tourist Association will conduct the 12-month program, as outlined above, to link the tourism community and the environmental community together to promote ecologically sustainable development and provide a pilot for the rest of Sydney and other urban centres. The program supported by UWS-H Sustainable Futures Program will be reported at the Tourism Research Conference to be held in Manly in 1997.

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# SURFING THE VIRTUAL COAST: CMT COMMUNICATION AND COLLABORATION TOWARD THE 21ST CENTURY

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**Abstract:** *By the year 2010, the coastal population of the United States is expected to dramatically increase in size, swelling by nearly 27% above 1980 levels as more than 151 million additional people move into coastal counties.*

*The recreational activities of new residents, throngs of tourists and increasing numbers of enterprises serving them are increasing the pressures on fragile coastal resources. While stricter enforcement of regulations can reduce some of the anticipated environmental degradation, expanded information and education are critical to advancing appropriate human behaviors.*

*The challenge is how best to deliver that information in a manner that encourages people to take personal responsibility for decreasing their own impact on the environment. This enormous educational task is made difficult by sweeping reductions in public funding for traditional outreach activities such as workshops, classes and publications.*

*New electronic tools are being employed to address the challenge of coastal and marine tourism (CMT) education. The imaginative use of emerging information technology is a strategic response for addressing the growing demand for educational outreach with a shrinking set of human and financial resources.*

*Our paper presents three examples of techniques being used to boost CMT communication and collaboration. These include: 1) applying Low Power AM Radio technology to CMT education, 2) distributing CMT educational resources via the Internet and World Wide Web, 3) forming a "virtual CMT community." Session participants will gain an understanding of the strengths and pitfalls of each strategy presented.*

**Keywords:** *distance education, low power radio, Internet/WWW, networked computing*

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## Introduction

By the year 2010, the coastal population of the United States is expected to dramatically increase in size. The nation's coastal population is expected to swell by nearly

27% from 1980 levels, with more than 151 million additional people moving into coastal counties (Culliton, 1993; Edwards, 1989). The recreational activities of new residents, throngs of tourists and increasing numbers of enterprises serving them are increasing the pressures on fragile coastal resources. While increased enforcement of regulations can help reduce human degradation of the environment, expanded information and education are critical to advancing appropriate human behaviors.

The challenge is how best to deliver that information in a manner that encourages people to take personal responsibility for decreasing their own impact on the environment. This enormous educational task is made difficult by sweeping reductions in public funding for traditional outreach activities such as workshops, classes and publications directed at coastal residents, tourists and recreation enterprises.

Communication systems can serve as an information bridge, expanding the awareness of visitors and residents alike by alerting them to recreation opportunities, encouraging appropriate behavior and enhancing resource appreciation and stewardship.

New electronic tools are being employed to address the coastal and marine tourism (CMT) educational challenge at hand. The imaginative use of emerging information technology is a strategic response for addressing the growing demand for educational outreach with a shrinking set of human and financial resources. This paper shares insights on how cities, parks, businesses and governmental agencies can use emerging information technology to communicate with visitors and/or related CMT enterprises.

## Distance Learning via Low Power Radio

We are witnessing a rapid expansion of distance learning through the creative use of digitized electronic technology. Application of distance learning technology to tourism is characterized by the deliberate use of educational media by visitors to enhance the quality of their leisure time (Verduin and Clark, 1991). One communication medium rapidly emerging as a tourism information tool is Low Power AM Radio (LPR).

LPR made its debut in the late 1970s as a traveler information source on traffic, highway and weather conditions. During the following decade, the U.S. National Parks Service deployed Low Power Radio to provide visitor information on park attractions, safety tips and camping sites. These successful applications encouraged other organizations to consider LPR as a visitor information tool.

By definition, LPR is a low-wattage radio station which broadcasts information on AM frequencies. Low power AM transmitters fall into two categories: systems operating with 100 milliwatt (mw) power output or less, and those systems which operate with more than 100 milliwatt power but less than ten watts. Both types hold potential for providing coastal travel information along with targeted informal education (McFadden and Shoaf, 1979).

Regardless of the signal strength, LPRs function with four system components:

1. an audio recorder to record and repetitively play back voice messages;
2. a vertical antenna;
3. an AM transmitter to broadcast that message; and
4. signs alerting travelers to tune in to an AM radio frequency so they can receive the broadcast over their vehicle radios.

During Low Power Radio's advent, audio messages were recorded on a tape. The inherent problem of tape wear caused performance difficulties and required frequent maintenance. With the use of digital technology, recorders are now more dependable; messages can be recorded or altered via telephone, and the technology allows for the storage and variable sequencing of up to 32 broadcast messages.

The least powerful TIS radio station typically broadcasts with 0.1 watts of power, covering an area of about .5 miles. Such a station's limited broadcast range is offset by increased flexibility in use. No licensing is required under U.S. Federal Communications Commission (FCC) Rules--Part 15. The AM frequency may be chosen from unused channels available in local areas. Almost any message contents may be broadcast, including commercials.

The most powerful TIS radio station typically broadcasts with ten watts of power, covering about 2.5 miles of relatively flat terrain. In some areas, broadcast information may be heard for up to 20 miles. For this reason, ten-watt AM radio stations must be licensed by or in association with a governmental unit if operating in the United States. Frequencies 530 kHz and 1610 kHz are currently available for ten watt AM travelers' information broadcasting in the U.S. Recently, 1620 kHz became available for the purpose under the FCC's expansion of the AM radio band to 1700 kHz.

### CMT Applications of Low Power Radio

During peak tourism seasons, many coastal highways are clogged by sightseers' vehicles. When interpretive signs are placed in small turnout areas, they can cause traffic congestion or accidents. As compared to road signs, radio can be a more appropriate informal learning medium and

dispersion strategy for travelers. Not only that, but the medium can be accessed from water as well as on land.

The use of a ten watt LPR can revolutionize coastal interpretation along linear coastal highways or within waterfront communities. Natural or cultural resources "distance learning" can take the form of a guided tour of expansive coastal areas. With a broadcast diameter of about 5 miles, this option can also provide a broadcast message to fast moving vehicles. Here again, general tourist information provided by LPR can be augmented with educational messages encouraging appropriate care and use of coastal resources.

Chambers of Commerce in Oregon are using ten watt LPR units to provide general tourist information augmented with educational messages encouraging appropriate care and use of natural resources. In rural Oregon, the Oregon State University Extension Forestry unit has created a network of four LPR stations to provide educational information concerning forest resources. Sea Grant specialists in Florida and New York State have initiated LPR stations in the Florida Keys and Hudson River valley to share research and other information.

Enterprises such as marinas and boat launch ramps can use LPR to share information with recreational boaters on available services, safety information and tips for protecting water quality. At the mouth of the Columbia River, for instance, a ten watt LPR station is transmitting boating safety information which includes scheduled cargo ship movements and retransmission of NOAA weather radio broadcasts. Broadcasts also include angling and fisheries management information of interest to recreational fishers.

The future of LPR as a nature-based tourism education tool is also promising. For instance, a .5 mile LPR station could be used to provide on-site interpretive information at the scene of a marine resource disaster event such as a vessel grounding, oil spill, massive shoreline erosion or exotic species intrusion. Beyond explaining to visitors the immediate significance of what is taking place, the LPR broadcast can also encourage personal actions to reduce the recurrence of such events in the future.

Coastal resorts and parks can use .5 mile LPR transmitters to broadcast interpretive information about nearby tidepools, wildlife viewing areas or ecosystem restoration sites. In Reedsport, Oregon, this type of LPR application is being used at an elk viewing area. Visitors to this coastal site park their vehicles in a designated area and tune into an LPR station for a narrated field trip of the local habitat and behavior of these beautiful animals. This LPR broadcast also encourages use of appropriate stewardship practices to maintain the ecosystem being observed.



In considering the use of Low Power Radio for outreach communications, key questions include:

- Who is the target audience and where/when are they expected to receive the LPR broadcast?
- What are the communication objectives for this LPR application?
- Which power level of LPR transmitter is appropriate for this application?
- Who will be responsible for planning, equipment purchase and installation of the LPR unit?
- Who will be responsible for changing the message contents and quality of broadcast?
- How will the LPR's effectiveness be evaluated?
- Will this LPR be a "stand alone" unit or part of a network of other transmitters located in a region?
- How will potential listeners be alerted to the broadcast?

As with all communications, successful use of Low Power Radio is made possible through good planning and implementation activities.

### Sea Grant Spins the Web

By now, thanks to the popular press, most people are at least passingly familiar with the phenomenon of the World Wide Web. Developed by a young British programmer less than a decade ago (Berners-Lee, 1996), the Web—with its intuitive, point-and-click navigation, its ability to display pictures and sound as well as text, and the relative ease of setting up a Web server—has driven the recent explosion in public interest in, and use of, the Internet.

Research indicates that somewhere between 20 to 30 million people around the world already use the Internet on a regular basis. This consumer interest is fueling the construction of World Wide Web pages, the Web's graphical interface with information seekers. The Web is presently stocked with more than 22 million pages of content, with an estimated one million new pages being added each month. These statistics suggest this communication tool is not a passing fad but perhaps the most profound new communication technology since the invention of the printing press almost 600 years ago (Wiener, 1996).

When the Web boom began in late 1994, Oregon Sea Grant had already spent nearly five years experimenting with new means of providing information to its client base and its own remote staff via other relatively new on-line tools (DeYoung and Foley, 1991). A limited number of Sea Grant documents had been made available through an e-mail server known as Almanac, and a graduate intern with computer skills had been hired to help develop e-mail networking capabilities among Oregon Sea Grant staff and

members of the state's Ocean Policy Advisory Committee (OPAC).

In addition, Sea Grant had purchased a Sun SPARC Station 20 computer with a 5.2 GB hard drive and 96 MB of random access memory—a computer designed specifically for use as an electronic information server. The intent was to devote at least part of the machine's substantial capacity to establishing a Sea Grant presence on gopher, a text-based information search-and-retrieval system used primarily by universities (and now largely being supplanted by the more versatile World Wide Web).

With the hardware in place, a part-time computer expert on board and a vacancy on the program's communications staff, Oregon Sea Grant found itself uniquely positioned in early 1995 to take advantage of the rapidly expanding phenomenon of the World Wide Web. Internal discussion focused not so much on whether Sea Grant should become a presence on the Web, but on how to do it.

Discussions focused on questions not unlike those raised in other organizations considering their own first forays into Internet publishing: Who is the audience for Sea Grant Web content? How is that audience likely to change or grow as a result of the new medium? How does the potential Web audience compare with Sea Grant's "traditional" audiences—the research community, coastal residents and business, educators and their students? What information belongs on the Web? How do we address issues of copyright, document security, design and staff privacy? How do we track who actually uses our site, versus who we expect to use it? How do we design on-line documents so that they are useful, attractive and still available to low-end users? How do we make sure our own staff, some of whom are located in small coastal towns with only minimal Internet access, can contribute to and benefit from the information on our Web site? Because Oregon Sea Grant is part of a national network of Sea Grant College Programs, how would our site fit with that larger network and its emerging World Wide Web plans?

Sea Grant's graduate student computer expert and a newly hired communications staffer spent the spring of 1995 learning the fundamentals of Web site development and management, and drafting prototype Web pages for review by the Oregon Sea Grant administration and program staff. The Oregon Sea Grant Web site made its "official" debut in early July, 1995.

### Applications of the Web

Nearly a year later, even some early in-house skeptics find themselves using the Sea Grant site regularly as a reference for program-related material. Some have begun to request their own Web sub-pages for specific purposes, from

publicizing academic conferences to promoting networking among constituent groups. Most Oregon Sea Grant staff have Web access, and a few, according to server access statistics, log on to the Sea Grant site almost daily.

Sea Grant staff across the nation report finding the Web useful primarily as a reference tool. In Oregon, staffers use the Web to look up staff phone numbers, mail and e-mail addresses; to access program news releases dating back a year; to access current and back copies of *Restoration*, our watershed newsletter; to look up and order items from our publication catalog (while we do not yet offer interactive on-line order forms, we do have an order form they can print and send by e-mail or postal mail); to refer to currently funded research projects, and to link to other Sea Grant programs across the country, including a searchable, nationwide staff directory which is updated much more regularly than its paper counterpart (Jacobs, 1996).

Latest server statistics indicate that the Oregon Sea Grant server is receiving an average of 218 information requests a day—better than nine such requests per hour. Although the activity is low by comparison with the most popular commercial sites, the numbers are significant when compared with similar requests received by telephone or mail. Nine such phone calls in a single hour would be considered unusual; 218 letters in a single day asking for Sea Grant publications or program information would be phenomenal.

Are “traditional constituents” using the pages? That is difficult to quantify, since the statistical tracking program identifies visitors by the Internet address of the computer/server where their requests originate, and not by individual user ID; one machine may host many users. Anecdotally, we can confirm:

- Web pages concerning three separate conferences, two regional and one international, have brought on-line requests for conference registration materials.
- E-mail to the Sea Grant Webmaster brings several requests per week for additional information; those requests typically come from state and federal agency staffers, researchers interested in grant funding, teachers and students in coastal public schools, and members of various communities of interest, fishermen's associations, for instance, and watershed restoration councils.
- Most of our remaining e-mail contacts come from managers of similar or related Web sites who want to be added to our long “hot list” of on-line ocean and coastal resources. Many of them agree to list our pages in return.
- Oregon Sea Grant's publications coordinator reports increasing numbers of publication requests from people who say, “I saw this on the web.”

Because Oregon Sea Grant got “out of the gate” early, we were able to play an influential role in subsequent network-wide talks aimed at establishing a cohesive national Sea Grant Web presence. The authors of this paper both served on a task force that hammered out guidelines to make sure that program Web sites reflect the strength of that national network while still maintaining their state and regional identities (NSG Electronic Information Task Force, 1996). At this writing, 26 of 29 Sea Grant programs have active Web pages, as do National Sea Grant (Jacobs, 1996) and its media relations office (Sherman, 1996).

The next step is the development of regional or national “specialty” pages aimed at specific sectors of the traditional Sea Grant constituency. Oregon is again at the front of the pack with the development of a set of Web pages devoted to Coastal Recreation and Tourism. Although physically housed on the Oregon server, this web page will “belong” to the entire National Sea Grant network and incorporates contributions from Sea Grant programs across the country. It will serve as a central repository for coastal recreation and tourism information, as well as an information support tool for the Sea Grant MarinaNet Project.

### Virtual Communities: Collaboration Tool of the Future

For the past three decades the National Sea Grant College Program goal of enhancing appropriate use of ocean and coastal resources has been carried out by a network of universities throughout the United States. This applied research, outreach and education is cooperatively supported by the U.S. Department of Commerce (NOAA), states, universities, local government, and private sources.

With more than 375 marine outreach staff spread across 36 coastal states and territories, Sea Grant is challenged to find innovative ways to meet the information and educational needs of its staff, as well as its constituents. Too often the high cost of travel and long-distance telephone charges discourage professional collaboration among Sea Grant outreach staff based in far-flung locations. The decentralized nature of Sea Grant can also make it cumbersome to respond as a national network to CMT questions of coastal clientele.

Despite financial and geographic roadblocks, the need for Sea Grant staff to collaborate with each other and their clientele has never been higher. Exploding coastal populations are placing stress on limited, fragile natural resources. For community, business and agency leaders, information provided by marine outreach professionals is critical to sustaining economies and ecosystems.

To overcome vexing communication roadblocks, Sea Grant is using the Internet to foster collaboration both within the network and without (DeYoung, 1995). Until the invention of the Gutenberg printing press in the 15th century, information could take centuries to spread across the civilized world. Now networked computing is bringing ideas to people and encouraging collaboration in their use at light speed. Recognizing the strategic importance of the Internet as an "information appliance," Oregon Sea Grant is working with others to form networks of virtual coastal communities.

A virtual community may be defined as a group of individuals with similar interests brought into fellowship across space, time and culture through the use of telecommunication technology. The ease of communication within these virtual communities encourages collaboration among the members.

In its simplest form, a virtual community is an electronic mailgroup. Mailgroups are formed by entering the electronic mail addresses of subscribers into an information server, a computer equipped with software designed for this purpose. Mailgroup members can communicate with each other, as a group, by using a single common email address. The server sends the messages to all members of the group, without the sender having to individually address the note to each group member. This also insures some degree of message security within the defined community, which is growing in importance to enterprises and public agencies alike (Spar and Bussgang, 1996).

In the formation of virtual communities for outreach communications, key questions include: Who is the target audience and are its members equipped to participate in electronic mailgroups? How will mailgroup administration be handled in terms of adding/deleting subscribers? Should the group be open to the world at large, or to a defined set of member? What are the communication objectives for initiating such a virtual community? Will "rules of the road" be created and shared with subscribers? Who will be responsible for insuring computer hardware and software functions appropriately? What is the duration of this virtual community? How will the mailgroup be managed under conditions of too few or too many subscribers?

Oregon Sea Grant staff now use in-house mailgroups to communicate with their in-state colleges, saving time and money in the process. Additionally, Oregon Sea Grant hosts 26 electronic mail groups on various topical themes within the National Sea Grant network. Together, these mailgroups connect more than 486 subscribers, ranging from Sea Grant field staff, communicators and administrative leaders to such diverse marine clientele as port managers, teachers and harbormasters.

Our newest electronic mailgroup connects Sea Grant staff across the nation with marina operators, private consultants, scholars and regulatory agency staff. Sponsored by MarinaNet, a two year project linking Sea Grant resources with the marine trades industry, the mailgroup is just one of several tools for enhancing communication and the exchange of ideas. Several other Sea Grant programs have followed Oregon's lead and established mailgroups on their own information servers. A relatively complete listing of Sea Grant mailgroups can be found at: <http://seagrants.orst.edu/mgroups.html>.

## Conclusion

New residents, throngs of tourists, and the enterprises that serve them are all increasing the pressures on fragile coastal resources. While increased regulatory enforcement can reduce some of the environmental degradation that can be expected to result from these pressures, it will take information and education to change the human behaviors that threaten our coasts.

The challenge is how to deliver that information and education in a timely fashion that encourages people to take personal responsibility for decreasing their environmental impact. This enormous educational task is made difficult by sweeping reductions in public funding for outreach with coastal residents, tourists and recreation enterprises.

New electronic tools can help address the challenge of coastal and marine tourism education. The imaginative use of emerging information technology is a strategic response for addressing the growing demand for educational outreach with a shrinking set of human and financial resources. To meet the nation's coastal educational needs, Sea Grant professionals are collaborating with each other and clientele by using emerging digital technologies. This is integrating the Sea Grant system across state lines in a fashion never before dreamed possible. The result is high-quality marine outreach being delivered across the continent to a broad spectrum of coastal and marine audiences.

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# MANAGING CORAL REEFS FOR ECOTOURISM

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**Abstract:** *Among the largest and most economically developed reef systems are those in the warm coastal waters of Hawaii, Florida, and Australia. These regions have spawned lucrative industries in commercial fishing, ocean recreation, and coastal tourism. The vitality of these industries rely on healthy reef ecosystems, yet pollution, crowding and over use has caused severe degradation. This paper describes reef management strategies for achieving long term, sustainable, ecotourism use.*

**Keywords:** coral reef management, ecotourism, economics, sustainable use

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Coral reefs are biologically diverse, highly productive ecosystems providing the habitat for one-fourth of the world's marine species. Among the largest and most economically developed reef systems are in the warm coastal waters of Hawaii, Florida, and Australia. These regions have spawned lucrative industries in commercial fishing, ocean recreation, and coastal tourism. The vitality of these industries rely on healthy reef ecosystems, yet pollution, crowding and over use has caused severe degradation. Efforts to protect, conserve, and restore coral reefs have been underway for more than three decades, with mixed success.

Coral ecosystems are found in clean, warm, shallow marine waters close to land. Coral grows best in .035 ppm salinity at 20°C. Corals are easily stressed by turbidity which blocks sunlight and inhibits photosynthesis; warming which causes bleaching; nutrient loads which allow starfish, algae, sponges, and mollusks to multiply; toxins which reduce resistance to disease; and physical contact which erodes, breaks, and kills coral. Agricultural cultivation, timber harvest, and building construction along the coast erode top soils causing sedimentation. Soil sediments disrupt natural processes by blocking sunlight and smothering corals. Thermal pollution from power plant cooling and upstream fresh water diversions warms marine waters causing corals to lose their symbiotic algae, a process referred to as coral bleaching. Without the algae, corals can starve to death. Organic and inorganic nutrients loads arise primarily from fertilizer runoff, sewage spills, and septic leaks. Toxins enter the system from pesticide runoff, industrial waste dumping, urban storm drainage, and marine oil spills. Physical destruction occurs whenever divers touch, trample, and break coral, and when boaters drop anchors and fish traps directly onto live coral.

## Economics of Coral Reef Management

Coral reefs buffer the shore from coastal wave action protecting urban and agricultural development and stabilizing land based ecosystems such as mangroves and coastal forests. Healthy reefs support biodiversity by providing the shelter, habitat and breeding grounds for a wide range of animal and plant life including commercial fish species such as grouper, lobster and snapper. Tourists from around the world travel to destinations with accessible reefs sites for snorkeling, diving, and swimming and in return, provide income to the local economy in the form of expenditures for hotel accommodations, restaurants, tour packages, and park admission fees.

Reef management costs may include: expenditures for enforcing use restrictions; opportunity costs of excluded uses; educational outlays to teach reef appreciation and reef behavior, and to enlist public support for conservation measures; construction and maintenance of on-site facilities; and expenditures for off-site pollution control.

## Measuring Reef Quality

Indicators of coral reef quality are needed to help managers identify problem areas, target scarce resources, establish management goals, and provide a gauge for evaluating the progress of conservation activities. Some examples of reef quality indicators are:

- Coral abundance
- Coral species diversity
- Fish abundance
- Fish species diversity
- Presence of indicator species
- Water clarity

## Reef Management Activities

Regulating coral reef uses. Reef ecosystems that are stressed by over use (too many visitors) and uses that are counterproductive to conservation goals (e.g., coral harvesting) may respond well to use restrictions. Restrictions may limit: (1) the *type of uses* allowed on the reef, (2) the *number of users* on the reef at any one time, (3) the *locations* where acceptable activities are allowed, and (4) the *time* when public access is allowed on the reef.

## Development and management of on-site facilities.

Development of on-site facilities, at a reef park for example, can help reduce the stress on the reef ecosystem from heavy use while maintaining high use numbers. Some common on-site facilities are: (1) *Parking and walkways.* Paved parking lots and walkways to an onshore site make the reef ecosystem accessible to a wider range of visitors and can help reduce erosion from foot and automobile traffic. (2) *Public restrooms, trash receptacles, and showers.*

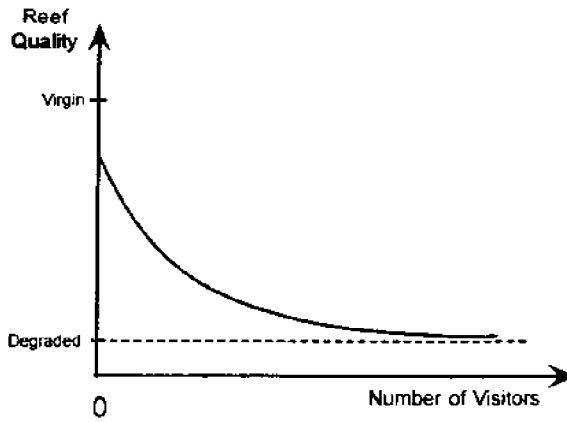


Figure 1. Sustainable combinations of reef quality and ecotourism use.

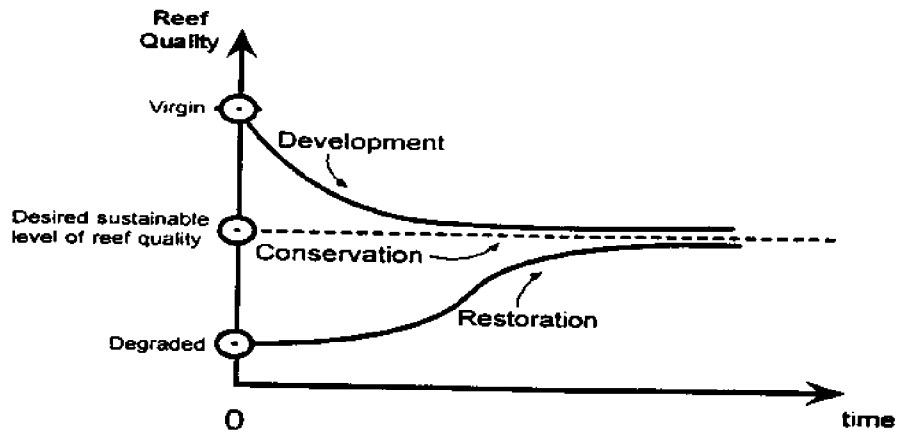


Figure 2. Alternate management paths towards desired reef quality level.

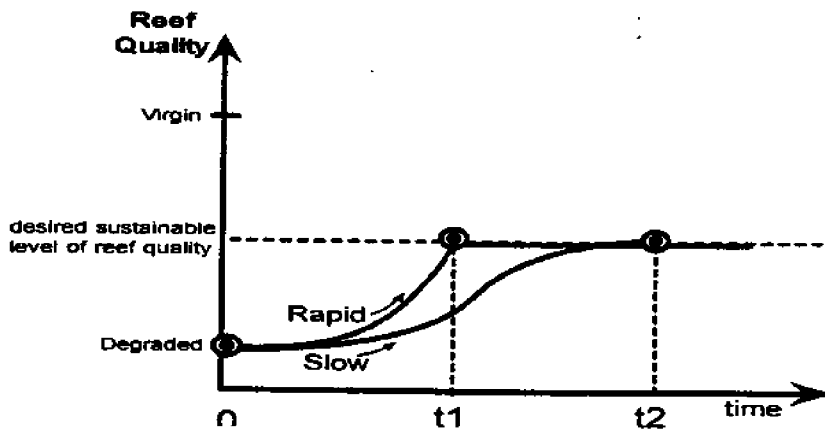


Figure 3. Reef recovery under alternate management scenarios.

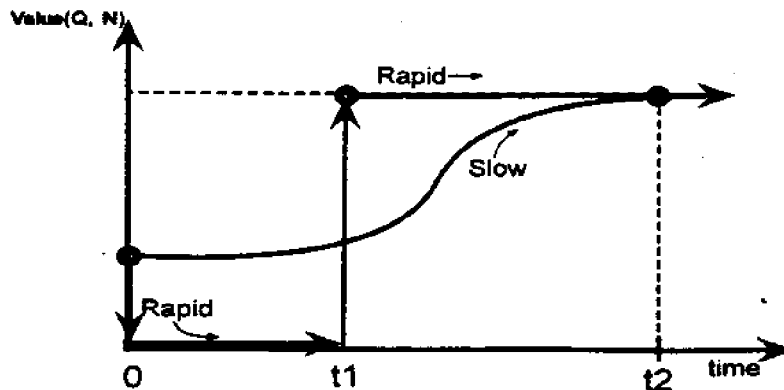


Figure 4. Economic use value of alternate management scenarios.

Restrooms and trash cans reduce on-site pollution, help maintain beach and water quality, and improve the overall experience of beach patrons. (3) *Mooring and marker buoys.* At offshore reef sites, improperly placed boat anchors break coral and stir up bottom sediments. Permanent mooring buoys provide boaters with a secure mooring at the site in lieu of anchors. Marker buoys indicate areas that are protected or restricted use.

Controlling off-site pollutants. Pollutants generated off-site such as soil sediments, nutrients, toxins, fresh water, and heat, are transported to the reef site in surface runoff, surface water systems, groundwater flows, and marine currents. Broader based policies beyond the scope of park management may be needed to reduce waste flows from the following sectors: (1) *agricultural* (cultivation, irrigation, fertilizer and chemical treatment), (2) *urban* (yard fertilizer and chemical use, motor oil disposal into storm drains, leaky septic systems), (3) *industrial* (cooling, waste production), and (4) *marine* (waste disposal, accidental oil spills, harbor activities, sea walls, sand replenishment).

### Sustainable Reef Ecotourism

Sustainable reef quality. Reef quality may be sustained perpetually at many different levels of quality. If visitors are the primary source of degradation to the reef, then the visitor numbers will determine the level of reef quality that can be sustained over time. Figure 1 illustrates how sustainable reef quality (on the vertical axis) decreases as visitor numbers increase.

Initial reef quality. The initial reef quality level and the desired sustainable reef quality level will determine whether the reef management goal is to develop, conserve, or restore the site over time. A virgin reef to be managed for conservation use will require a plan to carefully develop the reef. Development activities will degrade the reef over time until the desired sustainable level of quality is reached. If the initial quality of the reef is already at the desired level, then the management goal will be to conserve the reef, that is, maintain the reef in its current state. If the reef to be managed for ecotourism is in a degraded condition below the desired quality level, then the management goal will be to restore the reef. Conceptual trajectories for reef development, conservation, and restoration are shown in Figure 2.

Time in transition. Suppose the reef being managed is in need of restoration. The aggressiveness of the restoration plan will determine the rate of recovery, that is the amount of time it will take to reach the desired level of reef quality. Rapid restoration of the reef, for example, may require closing the site to all uses for several years or more. A slower restoration plan might allow limited use of the site until the desired level of quality was reached. Figure 3 depicts the divergence between these two recovery paths.

Note that the rapid restoration plan reaches the desired quality level sooner ( $t_1$ ) than the slow path ( $t_2$ ).

Economic comparison of alternate paths. If we allow that the economic use value of a coral reef site can be determined by two variables, the quality of the coral ecosystem ( $Q$ ) and the number of visitors to the site ( $N$ ), then under the rapid recovery path, the reef provides no use value while the site is closed to visitors (before time  $t_1$ ) and full use value when the site is re-opened for use (after time  $t_1$ ). With the slow recovery path, use value from the site increases gradually as the reef recovers over time. The economic use value of the rapid and slow recovery paths is shown in Figure 4.

If we assume the costs of managing the site under the two scenarios are the same, then we can compare the scenarios by computing the discounted present value of each path. In Equation (1) below,  $W$  is the present value,  $t$  is time in years,  $r$  is the social discount rate,  $V$  is the use value,  $Q$  is a measure of reef quality, and  $N$  is the number of visitors per year.

$$\text{Equation (1)} \quad W = \int_{t=0}^{t_2} e^{-rt} V(Q_t, N_t) dt$$

If  $W$ , the present value of the rapid approach path, is greater than the present value of the slow path, then it may make sense to close the site to the public for a few years until the coral has a chance to regenerate. Conversely if the present value of the slow path is greater than the present value of the rapid path, then maintaining the site for public use while the coral slowly regenerates would be preferable.

### Summary Points

Effective management of a coral reef ecosystem for ecotourism use requires:

1. Identification of existing and potential stresses,
2. Selection of appropriate indicators of reef quality,
3. Determination of desired sustainable quality and use levels, and
4. Development and section of management strategies for achieving sustainable goals.

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# AN EVALUATION OF COASTAL TOURISM ACTIVITIES IN THE ANTARCTIC PENINSULA REGION

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**Abstract:** *The Antarctic Peninsula is the world's premier cruise destination and nearly all Antarctic tourist activities take place in the coastal zones of this ice-covered region. The paper outlines the mechanics of Antarctic cruises and discusses the interactions between Antarctic tourists and the Antarctic environment. Approximately 9,000 tourists, the highest number ever, visited Antarctica during the 1995-96 summer season aboard a variety of vessels. The visitors land at some 70 coastal sites (Stonehouse, 1994), encounter a great variety of Antarctic wildlife and view some of the most spectacular cold climate scenery in the world.*

*As tourist numbers have increased, the tourist-wildlife encounter has come under increasing scrutiny. Drawing on the literature as well as on personal observations of Antarctic tourism, the author challenges the notion that Antarctic tourism in its present form is a major threat to Antarctic fauna and flora. Antarctic tourism is at present the most well-managed tourism in the world, but tourism operations could nevertheless be further improved if a more integrated approach to tourism management was taken.*

*The paper recommends that there should be better communication among Antarctic tour operators and among expedition leaders with regard to dates and times during which they plan to visit Antarctic wildlife sites. An improved coordination of itineraries would lead to avoidance of over-visitation of certain sites and thus to a reduction in the potential for negative environmental impacts. Because of the 'expedition' image of Antarctic cruises and the commercial interests of the various operators the proposed approach will not be easily achieved.*

**Keywords:** *Antarctica, tourism, environmental impacts, tour operators*

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## Introduction

Antarctica is a continent the size of the United States and Mexico combined and has been variously described as the highest, driest, coldest and windiest of the continents. It is the world's last great wilderness where many areas have never been visited by humans while others have only rarely been set foot upon. Antarctica is also the last tourism frontier and as such, is in a class of its own. Remote, far removed from the population centers of the world, with no indigenous population, and with no scheduled transport to gain access, it can appear as distant as the moon. But unlike the moon, as yet out of reach of the pleasure seeking tourist, the coastal regions of Antarctica in particular the

Antarctic Peninsula region, are accessible to paying passengers. Tourists are drawn to this last frontier for a variety of reasons including the scenic grandeur, the wildlife and historic events such as the explorations of Amundsen, Shackleton and Scott. The images created by the history of Antarctica are strong and vivid—they speak of heroic deeds, of sufferings, of glory and defeat and as such they are very human, spanning the spectrum of human endeavor and experience.

## Background to Antarctica

### Users and Visitors

Antarctic resources have been exploited since shortly after Captain James Cook discovered South Georgia during his third voyage in 1775. His reports of the abundance of whales and seals drew whalers and sealers to the region which severely decimated existing stocks and drove species such as the blue whale to near extinction. Today commercial fishing carried out in the Southern Ocean provides the fish markets of the world with an abundance of fish, squid and krill. Furthermore, Antarctic icebergs have in the past been used to provide fresh water to the crews of exploring vessels. It also looked as though Antarctica may be subject to mineral exploitation and during the 1980's, the Antarctic Treaty Parties were negotiating for a Convention on the Regulation of Antarctic Mineral Resource Activities. This convention was never ratified and instead, in 1991, the Treaty Parties negotiated the Protocol on Environmental Protection to the Antarctic Treaty, more commonly known as the *Madrid Protocol*. Under the Madrid Protocol all human activities in Antarctica are subject to scrutiny via an environmental assessment program and all mining or mineral resource activities are banned indefinitely.

From the early days of human involvement in Antarctica, the biggest 'user' of Antarctic resources has been science. Since the International Geophysical Year in 1957-58, thousands of scientists have spent time unlocking the secrets of Antarctica for the benefit of humankind. Some of these developments include significant improvements in weather forecasting, the detection of the 'hole in the ozone layer' and developments relating to global warming. Antarctic scientists and their support staff occupy some 40 permanent, year-round bases in Antarctica. Headland (1994:279) estimated that their occupants account for 99.48% of all human impact on the continent. The other 0.52% are attributable to Antarctic tourists who visit mainly the coastal areas of the continent and its off-shore islands.

## Cruise Tourism in Antarctica

### Structure of the Industry

The Antarctic Peninsula is the world's most remote and arguably most exotic cruise destination. Cruising is practiced world-wide in places such as the Caribbean Islands, the Mediterranean and the South Pacific, with millions of passengers annually taking part in this activity. Antarctic cruising began on a regular basis in 1966 and it has been the most dominant form of tourism ever since. During the 1995–96 season a record number of some 9,000 (International Association of Antarctic Tour Operators estimate) passengers reached the Antarctic by ship. Antarctic cruise tourism is controlled by a relatively small number of major players. Antarctic tour operators have joined forces and in 1991, established the International Association of Antarctic Tour Operators (IAATO) as 'a means of pooling resources and promoting thoughtful legislation that is compatible with the responsible tourism that operators have exhibited in their history' (Spletstoesser and Folks, 1994:235). The major operators are *Marine Expeditions* (Canada), *Quark Expeditions* (USA) and *Hanseatic Tours* (Germany). These three companies basically control ship-borne Antarctic tourism by virtue of their access to ice-strengthened vessels suitable for Antarctic conditions. With the exception of *Hanseatic Tours* which runs the up-market vessels *Bremen* and *Hanseatic*, most vessels operating regularly in Antarctica are of Russian or Estonian registry. This poses some interesting legal problems should one of these vessels get into difficulty or cause a marine emergency. Several Russian vessels for example, are owned by the *Murmansk Shipping Company*, chartered by a company based on the Isle of Man, and marketed through companies like *Quark Expeditions* who act as General Sales Agent and which, in turn, sub-lease these vessels to companies such as *Mountain Travel Sobek*, *Zegrahm Expeditions*, *Adventure Associates* or *GMMS/World Expeditions*.

The establishment of an industry driven tourism association with the main aim of preserving the resource on which the industry is based is fairly unique. It shows that the operators are serious about protecting their 'golden egg' resulting in a win-win-win situation. The visitor surveys conducted by this author indicate that tourists are highly satisfied with their Antarctic tourism experiences. At the same time, tour operators have a profitable business and the Antarctic environment is afforded protection. The underlying assumption used in this case study is that the current tour operators have acquired superior Antarctic operations experience, are prepared to subject themselves to their own code of conduct, as well as to follow the various recommendations and requirements under the Antarctic Treaty System. Several companies including *Adventure Network International*, *Quark Expeditions* and *Marine Expeditions*, have already carried out independent

environmental impact assessments of their Antarctic operations. This will be standard procedure once the Madrid Protocol has been ratified.

### The Mechanics of Antarctic Cruising

Cruise vessels can only reach Antarctica during the brief southern summer months of November to March. For departures to the Antarctic Peninsula, where over 95% of all tourism takes place, vessels leave mainly from the ports of Ushuaia (Argentina), Punta Arenas (Chile) and Port Stanley in the Falkland Islands. A limited number of departures to the Ross Sea and the Australian Antarctic Territory are also available from Hobart, Christchurch and Bluff. Cruises from South American ports are usually of ten-day duration with some lasting as long as 18 days. During a typical ten-day cruise, from Ushuaia to the Peninsula and back, passengers will only spend five days cruising the Peninsula region. The rest of the time is spent crossing and re-crossing Drake Passage, one of the roughest stretches of water in the world. Once the Peninsula has been reached, passengers undertake several landings a day using Zodiacs (inflatable craft). In contrast to other cruise destinations the Antarctic Peninsula region does not feature any tourism specific infrastructure. There are no jetties, wharves or piers that would facilitate landings. As a result, there are many so called 'wet' landings during which passengers are required to jump into several inches of icy water and wade ashore. Shore facilities such as boardwalks or marked paths do not exist. Shopping, one of the most popular past-times of cruise passengers in other cruise destinations, is limited to stamps, stickers, pins, T-shirts and sweat shirts at some of the scientific stations. The United States *Palmer Station* on Anvers Island has the best selection of souvenirs on which this author observed passengers spending hundreds of dollars.

While shore visits on cruises in other parts of the world often last for half a day or more, Antarctic shore visits last for only a few hours at a time. The duration of time spent ashore is directly proportional to the number of passengers, with passengers aboard ships such as the 400+ passenger *Marro Polo* spending the least time. Apart from a few inhabitants at scientific stations, tourists encounter no local population. Thus, the scenery and the wildlife at the shore sites visited provide the exclusive purpose for making landings. There are no pubs where tourists could down a few glasses of red to make up for a less than satisfactory shore experience. What they see is what they get and by all accounts they are happy with it.

### Tourism Management in Antarctica

Tourism management in Antarctica differs from the management of tourism in all other locations for one major

reason: Antarctica is not in the domain of a single country, individual or corporation. Despite the existence of claims by seven countries (Australia, Argentina, Chile, France, Great Britain, New Zealand, Norway) to slices of varying size of the continent, there is no universal acceptance of these claims to ownership. Two of the most active participants in Antarctic exploration—Russia and the United States—neither lay claim nor do they accept claims. Antarctic affairs are controlled by the countries who are signatories to the Antarctic Treaty of 1959. The Antarctic Treaty System now encompasses recommendations regarding the protection of Antarctic wildlife including the Convention on the Conservation of Antarctic Marine Living Resources, the Antarctic Seal Convention and the Madrid Protocol. Tourism specific recommendations have also been passed, in particular, Recommendation XVIII-1 which was adopted in Kyoto in 1994. In addition, tourists from any of the signatory countries are also subject to their countries' Antarctic legislation. The difficulty faced by the Treaty Parties in managing tourism is thus not so much the absence of rules/guidelines/recommendations, but the question of how these guidelines can be enforced in a region as remote as Antarctica.

Members of IAATO are also aiming to strengthen their commitment to Antarctic preservation and have developed common sense visitor guidelines, which as long as they are complied with (and all indications including this author's observation of tourist conduct show that they are), will ensure the sustainable use of the Antarctic resource base for coastal, ship-based tourism. Essentially, these guidelines are those that would apply in any national park or protected area in the world and include: minimum distances from wildlife, no smoking and littering ashore, no souveniring and no interference with science activities.

### Carrying Capacity Issues

The issue of carrying capacity of tourist resources is one that is raised in many destinations, particularly, if they are natural attractions. Mathieson and Wall (1982:21) define it as: 'the maximum number of people who can use a site without an unacceptable alteration in the physical environment and without an unacceptable decline in the quality of the experience gained by visitors.' Psychological carrying capacity can be seen as the number of people who may be present at a site before the visitor perceives it to be crowded. Clearly this depends very much on the country of origin of the visitor and the respective population density. In the Antarctic context where small groups of 100 people maximum are allowed at any one site at any one time, the notion of psychological carrying capacity applies more to the fact that tourists show negative reactions when they spot another cruise ship in the area. This, to them, is an invasion of their private sphere of exclusivity—after all they have spent between \$5,000 and \$10,000 for the privilege of seeing Antarctica. At that price, they are not

willing to share their experience with other tourists. The physical carrying capacity of landing sites in Antarctica is usually not a problem provided groups are kept to their current size.

### The Tourist-Wildlife Encounter

Practically all animals encountered by Antarctic tourists are marine animals (penguins, seals and flying sea birds). Thus, they only come ashore to court, mate, breed and raise their young. No fully conclusive study as to the susceptibility to disturbance of the various kinds of wildlife has been carried out but there are at least two studies that can provide an indication. With regard to the alleged decline in penguin numbers attributed to the presence of tourists Fraser, an Antarctic scientist with a long record of Antarctic research states:

...it is known that penguin populations on the Antarctic Peninsula have been in a state of flux, increasing or decreasing, since at least 1945, and that these changes have been species specific; that is, some species, such as Adelie Penguins, have been decreasing while others, such as Chinstrap Penguins have been increasing. This is the natural pattern of variation....According to our long-term data, however, the environmentalist claims cannot be supported, in that changes in the populations of the area's penguins have exactly matched those evident for the Peninsula as a whole....In short, there is simply no evidence to support a direct causal link between tourist visits and population changes in penguins (undated:2).

Nimon, Schroter and Stonehouse add to this observation that well-controlled tourists pose only marginal threats to local penguin populations. After studying visitor-Gentoo penguin interaction on Cuverville Island they found:

We conclude that the reactions of nesting penguins to visiting humans depend on the visitors' behavior, and the presence of a well-behaved visitor changes, only momentarily if at all, the awareness of a penguin with no prior, adverse experience of humans. Thus, efforts by tour operators, Antarctic Treaty authorities and others to encourage non-disruptive behavior in visitors are not misplaced' (1995:415).

Penguins do not seem to be at risk from tourists but with regard to petrels, in particular the wandering albatross, the situation is different. Because of the relatively small populations of these birds stricter guidelines as to the *how* and *when* these birds can be visited should be developed and implemented if disturbance is to be kept to a minimum.

## Impacts of Antarctic Cruises

A number of negative impacts have been attributed to visiting Antarctic tourist. As Hall (1992:5) points out: 'undoubtedly, the most serious concerns surrounding tourism in Antarctica are focused on the potential impacts of tourism on the fragile Antarctic environment.' In line with most other authors he identifies the environmental impacts of ship-based tourism as: 'Transient environmental effects, although pressure may be placed on regularly visited attractions; oil spills; disturbance to wildlife; potential introduction of bird and plant diseases; and the introduction of exotic flora' (1992:6). In contrast to academic authors, writers in the popular press suffer from what the author has termed '*Antitouriphobia*' (Bauer, forthcoming 1996), the fear of the Antarctic tourist. Many of these writers exaggerate the problems associated with Antarctic tourism and in their haste to condemn Antarctic tourists, overlook some of the facts about Antarctica which include the size of the continent (14.2 million sq. km of which humans use only 0.0003%) and the profusion of most species of Antarctic wildlife. There are, for example, millions of King, chinstrap and Adelie penguins as well as several million seals in Antarctica. Only a very small proportion of these will ever come within sight of tourists. This abundance of wildlife indicates that unlike, in the Galapagos Islands for example, numbers of Antarctic wildlife are high (with the exception of a few species of petrels and terns on the sub-Antarctic Islands) and that there is little danger of extinction through tourist activities. Possibly because the public is in general not well informed about the region, Antarctica has developed a mystique which, at times, seems to make rational debate about the encounter between humans and wildlife impossible.

## Antarctic Tourism Observed

During two cruises to the Antarctic Peninsula region, the author observed tourism activities on a day to day basis. Usually two to three Zodiac landings per day were carried out and 18 different sites were visited in the process. Passengers spent between 2–3 hours ashore at each landing site. After landing passengers were advised of 'No-Go Zones' such as the Site of Special Scientific Interest (SSSI) near the Polish Arctowski Station and were given another reminder of the IAATO and ATCP guidelines for tourist behavior in Antarctica. This author did not observe any willful damage to the Antarctic environment. Most of the tourists stayed relatively close to the landing site where they were more or less in view of a lecturer/guide or the expedition leader. These observations are in line with observations made by Stonehouse that 'passengers ashore are almost invariably well behaved and that he has yet to see one drop litter, knowingly trample vegetation or interfere seriously with wildlife' (1994:202).

## Conclusions and Recommendations

In the opinion of this author, Antarctic tourism is at present the most well-managed tourism in the world but there is no room for complacency. Tourism operations could be further improved if a more co-operative and integrated approach to tourism management was taken. Better communication among Antarctic tour operators and among expedition leaders with regard to dates and times during which they plan to visit Antarctic wildlife sites is needed. This co-ordination is, at present, very much *ad-hoc*. It is left to the individual expedition leader to approach his colleague from another ship while in port or via radio to discuss his plans for the next voyage. Expedition leaders are not bound by any fixed itinerary as all published itineraries clearly state that they are subject to change without notice. Thus, published itineraries can only be seen as an indication of where the cruise might go with the expedition leader being in full control of the final destination decision. With 14 ships operating in the Antarctic Peninsula region during 1995–96, and more ships expected during the next few seasons, a lack of co-ordination among expedition leaders with regard to their daily destinations can be expected. This can lead to 'traffic jams' with ships anchoring off a potential landing site and resulting in higher than necessary numbers of people visiting the same site within a short period of time. An improved co-ordination of itineraries would avoid over-visitation of wildlife sites and thus, to a reduction in the potential for negative environmental impacts. It is interesting to note that an approval system for visiting scientific stations has existed for several years while no such system is in place for the, arguably, more sensitive wildlife sites. Because of the 'expedition' image of Antarctic cruises which demands a certain element of calculated flexibility as well as the commercial interests of the various operators, this closer co-operation will not be easily achieved. It must however be accomplished in order to sustain the resource on which Antarctic tourism is based. A more comprehensive model for an integrated approach to the management of Antarctic tourism would involve not only operators and expedition leaders but all players including Antarctic Treaty Parties, Managers of National Antarctic Programs (COMNAP), IAATO operators, expedition leaders, lecturers, crew members of cruise vessels and tourists. The key to a successful integrated approach to the management of Antarctic tourism is the establishment of structured and continuous lines of communication between these players. Only if such a system is in place will Antarctic tourism be managed in a long term sustainable fashion.

In summary, ship-borne tourism to the Antarctic Peninsula has to-date been an example of how tourism and nature can co-exist without unacceptable detrimental effects. As the number of Antarctic cruise passengers increases (some estimates are as high as 20,000 by the year 2000), the more

co-ordinated approach to the management of Antarctic tourism suggested above must be implemented.

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# THE IMPORTANT PLACE OF MARINAS IN NAUTICAL TOURISM AND THE CHALLENGES TO FINDING PLACES FOR THEM

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**Abstract:** *This paper gives an overview of marinas in the United States—their existing numbers, size, location, and economic significance; the necessary role of government in recreational boating facilities development; the marine manufacturing and tourist industries' vested interests in boat access to recreational waters; and regulatory and multiple waterway use conflict problems surrounding boating facilities development. Because of the CMT 1996 locale, the focus is on marinas in the Pacific States.*

*Recreational boating facilities developers today are embattled by environmental issues, scarcity of desirable waterfront property, and spirited, oftentimes acrimonious competition by other water users. The paper weighs the importance of marinas to national, state and local economies and the future of the boating industry and nautical tourism against considerations of environmental impact and safety. Long-term policy recommendations are made for meeting the challenges to recreational boating facilities development.*

*Special attention is given to increasing government recognition that marinas are an asset to their community, and the various ways governments have found to nurture, protect, and even partner in boating facilities development.*

*The author bases his observations on a life-long career in the recreational boating industry and the several hats he wears as the director of the boating facilities department of the national trade association for the recreational marine manufacturing industry, the secretariat to a state governments' organization for boating access, and the secretary to the boating facilities committee of an international council of marine industry associations.*

**Keywords:** *marinas, Pacific States, recreational boating*

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The object of this paper is to give the reader an overview of marinas<sup>1</sup> in the United States—their number, size, and economic importance to national, state and local economies in general, and to the nautical tourism industry in particular. The author's perspective is based upon a life-long career in the recreational marine manufacturing industry.<sup>2</sup>

Recreational boating is big business in the United States. The manufacturing of boats and associated equipment is a \$17.2 billion a year industry employing half a million full and part-time persons.<sup>3</sup>

The large and diversified American boating industry comes from the vast size and diversity of the nation's boatable water. The United States boasts 83,000 miles of coastal shoreline and more than 88 million acres of inland lakes and rivers. The great majority of these surface waters are in the public domain and are by right accessible to the public for all manner of water based recreation. More than half the nation's population lives within 50 miles of navigable waters. That close proximity is a large factor in the popularity of the ownership and use of boats for family-oriented recreation.

In 1995, recreational boat ownership in the United States was estimated to be 16,724,000 craft of all types. This estimate is based on records of manufacturers' annual unit sales of boats,<sup>4</sup> backed up by government boat registration figures.<sup>5</sup> Two-thirds of the recreational fleet, or more than 11 million boats, are registered by law with state and territorial governments. In addition, there are more than half a million larger, ocean-going pleasure yachts which are documented by the U.S. Coast Guard. In recent years, boat registrations have grown steadily at a rate of two to three percent per year nationally. The Pacific Coast States of California, Oregon, Washington, Alaska and Hawaii alone account for 11.38% of the total number of boats nationwide.<sup>6</sup> The national per capita average ownership of recreational boats is about one for every 22 to 23 persons. These figures represent boat ownership, not the number of people who actually participate in boating.

In 1995, an estimated 76,828,000 Americans participated in recreational boating one or more times during the year. This takes into account passengers or guests aboard a boat in addition to the owner/operator as well as renters of livery and charter boats. In other words, last year about one out of every four Americans went boating at some time.

With more than 76 million Americans making use of more than 16 million boats on our nation's waterways, and with excellent prospects that more people will be attracted to boat-based recreation as the economy improves, medical science increases average life spans, and there is more time and money for leisure time activity, the United States is faced with a growing supply and demand problem with boating facilities. This is of great concern to the marine manufacturing and tourism industries. The lack of convenient parking space for bigger boats that depend on marinas and the scarcity of convenient access to water for smaller trailerable boats that depend on launching ramps

can make a big difference in the perception of boating as a quality recreation experience. That perception of how convenient and safe it is to get out on the water can be decisive in whether one chooses to buy a boat and associated equipment. It can be critical to the tourism industry in terms of where one chooses to enjoy boat-based forms of recreation.

The marine manufacturing industry keeps close count of the number and location of wet slips, dryland storage space for boats, and small boat launching lanes throughout the nation.

Currently, NMMA is able to verify 7,900 marinas nationwide. The NMMA Marina Inventory provides the name, address and telephone number of every marina listed and the body of water on which it is located. Also, it shows how many berths there are for boats from one marina to another, or totally from state to state, region to region, and nationwide. This data is widely consulted by marine manufacturers, marina consultants, government recreation planning agencies, tourist bureaus and others who are interested in market size and location. It is extremely valuable information, very likely the most comprehensive of its kind. It makes the case that many locations do not have nearly enough parking space for resident and transient boats.

In all marinas known to us at this time, there are only 711,900 wet slips. Of these, nearly 23% are on the Pacific Coast; another nearly 60% are located on other coastal waters of the United States and the Great Lakes. The smallest percentage is scattered around the relatively smaller inland lakes and rivers.

Compounding the widespread shortage, there have been serious challenges to recreational boating facilities development in recent years by costly environmental restrictions, competition for rapidly diminishing desirable waterfront property, and resistance from waterside private residential property owners who do not want to share what they view as their water alone with outsiders. The boating industry is striving to meet these challenges by publishing the demonstrable beneficial economic benefits of a boating facility to a community, by proving that marinas are environmentally sensitive and responsible, and by rationally taking the position that boat traffic problems can be handled by zoning the use of the water by area or time of day for different activities or by more effective enforcement of existing boating safety laws, but never by limiting boat access to public water.<sup>7</sup>

There is a great deal to be said in favor of marinas as a magnet for economic development and the promotion of

nautical tourism. A marina provides jobs starting with the on-site labor needed to build the facility. The economic benefits continue in the ripple effect a marina has on the surrounding community through boaters' demand for goods and services such as restaurants, sporting good stores, boutiques, gasoline stations and hotels. It is good for tourism. In fact, increasingly marinas are being touted as destination point resorts for cruising yachtsmen. Further, marinas are a boon to the community by contributing to local taxes for the support of community services. Marinas beautify the neighborhood and enhance property values in a community where they are often built on the site of an abandoned factory or derelict wharf or pier.

Many cases can be cited where recreational boating facilities development has opened the door to the revival of decayed urban waterfronts. The City of Baltimore, Maryland's Inner Harbor Development Project is a perfect example. Where once there were unsightly slums and abandoned factories and warehouses bordering the Patapsco River, today there is a dynamic complex of aesthetically pleasing and economically successful marinas, restaurants, retail stores, hotels and museums that have made Baltimore a center of nautical tourism. The benefits are not limited to boaters. Inner Harbor draws millions of non-boaters every year for the enjoyment of its public promenades, affordable shopping and dining, harbor cruises, a highly regarded waterfront aquarium, and an array of permanently docked historical ships that are open to the public. People like to come down to the waterfront just to look at all the pretty boats. Marina development has proved to be the start of waterfront revitalization in other cities from coast to coast—Boston, Toledo, Cleveland, Racine, Wisconsin, San Francisco and Seattle.

There is increasing evidence that governments recognizes the value of marinas in how far they are willing to go to financially assist in marina development and preservation.

Throughout the United States, there are examples of state and local governments that have created tax incremental financing districts. In these districts, all of the real estate and sales taxes paid by the marina are ploughed back into utilities or other community services benefiting the marina instead of being absorbed into general revenues.

More than two-thirds of the states as well as the federal government dedicate taxes collected on gasoline purchased to propel motor powered boats to special funds to enhance boating safety and facilities and services.<sup>8</sup> Under 1992 Federal Clean Vessel Act Amendments, Congress set aside \$40 million from gas tax collections in competitive grants to states over a five-year period to install boat sewage

pumpout stations at marinas. Private marinas may participate in this grants program through their designated state agency, typically as much as \$15,000 per facility. For a time, the State of California used state marine fuel taxes credited to a Harbors Revolving Fund as the basis for loans to private as well as public marinas for development and expansion.

Governments also have been known to provide assistance to preserve the use of waterfronts for recreational boating facilities. This is called "blue belting."

The idea is to provide sufficient financial incentives to marina owners to keep property in use for boating that they might otherwise be tempted to sell out for a greater return to non-boating, non-water dependent users. Blue belting takes many different approaches, including:

1. Preferential property tax—the marina is taxed according to its income earning potential as a recreational boating facility rather than according to its actual market value.
2. Deferred tax—taxes are deferred, but repayment with interest is required in the event the marina is converted to a non-boating, non-water dependent use.
3. Purchase of development rights—government pays the marina owner the difference between the fair market value of the land and the value of the property as a recreational boating facility; the marina owner retains ownership and operation of the facility and the government ensures that the property will be developed for no purpose other than boating.

Instances of governments getting directly involved in marina development and ownership have increased significantly in recent years. This is largely a result of public pressure to build more recreational boating facilities, plus recognition that marinas can be a lightning rod for economic development and the revitalization of decayed waterfront property. To their great satisfaction, governments have discovered that the income from slip rentals and taxes from businesses that have grown up around the marina go a long way toward retiring revenue bonds or other means used to finance the marina construction.

More and more, one hears about governments going into partnership with private developers on marina projects. Government builds the facility, then leases it to an accredited developer with a knowledge of the boating business and a knack for making a profit. Customarily under these lease agreements the developer is totally responsible for staffing, promotion, slip rentals, and all other things that go into the operation of a marina. Government has the best of both possible worlds. It is

relieved of the responsibility of performance in the operation and maintenance of the marina. The burden of making a profit is on the private lessee, and government gets to collect the taxes.

To recapitulate, there are several major challenges facing marina development today: (1) greatly limited space for development; (2) multiple use conflicts on increasingly crowded bodies of water; (3) environmental restrictions; (4) length of time it takes to get a project through the permitting process; and (5) the need for venture capital in both the public and private sectors.

Some long-term policy recommendations for meeting these challenges:

- A National Boat Access Needs Assessment is needed to document the case that there are not enough facilities to accommodate existing and projected demands. Boating interests are well advised to develop and periodically update a comprehensive facilities development and expansion plan.
- The tourist industry is an important stakeholder in the future of boating, and should take a greater interest.
- Develop a comprehensive, computerized boating facilities information network with GIS/GPS mapping capability to help boaters to locate desired facilities and services.
- Where commercial marinas are not viable, there definitely is a place for government-owned facilities.
- There needs to be clear-cut government policy for protecting adequate public access to boatable waters, reconciling the public's right to use of public waters for recreation with sustainable development and the ability of different water bodies as natural resources to accommodate multiple water uses.

Discussions at earlier international conferences on coastal and marine tourism have brought out that the recreational boating facilities shortage is a universal problem. This paper has endeavored to give you only the American perspective, but it is meant to suggest some universally applicable strategies for dealing with the problem.

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## ENDNOTES

<sup>1</sup> A marina is defined as a facility located on the water that provides parking space for recreational watercraft at docks, moorings or on dry land. It is distinguished from a boatyard which is mainly a recreational or commercial boat repair facility.

<sup>2</sup> Ron Stone is director of the Boating Facilities Development Department of the National Marine Manufacturers Association (NMMA), a national trade



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association in the United States representing more than 1,700 recreational boat, marine engine and associated equipment manufactures. He is also secretary to the Boating Facilities Committee of the International Council of Marine Industry Associations (ICOMIA), and the States Organization for Boating Access (SOBA).

<sup>3</sup> "Boating 1995"—the latest annual statistical report by NMMA on the size of the recreational boating market, providing state by state breakdowns of unit sales of boats and associated equipment.

<sup>4</sup> "Boating 1995," *supra*.

<sup>5</sup> "Boating Statistics 1995" (June 1996)—U.S. Coast Guard annual statistical report on the number of registered boats, state by state.

<sup>6</sup> "Boating Registration Statistics—1993"—NMMA analysis of registered boats, by length, method of propulsion and hull composition.

<sup>7</sup> Remarks by Ron Stone to the Workshop on Safe Boat Carrying Capacity, Michigan State University, August 17, 1995.

<sup>8</sup> "Marine Fuel Taxes for Boating," - a primer by the States Organization for Boating Access published as part of its 1991 Annual Conference Proceedings.

# THOSE IGNORING THE RUDDER SHALL ANSWER TO THE ROCKS: A CASE STUDY OF COLUMBIA RIVER BOATING ACCESS

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**Abstract:** *Purchasers of the smallest pleasure craft to grandest vessels propelled the U.S. boating business to \$17.2 billion in 1995 overall sales. This is a 22% sales increase over the prior year and the third consecutive year of recreational boating retail sales growth.*

*This retail sales explosion of recreational vessels is mirrored by increased boating activity in waterways around the country. For instance between 1982 and 1992, the total number of boat use in Oregon increased by 67%. Hence planning for appropriate recreational boating access is needed to ease overcrowded moorage sites and enhance waterway safety, while avoiding the degradation of sensitive aquatic habitat.*

*To address these challenges along the Oregon's portion of the Columbia River, a jointly sponsored university and agency study of recreational boating needs and appropriate access sites was conducted. Research methods included: formal surveys and informal on-site discussions with recreational boaters; appraisal of physical, historical and cultural attributes of potential sites; and, regulatory agency interviews.*

*As a result, Oregon State Marine Board (OSMB) has invested over \$800,000 to date on new boat launch ramps and transient moorage for cruising boaters. The OSMB is planning additional investments for recreational boating access along the Columbia River consistent with bi-state priorities of stakeholders. These bi-state priorities were identified by key stakeholders during a consensus development workshop cosponsored by Sea Grant Programs in Oregon and Washington, with recreational boating agencies from both states.*

*Since recreational boating activity is expanding in many parts of the world, the lessons of this experience will be valuable to those seeking to balance recreation based economic development with coastal resources protection. Recommendations for initiating similar projects is provided to enable others to appropriately guide the growth of recreational boating.*

**Keywords:** *recreational boating, boat launch ramps, boat moorage, collective decision making*

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## Introduction

Purchasers of the smallest pleasure craft to grandest vessels propelled the U.S. boating business to \$17.2 billion in 1995 overall sales. This is a 22% sales increase over the prior year and the third consecutive year of recreational boating retail sales growth.

This retail sales explosion of recreational vessels is mirrored by increased boating activity in waterways around the country. For instance between 1982 and 1992, the total number of boat use in Oregon increased by 67% (Obern, 1993). Hence planning for appropriate recreational boating access is needed to ease overcrowded moorage sites and enhance waterway safety, while avoiding the degradation of sensitive aquatic habitats and cultural resources.

To address these challenges along the Oregon's portion of the Columbia River, a jointly sponsored university and agency study was conducted to assess recreational boating needs and appropriate access sites. This led to the State of Washington sponsoring public boating access studies along their portion of the Columbia River. These studies formed the basis of a bi-state workshop of key stakeholders which identified public boating access priorities for the waterway as an integrated system.

Since recreational boating activity is expanding in many parts of the world, the lessons of this bi-state experience will be valuable to those seeking to balance recreation based economic development with coastal resources protection across jurisdictions.

## Background and Problem Description

The Pacific Northwest has long been a destination for those seeking a better life. However, not since the celebrated immigration period of the Oregon Trail has the rate of population growth been faster than today. Between the five short years of 1985 to 1990, more than 400,000 new immigrants arrived in Oregon—about 220 new people a day (Frohnmayr, 1993).

This in-migration is having significant consequences on the region's outdoor recreation participation rates and natural resource base. During 1982–1990, the total number of days of recreational boat use in Oregon increased over 58% (Obern et al., 1993). The Columbia River and Willamette River systems accounted for over one-half of all boating by Oregon registered boats in 1990.

A surge in recreational boating on the Columbia River is most pronounced adjacent to metropolitan areas. There, residents with higher than average incomes are purchasing and using boats on the River. This is leading to crowded facilities and dangerous numbers of boaters congregated in

a small area. For this reason, additional public boating access is required to meet the needs of recreational boaters.

### Description of Boating Studies

To address this challenge, the Oregon Sea Grant College program initiated a comprehensive boating study with the state's marine recreational safety agency, the Oregon State Marine Board (OSMB), Washington Sea Grant and the Washington Interagency Committee on Outdoor Recreation (IAC). Sea Grant is a national university program concerned with conducting research and education for the wise conservation and use of coastal resources. As such, it serves as a bridge between university resources and real world issues.

Over the course of five years, Sea Grant faculty employed four university graduate students to identify the access needs of recreational boaters along various sections of the Columbia River. Research methods used in these studies included: 1) written surveys of a broad cross section of the recreational boating public; 2) on-site intercept surveys of Columbia River recreational boaters; 3) a physical appraisal of the river and land adjacent to prospective sites, and 4) interviews of key regulatory agency personnel and access facility providers.

This collaboration allowed graduate student researchers to engage in practical fieldwork, produce valuable public planning documents and multiplied the energy and resources of co-sponsors for public benefit. These comprehensive planning studies evaluated facility siting options based on natural resources, recreational boater needs and cultural resources at each site. This effort sought to promote a systems approach to planning for recreational boating access among the various partners.

During 1991–1996, the Columbia River was studied and planning documents completed from Astoria, Oregon to the Tri-Cities in Washington. This included over 465 river miles Columbia River riparian areas. More than 93 potential public boating access sites were identified by boaters. Of sites studied, 58% are considered to be promising, while the balance are considered undevelopable according to established criteria (Cassell, 1991; Burr, 1993; Cervený, 1995).

Several criteria were considered in the process of identifying promising sites for transient moorages (See Appendix). Generally, sites need to have certain physical attributes for development and safety, be appropriately spaced for optimum use and connectivity, be attractive and near wildlife or cultural sites without harming them. Water quality is a significant factor in that sanitation was one of the most visible difficulties noted during on-site surveys. Ownership of property is not a significant factor in

determining site priorities. If a site is highly desirable and in the public interest there are methods available to purchase them.

### Description of Stakeholder Priority Setting

A key systems management question for the future of Columbia River recreational boating is how multiple states and jurisdictions can provide for additional recreational launch ramps and moorage facilities without significantly degrading natural and cultural resources. The decision making process by which stakeholders plan for future boating access is as critical to the long term sustainability of Columbia River boating as the recreational facilities themselves. An effective process sets the tone for future working relationships among key stakeholders and reduces the chances of unnecessary duplication of facilities.

A bi-state workshop was held to involve key stakeholders in a process to prioritize existing and potential sites and facilities for expanded boater access. The study area was the Columbia River from Astoria, Oregon to the Tri-Cities, Washington. The participants were public boating facility managers, members of boating organizations, university extension faculty, outdoor recreation planners, and ports managers, and waterway association members. The interests of a wide range of recreational boaters were also represented through the results of the university surveys.

Designing workshops for such a complex set of public issues and partners is challenging. There is considerable research on effective processes in the fields of interpersonal relationships and conflict (Hocker and Wilmot, 1991), and in the corporate world (Senge, 1990). There is also emerging work within public organizations (Bryson, 1990). However, there is very little published on how to design effective processes where the nature of the problem brings together such a mixed group of participants who need to come to consensus on difficult issues—and who are responsible to the public for the outcome. The recent work of Bergstrom et al. (1995) and Allen (1990) provide some helpful guidelines for collaborative problem solving in the public sector.

A key understanding in this effort is that an effective process may not be efficient in terms of time. There is an important distinction emerging between traditional forms of public "input" to a primarily internal decision making process, and more effective forms of true public "involvement" in the decision making process.

In traditional decision making deficiencies are identified by staff, options to the deficiency are internally examined, proposals are submitted to address the internally defined problem and are evaluated internally, plans are formulated, public hearings are announced and conducted, plans are

sold, objections are overcome, appeals are dealt with. This approach worked pretty well when the problems were isolated and staff had the expertise to solve the problem. Today, most of our most pressing public issues are highly interconnected with responsibility spread among a variety of entities. Topical expertise often has less to do with solving these problems than does effectively managing diverse, strongly held views.

A more effective form of decision making in this context incorporates the affected parties early and throughout the process. In this approach the perceived deficiency is originally identified internally but selected members of the public (a task force) are invited to determine whether there really is a problem and whether any action is needed. Next, the nature of the decision is jointly defined (are we addressing symptoms or root causes?), and criteria are established for making that particular decision. At this point a variety of options are developed, and then examined using the criteria as a screen.

Thereafter an open public meeting is scheduled to describe the process used to date and introduce the task force members. All of the options are presented along with the decision criteria and reasons are explained for rankings. The task force recommendation is offered. If there is more than one, the strengths and weaknesses are considered for each. A decision based on this information is implemented. Any appeals can be addressed with a clear public record of the process. The philosophy and elements of this approach was used to design the bi-state boater access workshop.

## The Problem and the Process

The problem addressed by this workshop was a perceived lack of adequate facilities for recreational boaters along the Columbia River. This perceived problem was confirmed through the university studies of boater needs and through discussions with related individuals and organizations. The type of action needed was a prioritization of facility expansion and development option. Stakeholders were identified to provide advice to the organizations responsible for facility development. This was not a decision making group, but an advisory group.

The purpose of the group work was, therefore, to review and discuss the potential sites for expanded recreational motorboat access and transient moorages in the study area, and make recommendations for facility development over the next five years. The further challenge was to design a process where people familiar with the topic could explore reasonable alternatives for development and offer recommendations—in only a few hours time. The process of prioritizing sites was an afternoon “work activity” within a full-day workshop.

Before breaking for lunch, a facilitator outlined the afternoon agenda and proposed several criteria for prioritizing sites. The criteria for prioritizing sites were developed by the planning team and proposed to the group for validation. They were based on the criteria used in the studies outlined above and are presented in Appendix. Since establishing hard criteria effectively “frame” the discussion and prioritization process (which is important for gaining useful information), it is important for the participants to agree upon the criteria. After discussion and clarification, the criteria were agreed to by the participants.

Large computer-generated color maps of four sections of the Columbia River created and provided to breakout groups showing them the location of existing facilities. Facilitators helped each of these groups come to agreement on where improved or transient moorages and boat ramps were most needed. Facility siting recommendations were determined based on their congruence with the decision criteria presented earlier. Through a balloting process, each team identified five priority sites from among thirty to forty promising sites identified in university studies. The breakout groups then reconvened and reported the prioritized sites for their section of the Columbia River. The large group then discussed the prioritized sites from a “whole-river system” perspective. That is, evaluating the choices from each section to see if they led to an integrated plan for development.

The final product of the group work was a large map of the study site with the prioritized transient moorage and ramp sites indicated by colored flags, flip charts documenting all sites discussed in small groups (including those that were not top priorities), and the criteria used to establish priorities.

## Results and Conclusions

Priorities for recreational boating facilities for the next five years were identified through a major workshop of key stake holders from the states of Oregon and Washington. Results of this project will be used by state, county, and city agencies to develop new transient boater mooring facilities in appropriate sites. To date, the Oregon State Marine Board has invested over \$800,000 for the development of several recommended sites along Oregon’s portion of the Columbia River.

Related enterprises such as boat yards, bait shops, marina operators, etc., are also using this applied research information. For instance, university studies documented that many boaters avoided dams rather than locking through because there was no safe tie-up while waiting one’s turn for passage (Burr, 1993). As a result, the new Bonneville Dam locks are being designed to include safe

moorage with simple instructions on how to lock through and communicate with the lockmaster.

The increase in recreational boaters in Oregon, concurrent with a significant increase in population statewide, will lead to higher usage of the Columbia River by both recreational and commercial vessels. The orderly development of a network of transient moorage facilities and boat launch ramps along the river will:

1. assist in reducing boater conflicts,
2. provide a safe, pleasant experience for recreational boaters,
3. minimize adverse impact on the environment, particularly riparian habitat and water quality, and
4. coordinate access facility decisions being made by numerous jurisdictions and agencies along the Columbia River.

Through longer-term planning processes we hope to provide a means for protecting the boater, the environment and quality of life valued by so many. As growth and diversification takes place, a fundamental challenge will be to retain natural resource amenities and be responsive in providing appropriate boating access infrastructure. Toward this end, the following recommendations are offered for others planning the expansion of recreation boating access:

1. Use a systems approach—avoid a short termed, single site orientation when considering future boating access.
2. Work closely with stakeholders—survey and engage those who will be using future access sites to learn their interests and recommendations;
3. Develop management criteria—develop a list of criteria which serve as a tool to identify the most appropriate sites (see Appendix).
4. Foster public involvement—create opportunities to involve users to determine critical problems, help set priorities for future development, and build political support for the projects.

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## Appendix

The criteria used in the boating studies and workshop are listed below.

### Generally:

- Don't worry about achieving parity in the number of sites between the Oregon and Washington sides of the river, or among the upper or lower reaches of the study site. Think primarily about the needs of recreational boaters.
- Boat hoists and combinations (ramps and moorages, hoists and moorages, etc.) can also be proposed.
- Consider the sites in terms of appropriate physical setting and design standards.
- Consider the cultural and community impacts (both positive and negative).
- Consider the environmental impacts.
- Consider the political realities of developing the site.
- There are existing or emerging "great opportunities."

### Transient moorages:

- Sites need to be reasonably close (less than 10-15 miles apart).
- Sites need to be in areas of low wind and wake.
- Sites need to be at least six feet deep.
- Sites need to be adjacent to significant amenities or other attractions.

Boat ramps:

- Improvements to existing ramps should be prioritized over new ones.
- Sites need to be near to populated areas (boaters).
- Ramps must meet the needs of recreational boaters.
- Sites will be preferred that are adjacent to publicly owned land for access.

# SHORE BASED RECREATIONAL LIVERY (RENTAL) BUSINESS DEVELOPMENT; BUSINESS, SAFETY AND REGULATORY COMPONENTS

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**Abstract:** *The shore based recreational rental business has been undergoing a major evolution over the past decade. The advent of relatively inexpensive personal watercraft, with their broad appeal to casual boating experiences, has increased the level and scope of rental companies at beachfront locations throughout the world. This in turn can lead to increasing concerns on the part of public safety officials and those responsible for tourism policy.*

*Elements of the livery operation including marketing, safety and policy management can be identified as important to development of policy consistent with the tourism and other economic tenets of a community. The experiences of hundreds of communities that routinely deal with liveries throughout the United States serve as examples of both the benefits and the challenges of this non-consumptive recreational attraction. A review of how these communities have adapted to the changes will help illustrate what opportunities and pitfalls exist.*

*The individual livery operation itself is a model of entrepreneurial opportunity. It is a form of business that allows an individual of modest means to enter a service related business, while at the same time providing tourists with a quality experience that showcases the uniqueness of the local marine environment. The market access needed to stimulate formation of this type of business is consistent with many other aspects of waterside and marine tourism of both the consumptive and non consumptive nature.*

**Keywords:** *personal water-craft, marketing, economic impact*

## Introduction

The concept of a sustainable coastal marine tourism activity as I view it would include the premise that at the end of any given day, when business for the day was complete, there would be no noticeable change to the waterside environment from any previous day. The local marine tourism activity environment would require no displacement of existing resources or changes to the environment for that activity to function normally. It is my position that a marine livery (rental) operation that includes personal watercraft (PWC) would fulfill such criteria. The specifics of such a livery operation are, as demonstrated by actual practice at hundreds if not thousands, of locations around the United States and elsewhere, uncomplicated in nature. However, in many areas, the public policy issues

and recreation management issues involved are quite the opposite.

Before I discuss the policy and regulatory issues such a livery could involve, I would like to give an overview of the economic factors. Without an economic benefit, the development of any commercial operation is unlikely and, if initiated, is usually doomed to failure. With waterfront liveries, as amply demonstrated by the hundreds of such business all across the U.S., there can be a significant economic benefit to the operator directly and indirectly to the local community.

## PWC Liveries and Economic Impact

Such liveries have existed in many forms for years and would generally include rentals of shoreside recreational items including canoes, air mattresses, snorkeling gear, outboard engine powered fishing boats, row boats, beach chairs and mats and even small sail craft. However, increasingly now days one finds a substantial element of the financial benefit to the livery operator results from the inclusion of PWC in the mix of equipment available for rent at the livery location.

Interviews with various livery operators indicates that where the location is particularly well suited for PWC operation, PWC rentals creates the majority of the cash flow and the majority of the transactions at the site. In fact at a substantial number of the sites, the PWC may be the only piece of equipment available for rental. The location may have other marine related activities such as a fuel dock or marina, which would have been the initial reason for location at the water's edge, and the addition of a PWC livery required no additional capital improvements. One element of business operation that will be discussed later is the responsibility of the site operator for the safe and responsible use of the rental equipment. The point of dwelling on this PWC domination of many waterside liveries is to highlight that such a business venture is not only viable, but from the business perspective, may be less risky in terms of return on investment. This return on investment is in comparison to almost any other type of waterfront livery activity, livery or otherwise. Also the various interviews conducted for this paper indicated that the marginal return on investment, i.e., the increase in business revenues from PWC liveries may be the highest of any type of investment in livery related products a waterfront rental can make.

The empirical evidence suggested by the dominance of PWC-only activities at many locations is that facilities and shoreside conditions are a major factor in the "product" that a livery may be able to develop for consumer consumption. For example there may be limitations based on depth of water, the ability to expand or even install docks, a number of already existing structures, biological

environmental constraints, or any of a number of conditions that would preclude other types of waterfront construction or development. A further point of consideration is that the PWC livery is possibly the least sensitive to an ideal waterside "retail" environment relative to potential commercial success. By this I mean that it is very likely that modification or additional construction or development on the waterfront may not be necessary. Factors of zoning and waterway regulation are also involved in siting of livery locations, but the two dominant factors for most operators is water access for the equipment and access to a stream of potential consumers.

The idea of an optimum waterside environment is what one expects to find in tourism brochures and pamphlets, i.e., wide sandy beaches with tranquil waters, tree lined, and sunny. In this sort of environment, tourism can support multiple activities at a livery as suggested earlier. However, many coastal areas either lack such an idealized waterfront or have other impediments such as rough seas, rock strewn bottoms, less temperate water or lack of access, generally because of private property ownership of the beachfront. In such a situation where the waters may not generally be suitable for the most casual of water recreation such as swimming, snorkeling, etc., there is still the opportunity for a livery involving a PWC while maintaining the aforementioned negligible impact on the surrounding environment.

A typical example of such a range of development can be found along the Dade County, Florida (Miami area) coast and inter-coastal waterways. Beach front on the Atlantic one finds a mix of high-rise developments, divided between condominiums, resident hotels, timeshares and normal hotels. On the intercoastal side of the barrier islands one also finds hotels, and condos, as well as marinas, boatyards and the occasional park. The significant difference is the Atlantic side has the wide, sandy beaches with usually tranquil currents and generally modest wind chop type waves. The intercoastal waterfront generally features no beach, has frequent bulkheads or other types of traditional boat docks and is not characteristically, water contact sport oriented (i.e., swimming, snorkeling, diving, water-skiing, etc.).

In both instances however, where permitted by other constraints such as speed or ownership restrictions, PWC liveries flourish. One particular stretch of the intercoastal waterway in Hollywood, Florida, supports six PWC liveries and finds ample tourist support because of the proximity of a state highway and numerous hotels. At the same time, the extent of facilities improvements needed for these operations include installation of lockable storage facilities on previously existing docks and in one instance a davit mounted on the bulk-head of an existing motel.

The idea of entrepreneurial access to an opportunity like a PWC livery is in fact bolstered by the low business risk compared to return on investment mentioned above, the low (relatively) initial investment, the absence of a requirement for sophisticated business controls or training, and the low level of investment outside the rental equipment (for capital improvements such as facility development or improvement). This latter point could be compared to marina development, for example, where not only are modifications to the waterside environment needed but there are inevitable changes to the submerged land under marina docks and around pilings. Such marine development related environmental changes could certainly be mitigated by careful site work and design, and use of the significant advances in recent years on more environmentally sensitive marina building practices. The fact remains that the investment costs for marina development and for most other capital projects on the shore are far, far beyond the means and vision most individuals who might otherwise have the entrepreneurial drive to start a tourism related business.

Up to this point I have used primarily hypothetical concepts to suggest the value to the community of PWC oriented liveries. There are data available that provides a concrete sample of the potential economic benefits of PWC liveries. In a report prepared for the Personal Watercraft Industry Association in May of 1996, Thomas J. Murray and Dr. Richard J. McHugh<sup>1</sup> did an analysis of the "Economic Activity Associated with Personal Watercraft use in Monroe County, Florida." They used both interviews with PWC livery operators and other sources including Monroe County specific U.S. Government surveys<sup>2</sup> to reach their findings.

Mr. Murray and Dr. McHugh identified three sources of economic impact: 'direct' market impact from sales of goods and services to the public, 'indirect economic activity' generated by the support services required for direct market sales (including for example payments of rents, fuel purchases, misc. business costs for the PWC business, etc.) and finally the impact of expanded employment and cash flow in the wider community, referred to as 'induced' economic impact. More detailed discussion of the economic modeling was beyond the scope of the "Economic Analysis..." report but can be found in IMPLAN, a model developed by the U.S. Forestry Service for use in calculating the full economic impact of any local economic activity.

From the "Economic Analysis..." work it was determined that there were between 45 and 55 PWC rental operations in Monroe County at the time of the NOAA study and that these liveries had between two and seven PWC available for rent. The general rental was to one or two persons with each number being evenly reported. The average rental charge was \$40.00 per half hour, and while other packages



of rental use are typically available at higher fees, levels of participation could not be readily estimated. The number of livery PWC available for use during the NOAA survey was estimated by Murray to be approximately 250 PWC<sup>3</sup> and this data was collaborated by independent sources in Monroe County.<sup>4</sup>

Quoting from "Economic Analysis...":

The number of revenue trips per year equaled from 42,013 to 63,019 for the two months based upon the NOAA tourist survey information on 'PWC rental participants' and information regarding PWC rentals from local rental businesses. The range of estimates is based upon the assumption that not all the rental trips ('participants') are with one rider. The single rider assumption may somewhat overstate the rides based upon industry information. Further, the consideration of an average number of rides of 1.5 will further balance against any upward bias in use of the July-August sample for annual estimations. The average revenue per rental trip is assumed to be \$40.00 and the July-August, 1995 period is assumed to be 'normal' for PWC rentals in the Keys [Monroe County]. Given these ranges then the gross revenues for PWC rental in 1995 are estimated to have ranged from \$10,083,040 to \$15,124,560.

The gross revenue numbers do not include the second and third levels of economic impact discussed earlier. To get the full measure of these factors, the IMPLAN model estimates an expenditure multiplier for this mix of spending in Monroe County to be 2.21<sup>5</sup>. The direct impact of \$10.1-15.1 million thus translates into total impact of \$22.3-33.4 million, or an average estimate of \$27.8 million. When combined with the further calculation that each PWC generates approximately \$40-\$60 thousand gross revenue for the owner based on the 250 units in use number, one sees the potential economic engine the PWC livery can be, both for the community and for the individual operator.

To reiterate the earlier point regarding the economic impact of PWC oriented liveries versus the capital investment in infrastructure to support the activities, Murray and McHugh found<sup>6</sup>:

- In an area like the Keys, location and water access are clearly a limiting factor for watercraft rentals. Three primary locations can be characterized:
1. Rental operations located at existing marinas and resorts;
  2. Rental operations located on relatively unimproved waterfront; and

3. Rental operations located on trailers and floats.

These specific description of rental sites are consistent with the vast majority of locations throughout the rest of the U.S. and are a strong indicator that a requirement for development or disturbance of the waterfront environment is generally not a factor in the operation of a PWC oriented livery.

Once the economic value and impact of PWC are understood, it would be logical to look at the other impacts of PWC liveries, those issues that are regulatory and policy in nature.

### PWC Liveries and Public Policy and Regulation

Over the past five years no single subject has had more discussion or more focus in the realm of recreational boating policy than the regulation of personal watercraft. This discussion and focus extends from workshops in National Association of Boating Law Administrators annual conferences, to the sub committee within the U.S. Coast Guard organized Boating Safety Advisory Council, to task forces at the state level in several states. Further, occasionally legislative and regulatory approaches are challenged in court by the Personal Watercraft Industry Association (PWIA) when in the PWIA's opinion, the specific approach is unduly arbitrary and egregious. The obvious implication of this volume of public discussion and focus is that the recreational waterway managers in many locations have issues related to the use of PWC that defy a simple or pat solution. In many instances, PWC liveries are a factor in this public policy debate and may frequently be portrayed as one of the root causes of controversy in a particular community.

### Background

The personal watercraft industry is the relative newcomer to the world of recreational boating. The first mass production of PWC began in 1974 when Kawasaki introduced the first Jet Ski, the "stand up" style of craft. The industry sales growth began gathering momentum substantially in 1987 with the introduction of the "sit down" style of craft, and by 1995 PWC accounted for over 1/3 of all boats sold, numbering approximately 200,000 units retailed in the U.S. Extensive demographics that define the purchaser of PWC exists with the various manufacturers and with others, but the demographic data on renters has not been gathered. Also of note, while the U.S. market accounts for approximately 90+% of total world sales, many of the issues debated in the U.S. are quite relevant elsewhere, and in fact are generating the same levels of interests in legislative or regulatory solutions to issues.

## Issues

I have alluded to a number of issues associated with the private and rental use of PWC that usually are laid at the feet of recreational managers and policy makers to resolve. I have found that those who wish to consider restricting the recreational or rental use of PWC are usually without much factual information on the construction of the craft, the performance characteristics of the craft, the demographics of the owners or a sense of context regarding the broad spectrum of boating safety issues. Nor for that matter do those who wish to limit or restrict the use of PWC have data on any types of environmental impacts such as noise, benthic disturbances, wake energy, etc. What usually provides the motivation for the calls to restrict PWC are what I refer to as "user conflicts," or the feeling by one group of recreational waterway users that their particular use of the resource has preeminence versus other uses. The classic example of this can be found once again in Monroe County, Florida—the Florida Keys. There was a recent fund raising event for a local charity, sponsored by a fishing guide organization, featuring \$1-per-smash with a sledge hammer on a PWC. Similar conflicts exist between many other user groups and PWC, including many environmental groups.

The sources of the conflicts with PWC stem primarily from the operational characteristics of the PWC, most uniquely its ability to operate in shallow water, perhaps as shallow as 12 in. without damage to the craft. While all manufacturers warn against use in water depths of less than 2 ft., both to protect the equipment and the bottom, and to help prevent accidental groundings, users are frequently unfamiliar with the water depths and the craft do not provide feedback on depth. This shallow water capability results in operation of PWC in areas that have traditionally had little or no recreational power boat traffic, and have been regarded in many cases as isolated. When an outdoors person finds their heretofore isolated location now accessible and visited by any number of PWC, they can be resentful, defensive, and activated (activated to turn back the hands of time to when only they were visiting the particular site). In many cases such remote access would be achieved by a paddle boat, canoe or kayak, leading the so called float boaters to become one of the interest groups motivated to restrict PWC. The same scenario can be developed to understand why surfers, fishermen, or sailboaters are frequently involved in supporting their own purgatives at the expense of other users of the recreational waterways.

The second concern frequently raised by those seeking to regulate PWC use is the issue of safety, with the context being safety of all the recreational waterway users. Boating safety is a topic that in the U.S. enjoys an almost unbelievable amount of attention from public and private agencies. Briefly, the U.S. Coast Guard has overall authority for all marine safety including recreational

boating. They use a number of mechanisms for effective application of this authority including delegation; such as transfer of funds and sponsorship of volunteer organizations to delegate the responsibility for recreational boating safety to state control as well as supporting the educational activities of the Coast Guard Auxiliary and the U.S. Power Squadron. The result of this multilayer approach to boating safety is that there are many, many professional safety and enforcement officials who spend the majority of their working life improving safe use of recreational boats.

It is against this backdrop of competing interests for use of the recreational waterways and concerns about safety that the use of PWC must be measured from the perspective of policy and regulation. Further within this context, the how and what to regulate in the case of PWC liveries becomes a subset that regulators and policy makers could clearly approach with a separate perspective. While being influenced by the perceptions and attitudes of the larger, private ownership aspects of PWC use, PWC liveries account for less than 2% of the annual sales of the industry and less than 1% of the estimated PWC actively registered nationwide. In fact, at Yamaha Motor Co. U.S.A. applications for public safety use of PWC such as marine police, rescue squads, or lifeguards runs approximately twice the annual rate of rental craft sales. The conclusion I would suggest is that while reasonable and clear regulation of PWC-oriented liveries is a valuable and appropriate aspect of tourism management, such regulation does not need to be burdensome or overly restrictive of the access to the tourism market.

## Regulatory Suggestions

The primary purpose of regulation of a livery should be for the protection of the renter of the vessel and the protection of any other users of the waterway where the livery is located. Without question, success of a tourism industry is predicated on the quality of experience that the tourist has from the time he departs his home until he returns home. And this experience of course is enhanced by his ability to share with his "friends back home" the sense of relaxation and rejuvenation his trip provided him. The visitor should not only have an expectation that his choice of tourism activities are safe for him, but that they also do not create any burden on the local ecosystem or local community.

The manufacturers of all PWC have comprehensive warning and caution information on warning labels on their craft as well as repetition of this information in the owners manuals supplied with the craft. Reproducing that information in this paper would not serve to guide policy makers but it is recommended that a review of the manufacturer safety information can help with development of a foundation for livery policy.

- Clearly an important factor, if not the most important factor is the minimum age of the operator. All manufacturers recommend a minimum age of 16 and some states in the U.S. have adopted a minimum age for rental of 18 years old.
- Wearing of a lifejacket at all time of operation by the vessel operator and any passengers is a key safety step. In the U.S., recreational vessels are required to CARRY lifejackets for every person on the craft but some states have legislation that mandates the wearing of lifejackets by all PWC operators and passengers.
- PWC should never be operated at night. At present, no manufacturer supplies PWC with lights nor makes any provision for installation of lights.
- In Monroe County (the Florida Keys), the National Oceanic and Atmospheric Administration (NOAA) has proposed that liveries have a defined use area marked by buoys and that the entire use area be visible from the livery base location.
- NOAA also has proposed that all liveries have a "chase boat" and operator ready at all times to monitor activity and to be able to respond to renters who either stray from the rental location or experience other needs for assistance.
- Liveries could be required to have evidence of liability insurance to provide an additional measure of protection for tourists who might suffer an injury during operation of the craft as well as protect the local community from financial risk.
- Liveries could be required to offer a video tape orientation to renters to insure a consistent and complete orientation to the PWC prior to rental. All manufacturers offer a safe and responsible use video tape at no charge to each purchaser of a PWC. In addition, the Personal Watercraft Industry Association has a video on rental safety available at no charge.<sup>7</sup>
- Liveries should be required to have a business license issued by the local jurisdiction as a means of documenting ownership as well as assisting waterway managers with tracking waterfront activity.

These are examples of the types of elements that local communities may wish to consider when they consider PWC liveries. These conditions for business control are not meant to be all inclusive but more to be examples of the types of reasonable and definable requirements a livery can adopt without interfering with their ability to operate.

## Conclusion

My conclusions are that under most circumstances where waterfront tourism is an existing element of the local economy, a PWC livery can not only be established but can flourish. Further, because the initial capital investment is very modest, and only elemental business skills are the

basic requirements, local entrepreneurs can readily form this type of business, make a good living, provide additional community employment, and financial stimulus in the community. This all can be accomplished with very minimal impact on the coastal zone environment. The scope of regulation and enforcement to oversee a safe and responsible establishment of a PWC based livery is minor in comparison to permitting and overseeing other types of business development in sensitive environmental areas. Resources are available to assist in the development of appropriate business and safety controls from the previously mentioned sources. Finally, the economic value to the community can be very positive and the activity itself can provide an opportunity for the community to showcase its marine recreation resources.

## ENDNOTES

<sup>1</sup> Mr. Murray is a consulting resource economist and Research associate in the College of Business at the University of South Florida, Tampa, Florida, and Dr. McHugh is currently a Senior Associate Professor at the Georgia State University College of Business Administration, Atlanta, Georgia.

<sup>2</sup> Linking the Economy and Environment of Florida Keys/Florida Bay, Preliminary estimates of tourist/recreational uses of the Florida Keys, July-August, 1995. Prepared December 1995 by Vernon R. Lecworthy and Peter C. Wiley, Strategic Environmental Assessments Division, Office of Ocean Resources Conservation and Assessment, Nation Ocean Service, National Oceanic and Atmospheric Administration.

<sup>3</sup> At the time that 250 rental unites were identified in Monroe County, the total number of PWC determined to be registered in the county was 1,362 and the total number registered in the State of Florida was 58,207.

<sup>4</sup> Ray Dargis, independent PWC repair service operator based on review of his sales and service records.

<sup>5</sup> Murray, T.J. and R.J. McHugh. 1996. "Economic Activity Associated with Personal Watercraft Use in Monroe County, Florida."

<sup>6</sup> Ibid.

<sup>7</sup> Personal Watercraft Industry Association, Chicago, IL, (312)946-6200.

# SEA KAYAKS AS VEHICLES FOR SUSTAINABLE DEVELOPMENT OF COASTAL AND MARINE TOURISM

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**Abstract:** *Because they are inexpensive, safe, easy to learn, and environmentally friendly, the modern sea kayak has emerged as an ideal watercraft for exploring coastal regions and to observe wildlife in quiet and solitude. Sea kayaking is one of the fastest growing segments of the marine sport industry and there is a rapidly expanding international market for kayak touring to exotic destinations worldwide. This simple technology has the potential to open up coastal environments the way SCUBA opened up the underwater world.*

*Four types of kayaking are described: Recreational, Ecotourism, Wilderness, and Adventure. Kayak experiences and participants are defined by various mixes of these four basic types.*

*Two models are used to illustrate the role of sea kayaking in the sustainable development of coastal and marine tourism. The first is an assessment of the mature sea kayaking industry in Belize, Central America. The second model is Micronesia, where the industry is in an early stage of development. In both cases, information is presented regarding the economic, social, educational, and environmental aspects of sea kayaking in developing countries.*

**Keywords:** *sea kayaking, kayak coastal ecotourism, Belize, Micronesia*

## Sea Kayaking

Sea kayaking began thousands of years ago with the first Aleut and Greenland skin-on-frame boats. Today's sea kayakers are direct descendants of these early types and are essentially the same boats except for the use of modern construction techniques and materials. They come in two general types: sit-inside and sit-on-top models.

Sea kayakers, also known as "ocean" or "touring" kayakers, are not to be confused with river-running kayakers. These whitewater kayakers are less stable and often associated with river rapids and danger. Although superficially similar, sea kayakers are an entirely different boat. They are much longer, averaging 14–17 ft., are more stable and sometimes have rudders. Sea kayakers are built for one or two paddlers and may be equipped for long distance travel and even sailing. Some sit-inside expedition kayakers have a fabric

covering over a metal or wooden frame which allows them to be collapsed for transportation. Although better suited for river use, inflatable kayakers can also be used for touring.

## Advantages of Kayakers

Within the last 10 years there has been an explosion of interest in sea kayaking. The reason for the popularity and phenomenal growth rate of this sport is due to its many advantages. These include:

- Safety—sea kayakers are very stable and seaworthy.
- Easy to use—anyone can learn to kayak in minutes.
- Easy to transport and store—no need for mooring or trailer.
- Simple technology—easy to maintain.
- Versatile—can be used on virtually any body of water.
- Low cost—under \$1,000 for a quality entry-level boat.
- Good exercise—fits today's healthy lifestyle.
- Family activity—suitable for all ages.
- Minimum impact—quiet, human-powered and non-polluting.
- Multi-functional—can be used for many different recreational purposes.

## The Sea Kayaker Market

The primary market for sea kayaking is North American (Canada and the USA). Developing markets are in Europe, the UK, Australia, and Japan.

In 1991 the *Specialty Travel Index* included 25 companies with 35 trip venues (states or countries). In 1996 this jumped to 61 companies and 112 trip venues. The different destinations and the number of tour operators at each location are shown in Table 1. Although this is just a rough snapshot of the sea kayak industry in North America, it clearly shows the remarkable growth in the sport in the last five years. As indicated by the number of tour operators advertising in 1996, the major kayak destinations are:

1. Canada/Continental USA (37)
2. Oceania (Pacific islands, Australia, NZ) (24)
3. Central America (16)
4. Asia (14)
5. Mexico (13)
6. Caribbean (6)

Although not as popular for the North American market, other major sea kayaking destinations include Scandinavia, the United Kingdom, and continental Europe.

Table 1. Sea kayak destinations advertising in the 1996 specialty travel index.

**Sea Kayak Destinations**  
**Advertising in the 1996 Specialty Travel Index**  
 (Number of operators shown in parentheses)

* Alaska (17)	* Greece (1)	* Philippines (1)
* Australia (8)	* Greenland (1)	* Portugal (1)
* Bahamas (1)	* Guatemala (1)	* Scotland (1)
* Baja California (7)	* Hawaii (4)	* Solomon Is. (1)
* Belize (6)	* Honduras (2)	* Tasmania (1)
* British Columbia (5)	* Irian Jaya (2)	* Thailand (6)
* British Virgin Is. (2)	* Maine (1)	* Tonga (1)
* Bolivia (1)	* Mexico (6)	* Trinidad (1)
* California (4)	* Michigan (1)	* Utah (1)
* Chile (2)	* Mongolia (1)	* Vietnam (1)
* Costa Rica (7)	* Montserrat (1)	* Washington (1)
* Dominica (1)	* New Zealand (4)	* Wisconsin (1)
* Fiji (4)	* Papua NG (3)	* Wyoming (2)

Table 2. Summary of sea kayaking attractions in Micronesia.

**Summary of Sea Kayaking Attractions in Micronesia**

<u>Kosrae</u>	<u>Pohnpei</u>	<u>Palau</u>
*Large mangroves	*Nan Madol ruins	*Rock Islands
*Mangrove channels	*Reef islet camping	*Extensive lagoon
*Terminalia grove	*Large mangroves	*Marine lakes/jellyfish
*Lelu ruins	*Protective lagoon	*Babeldaob Island rivers and waterfalls
*Mariculture center	*Ant Atoll	*Dugong and crocodiles
*Outrigger canoes	*Mountain hikes	*Yapese stone money
*Walung village	*Outrigger canoes	*WWII sites and planes
	*Cultural centers	
	*Swimming in rivers and waterfalls	

### Size of the U.S.A. Kayak Market

Recent data from the National Survey on Recreation and the Environment (NSRE, 1995) showed that an estimated 2.6 million Americans, or 1.3% of the population, age 16 or older kayaked at least once during 1994–95. Although this number includes both sea kayaking and whitewater kayaking, the vast majority are assumed to be sea kayakers.

The Trade Association for Sea Kayaking (TASK) estimates that there are 300,000 active sea kayakers in the USA and that approximately 75,000 boats were produced or imported into the U.S. in 1995. These data are sketchy at best because many companies are unwilling to release these numbers for fear of encouraging new competition within the industry.

### Sea Kayaker Psychographics

A cursory review of the advertisements of 60 kayak businesses in the April issue of *Sea Kayaker* magazine suggests that the North American kayak touring market can be characterized by an interest in the following (in order of importance): ecotourism/educational travel, wilderness or pristine areas, soft adventure, improving paddling skills, hobbies and other outdoor recreational activities, and hard adventure.

### Types of Kayak Tourism Products

Sea kayak tours can take many different forms. They range from hourly rentals and day trips for snorkeling, birdwatching, and exploration to multi-day excursions. Multi-day trips can either be point-to-point, or base camps which allow more time to explore a particular area. Accommodations can include tent camping, live-aboard boats, rustic cabins, hotels or resorts, or home-stays. Currently, most sea kayak outfitters prefer camping or a combination of camping and developed facilities.

### Potential Niche Markets for Sea Kayaking

We have tentatively identified four basic types of sea kayaking each representing a potential niche market. Based largely on the work of Paul Eagles (Eagles 1995) (see Table 3), they are a useful way to differentiate the kayak touring market. They are briefly described below. A more detailed discussion is provided in Wylie and Rice (1996). These categories are not mutually exclusive and there will be overlap between them. Various combinations will provide the package of experiences and personal benefits desired.

#### Recreational Kayaking

Outdoor recreation to enjoy nature, to relax, and to have fun, frequently in the company of others. The level of

physical risk and challenge is low. Aerobic exercise, pursuing hobbies and learning or refining kayaking skills can be important motivations. Primarily a daytime activity.

#### Ecotourism Kayaking

Participants are primarily interested in improving their knowledge and discovering nature through high quality information and observing unusual or spectacular species and ecosystems, such as whales, coral reefs, or tropical rain forests.

#### Wilderness Kayaking

Intense, personal experiences in a setting free of the obvious evidence of human impacts. Challenges and risks are moderate and an important part of the overall experience, as are solitude and primitive camping.

#### Adventure Kayaking

The experience focuses on challenge, thrills, excitement, and personal accomplishment by overcoming nature and sharing this experience with others. Involves travel typically to remote places known for their natural beauty and physical attributes. The level of physical effort and risk ranges from moderate in "soft" adventure to high in "hard" adventure kayaking.

### Belize and Micronesia—Two Models for Sea Kayaking

Belize and Micronesia (Figure 1) are used to illustrate the role of sea kayaking in the sustainable development of coastal and marine tourism. Belize is an established sea kayak destination. Micronesia represents areas in the early stage of development. There are some striking similarities and marked differences between these areas.

#### Parallels between Belize and Micronesia

- Relatively small land area with developing economies.
- Limited resources and growing populations.
- World-class reef and rain forest ecosystems as tourist attractions.
- World-class kayak venues.
- Heavy emphasis on tourism, especially SCUBA diving.
- Interest in ecotourism as an economic development option.
- Strong traditional cultures.
- Major archeological ruins.
- Opportunities for reef/jungle combination tours.

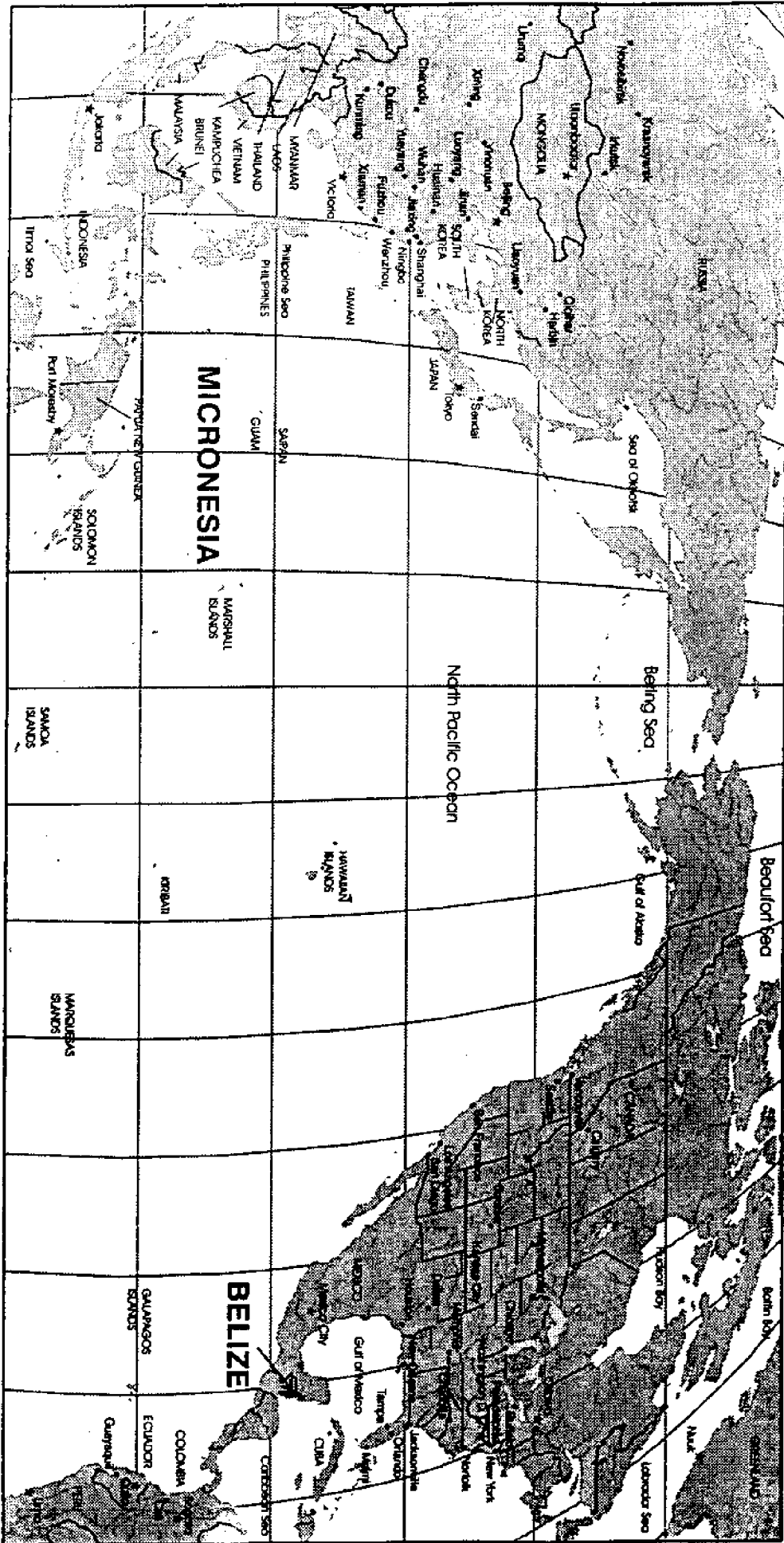


Figure 1. Micronesia and Belize.

### **Differences between Belize and Micronesia**

- The U.S.A. is Belize's major tourism market.
- The U.S.A. and Japan are Micronesia's major tourism markets.
- \$400 airfare for U.S.A. gateway cities to Belize.
- \$1600 airfare for U.S.A. gateway cities to Micronesia.
- Belize kayak tours are primary attractions.
- Micronesia kayak tours will be primary attractions and add-on tourism products.
- Belize sea kayaking emphasize Adventure and Wilderness niche markets.
- Micronesia sea kayaking will probably emphasize Recreational and Ecotourism niche markets.

### **Sea Kayaking in Belize**

Although still only a small part of the total tourism market, kayaking and combination kayak/jungle tours are becoming very popular in Belize. Outfitted sea kayak touring in Belize began approximately 12 years ago with one small operation in Placencia Village. Today, there are seven outfitters operating in Belize that specialize in sea kayaking and combination kayak/jungle trips.

A survey of sea kayak businesses operating in Belize shows a steady growth rate for the past five years. Between 1991 and 1995 the number of kayakers increased by over 400%. Annual increases range between 21% and 82%.

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
# of kayakers	320	485	885	1,120	1,354
% increase		51%	82%	27%	21%

We estimate that sea kayaking and related tourism in Belize generates nearly US\$2,000,000 annually in gross revenues. Since there are no locally-owned sea kayak operations, a large part of this goes to the foreign owner/operator. However, perhaps as much as 60% is spent locally. The economic benefits of these dollars is felt throughout the country as the sea kayak operators purchase food and supplies, pay local employees, hire boats, and patronize local hotels and restaurants. Local guides, drivers, boat operators, fishermen, and other Belizeans involved with kayaking also spread these dollars to villages and towns throughout the country.

Challenges and Potential Impacts of Sea Kayaking in Belize. Sea kayaking in Belize appears to have little negative impact on the environment. All companies practice low-impact camping on small islands and camp only with permission from landowners. Kayakers do travel into more remote regions unused to outsiders. However, contacts with locals seem to be positive as long as local customs are respected.

Tourism, including kayak tourism, has developed so quickly that local officials are still reacting to the changes the growth has brought to Belize. Among these challenges are training and certifying guides and other tourism-related personnel. In addition, collecting permit fees from operators, policing national preserves where kayakers travel, and establishing designated camping areas on outlying atolls all need to be addressed.

### **Kayaking Opportunities in Micronesia**

Except for a single small operator in Palau, there are currently no commercial sea kayak products available in Micronesia. However, sea kayak operators are being seriously considered in Kosrae, Pohnpei and Yap.

The Supply. In 1995, an assessment of sea kayaking opportunities was conducted on Kosrae, Pohnpei, and Palau (Wylie and Rice, 1996). All three islands were found to have excellent opportunities for high quality sea kayaking (Table 2). Individually and collectively, they can supply a wide range of opportunities for the Recreational and Ecotourism kayak niches. Although there are fewer opportunities for Wilderness and Adventure kayaking, these types of experiences can also be found. Actual trips will be a combination of these four types.

The Demand. We anticipate the primary demand for sea kayaking in Micronesia, for the short term and long term, will be for Recreational and Ecotourism kayaking experiences. This will include both day trips and multi-day tours. Recreational kayaking may actually provide the foundation for all other niches, with the closest connection being with Ecotourism kayaking. Since the attractions for these niches are very similar, considerable overlap between these activities is expected.

There will be two basic types of markets for sea kayaking in Micronesia: 1) Tourists who come for reasons other than kayaking, and 2) Visitors who are primarily attracted by kayaking. We recommend selling add-on kayak tours to those who are already coming to the islands and developing high quality kayaking tours and advertising to specifically attract kayakers. Types of groups who might be interested include environmental organizations and schools that specialize in outdoor leadership, wilderness therapy, survival, or environmental education. Nationalities that will be most interested are the Americans, Canadians, British, Germans, Australians, and New Zealanders. The Japanese may also be a target market, especially Young Office Ladies and members of sports clubs.



Table 3. Potential sea kayak niche markets (Eagles, 1994).

	RECREATIONAL KAYAKING	EDUCATIONAL KAYAKING	WILDERNESS KAYAKING	ADVENTURE KAYAKING
<b>FOCUS &amp; MOTIVATIONS</b>	Enjoying nature Fun & relaxation Social interaction Convenience Easy exercise Low challenge & risk Pursue hobbies Learn paddling skills	Discovering nature Learning High quality information Unusual and spectacular species Low challenge and risk	Recreation within pristine environment Personal growth Psychological & physical benefits Moderate challenges Solitude	Conquering nature Personal accomplishment Remote places Adventure & Excitement Moderate-high effort & challenge/risk Team effort Being first/fastest
<b>DEMOGRAPHICS</b>	Highly variable All ages 2:1 ratio men to women All income levels except poor	Highly educated Age 30-65? Slightly more men? High income	Highly educated Age 25-55? More men than women Moderately high income	Average education Age 20-45? Mostly athletic men Higher than average income
<b>SUPPORT FACILITIES &amp; AMENITIES</b>	Highly variable Primarily day use Luxury food/lodging	Variable amenities Not as interested in quality food or lodging	Minimum development Primitive camping Limited modern conveniences	Camping with amenities May have gourmet meals May be motorboat supported
<b>GROUP SIZE &amp; SOCIAL CARRYING CAPACITY</b>	Not critical Can tolerate large crowds	Small groups Low-moderate tolerance for other people	Very small groups Very low tolerance for other people	Wide range of group size Teams and clubs High tolerance
<b>ACTIVITIES</b>	Day paddling for fun Various hobbies such as birdwatching, fishing, snorkeling, etc Sightseeing Beachcombing Sailing	Short interpretive tours Overnight guided tours Visiting historic and archeological sites Experiencing authentic culture Observing wildlife Lectures & demonstrations Volunteer activities	Multi-day camping trips Observing wildlife Hiking Cooking Reading for pleasure	Long distance paddling Open ocean crossings Kayak surfing Spearfishing SCUBA diving Mountain climbing Windsurfing Sawanoori $\downarrow$ Camp games
<b>ENVIRONMENTAL IMPACTS</b>	Limited	None to strongly positive	Little or none	Can be negative
<b>USE LEVELS</b>	High?	Moderate?	Low-moderate?	Very low?
<b>MARKET OPPORTUNITIES</b>	High growth potential Unlimited supply of suitable areas and customers	High growth until 2030 decline in Baby Boomers	Low growth potential limited supply of pristine areas & customers	Moderate growth potential limited age profile legal liabilities

$\downarrow$  Sawanoori is the Japanese word for hiking streams to their origin

**Critical Elements for Success.** With its world-class natural resources, Micronesia has the opportunity to become one of the best known sea kayak destinations in the world. The most critical steps to achieve this goal are:

1. Proper information and assistance for independent kayakers who are presently discovering this region.
2. Development of local kayak tour operators with professionally-trained guides and high quality equipment.
3. Properly packaged, multi-island tour products.
4. A coordinated marketing plan with a minimum commitment of 5 years.

**Forest and Cultural Connections.** Many forest attractions are not found elsewhere and give Micronesia an advantage over other kayaking destinations. These involve "user-friendly" mangroves and forest sites, such as the giant *Terminalia* and mangroves on Kosrae and Pohnpei. A forest-based marketing strategy would position Micronesia as being different from other tropical kayaking destinations.

The people and cultures of the region are unique and should not be overlooked when designing and advertising tour packages. These are things that are very common to locals but are extraordinary to visitors. They include language, architecture, outrigger canoes, food, crops, clothing, tattoos, crafts, and church activities. In particular, kayak tourism can support traditions of making and using outrigger canoes. Sea kayak tours that combine modern kayaks and traditional outriggers would have an added dimension that is not available in most other destinations.

## Conclusions

### What Can Micronesia Learn From Belize?

There are several things Micronesia can learn from Belize. First and foremost, they can minimize potential impacts and maximize potential benefits through proper planning and preparation. Once kayak tourism dollars begin to flow, it will be difficult to alter the course of the industry. Second, to encourage the development of locally-owned kayak operators and professionally-trained local guides. Third, they can be aware that kayakers are not all the same. Develop unique products that serve all four kayak niche markets and connect visitors to forest and cultural attractions.

### Sea Kayaking as a Tourism Strategy in Small Developing Countries

There are several advantages for adopting sea kayaking as a tourism development strategy in small, developing countries: 1) A relative small investment is needed (\$15,000–\$20,000). 2) Unlike SCUBA diving, it does not require highly technical training or equipment or critical

safety standards to maintain it. Because it is based on simple, human-powered equipment, a kayak operation can function in areas where there is no technological support or expertise. 3) It can operate in virtually any area with good quality marine, lake, or river environments. 4) It fits well with and supports traditional fishing/water-based cultures and communities. 5) It attracts the "right" kind of visitors who are interested in and respect the local environment and culture; and 6) It has greater potential to distribute benefits to rural areas. These benefits include profits, jobs, camping and entrance fees, taxes, tourism diversification, environmental education, resource conservation, and preservation of cultural traditions.

However, there are a few cautions: 1) Sea kayaking will not be a high-volume business; and 2) Sea kayakers will expect and demand a high-quality experience, including pristine environments, high-quality equipment in good condition (especially sit-inside kayaks), good interpretation, and professional tour guides.

### Natural Connections Between the Sea Kayaking and Dive Industry

Divers are natural customers for kayaking. They are athletic and comfortable in water, they like adventure, they are frequently interested in wildlife and coastal environments, and they have free days before and after flying when they cannot dive for safety reasons. Kayaking can also provide supplemental business for diving operations during low seasons. Not only can sea kayaks help diversify existing SCUBA operations, as add-on products for divers and non-diving partners, they are ideal vehicles for connecting divers with forest- and culture-based tourism. In addition, specialized kayaks can directly enhance diving opportunities by transporting SCUBA divers to otherwise inaccessible dive sites.

Kayaking can take advantage of a truly fascinating environmental niche: the intersection of sea and land. These shallow waterways are underutilized and underappreciated, yet they contain important resources and world-class attractions. The problem is access and awareness. These special places have been difficult to reach and largely ignored, until now. Kayaks could easily open up coastal mangrove and rain forest environments the way SCUBA opened up the underwater world. Areas like Belize and Micronesia are well-positioned to be leaders in the development of this "new frontier" in tourism.

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# SEACANOE THAILAND-LESSONS AND OBSERVATIONS

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**Abstract:** *SeaCanoe is an internationally acclaimed, locally owned "Ecodevelopment" laboratory proving that (A) local people can manage a sustainable "Ecotourism" project and (B) profitability with self-imposed volume controls, professional standards and enlightened management is possible in ASEAN.*

*With a dramatic new expedition genre, "Tidal Sea Caving," SeaCanoe attained its self-imposed volume limits in only two years. SeaCanoe then began turning away overflow bookings. Despite the complexity and dangers involved, opportunistic copy-cats immediately began operations. These "Eco-pirates" openly admitted they were over impacting sites with no knowledge of conservation, natural history or sea kayaking. ("I know what I'm doing is wrong," claim several Eco-pirates, "but there is no law to stop me.") Businessmen rather than conservationists, their only interest is cutting costs and maximizing profits.*

*Cave volume currently exceeds 500% of suggested limits—with no safety or conservation concerns. Government guidelines remain nonexistent.*

*"Eco-pirates" create serious issues, especially in Asia's climate of piracy and unsubstantiated marketing claims. Can international standard sustainability survive low-cost high-volume, high profit copy-cats? Will "Eco-pirates" ultimately destroy the Planet's few remaining pristine habitats?*

*Solutions exist, but require government cooperation. Unfortunately, Ecotourism consultants frequenting the region remain generally poor, yet somehow ASEAN must learn to implement master planning prior to Ecodevelopment.*

*Prospective operators and bureaucrats must jointly develop business structures, professional standards, nature interpretation, volume limits, marketing and permitting criteria that protect local villages, adjacent habitats and original entrepreneurs before beginning operations. Work permit and business formation programs encouraging responsible Ecodevelopment should encourage joint ventures between village owners and sincere "Ecodevelopers."*

**Keywords:** *Thailand, ecodevelopment, sea kayaking*

*SeaCanoe is a great new concept in adventure travel—an ideal Ecotourism model with exciting and innovative new economics.*

**—Dr. John Hemming,  
director, Royal Geographical  
Society, London**

## The Scenario

SeaCanoe was established in 1990 to serve as an ideal conservation-based "Ecodevelopment" model. One goal of the experiment is to see if a purely private company that does all things "right" can flourish and prosper. Operating in small tidal sea caves the company "discovered," volume limits became a cornerstone of SeaCanoe policy.

Since tidal sea caves—filled with rapid tidal currents, fragile stalactites and yet-to-be studied Ecosystems—are a new genre, SeaCanoe was cautious. Trip size went from two to four to eight to ten and finally twelve passengers per day. As demand grew, local partners (who invested none of their own money in SeaCanoe) argued that the caves could carry fourteen passengers per trip. Experiments proved the increase was acceptable, but larger groups would experience cave congestion, especially on fast-moving spring tides.

Gliding across the water with a "No Touching, No Talking, No Smoking" policy closely supervised by highly trained guides, SeaCanoe can access cliff-lined tidal lagoons through tidal sea caves with no environmental impact. Body heat and lighting create adverse impact in dry caves, but are not a factor in sea caving—body heat is absorbed and carried out with tidal currents; passengers carry hand-held dive lights.

## Economic Response to Self-imposed Volume Limits

As demand grew, SeaCanoe operations manager Soonthorn "Mut" Sagulsan, devised a trip schedule where two escort boats, each with 14 passengers, visited completely different sites. Trips would never even see one another. The system worked, and SeaCanoe increased capacity to 28 passengers per day. Market demand was now great, and a third escort boat was tried.

SeaCanoe discovered that while boats might meet at lunch stops, discrete programs could still be designed for each trip. When one manager knowledgeable in tidal sea caving set daily programs, there were still no trip overlaps or environmental impact. The greatest concern was taming the crab-eating macaques and white bellied sea eagles in the lagoons. The wild macaques were "learning" the kayaks, voluntarily approaching tours out of curiosity.

Capacity was 42 passengers per day. Most partners agreed there were no new options to increase capacity while maintaining environmental responsibility.

Once this self-imposed capacity was attained, one partner argued vigorously for unrestricted volume. A Thai-Chinese university graduate from Bangkok nicknamed "Sua Non" ("Sleeping Tiger") because he never learned kayaking, sea caving or conservation concepts, Sleeping Tiger's strictly monetary arguments were refuted by both Western advisors and local partners.

Subsequently, Sleeping Tiger attempted a take-over and eventually left the company to set up the first copy-cat operation. Since Sleeping Tiger never learned SeaCanoe's tidal technology, he took along one of his own hires, a suspended heroin addict guide SeaCanoe put through four rehabilitation programs. After the addict showed the new staff how to follow SeaCanoe, he was fired. A month later, the new copy-cat operation also fired Sleeping Tiger, who went on to form a second copy-cat. He was fired from that company after formation as well.

Two more Thai companies were formed for a total of four Thai-owned copy-cats. One Western dive operator also offers small scale trips for his guests, but consciously tries to avoid crowded sites. Although this operator has no sea kayaking training, his operations are not an environmental factor.

However, six companies now book up to 150 guests per day in small caves that can open and close with the tides in as little as eight minutes. SeaCanoe reached the sites' viable carrying capacity—42 passengers per day, before any other companies were formed. Any added volume degrades the experience and the environments. Even worse, these "ecopirates" are neither kayakers, cavers or conservationists, so the 100 plus entries a day they generate are not environmental responsible. The ecopirates offer no staff training and pay low wages that force their staff to "work the tip" by allowing their guests to sing in the lagoons, climb mangrove trees, smoke, take live seashells and stalactites as souvenirs.

Ironically, SeaCanoe marketing is so strong that the trademark became a generic term—all Phuket visitors who want a trip ask for "SeaCanoe" (and all the ecopirates claim they are the original "SeaCanoe"). Ironically, if SeaCanoe owners had violated their own self-imposed limits and accepted unlimited bookings within the SeaCanoe format, environmental impact would be reduced.

SeaCanoe continues true to its word—volume is now 16 guests per trip, but no more. Every day, sales staff see their "turn aways" at the dock with another operator. Especially in Thai society, these owners and staff deserve great respect for their resolve with volume controls.

This one point alone proves that no original operator in ASEAN societies can live up to their environmental principles without the assistance of government protections. In Asia, unscrupulous copying of Western creativity is often regarded as a status occupation. Volume limits—especially self-imposed—are regarded as foolish. In the eyes of the Asian yuppie entrepreneur, a responsible operator practicing self-imposed volume limits exists to be exploited.

It should be noted that prior to commercializing the caves, SeaCanoe met with Marine National Park officials and presented the above case. Commercialization began only after Park officials agreed to limit entries. To date, no attempt has been made to set professional standards or limit entries.

In this case, at least, various Thai agencies are consistently derelict in their duties. Even the Tourism Authority of Thailand—whose mandate is promoting tourism—only became actively involved once the issue became an international embarrassment. T.A.T. officials now claim they have no legal authority to implement controls.

### Need for Government Regulations

In one sense, the SeaCanoe experiment is a failure. An attempt was made to prove that industry-wide self-policing would eliminate the need for government regulations. In the West, where sea kayaking trips are run by actual sea kayakers, this scenario may be possible. However, in Asia, where sea kayak tours are run by ruthless opportunists, strong government regulations backed by tough enforcement are required. Without non-corruptible, conservation-focused and well enforced planning, unregulated "nature" tours will over-impact the habitats the "original" is trying to protect.

Worse yet, these micro-planning scenarios are only precursors of the larger problem. Without master planning, there is no hope for ASEAN environments, marine or terrestrial. For example, this author suggests that without immediate, well enforced environmental planning, the entire Mekong Basin will be devastated within 15 years. By 2010, the waters of the Mekong will not even reach the Vietnamese border, let alone the South China Sea. A blend of two planning models provide the only hope for South-East Asia.

The first model, the State of Hawai'i Marine Resources Management Plan, combines the input of academics, governments, commercial operators and recreational users.

However, it works only in a non-corruptible society that encourages citizen participation. Most South-East Asian cultures suppress citizen participation, particularly where rural villagers must stand up to “Coat-and-Tie” Capital City entrepreneurs. Of course, Asian bureaucracies operate on the principle of corruption, which also taints objective master planning.

The second model is the Municipality of Puerto Princessa in Palawan Province, the Philippines. Mayor Edward Hagedorn, now in his second term, uses both the gun and the courts to strictly enforce laws against dynamite and cyanide fishing, illegal logging, traffic, litter, firearm and drug laws with an iron fist. Puerto Princessa’s Baywatch program, administered by the Mayor’s father-in-law, has been shot at, bombed with dynamite and threatened with death, but they have established Princessa’s waters as a “Safe Zone” where illegal fishing boats are confiscated and environmental violators—including national level officials—either go to prison or pay stiff fines.

Puerto Princessa is the fastest growing municipality in the Philippines, with inbound migration from throughout the nation. “Puerto is clean and orderly” is the number one reason given by immigrants for moving to Princessa.

### Professional Standards and Volume Controls

On the open sea, there is little need for volume controls. However, one must eventually contact land. In the sea kayaking industry, put-ins and take-outs, campsites, waterfall hikes, etc., might be sites requiring volume controls. Land caves are so complex, fragile, and constricted that they always require volume controls. Sea caves are no exception. Limestone tidal sea caves cannot survive without them.

The only question is how much volume can each cave responsibly accept. In ASEAN societies, scientists determine carrying capacity.

Professional Standards are developed to insure customer safety and environmental responsibility. When services are for hire, standards help “guarantee” that the provider actually knows what they are doing. This guarantee is even more important in societies where false advertising claims go unchallenged and guides think they are experts after three days on the job.

### Protecting Local Villagers & Habitats

Community-based nature tourism strives for rural prosperity through environmental protection. To achieve this, villagers must have a vested economic interest in habitat protection. Conservation must generate more revenue for the village than illegal logging or cyanide fishing, or the program will not be sustainable.

Unfortunately, rural villagers have little business knowledge, know nothing of professional standards, and have an almost hopeless chance of marketing to Westerners. If they do achieve success, they draw the interest of the big city entrepreneur, in Thai, “Naw Wai Laang Lok,” the “Man with the Long Pants.”

These fellows have investments in many industries. Their only criteria—that they maximize return on investment. They don’t care if it is a hotel, steel mill or Ecotourism operation. If they achieve a handsome return, they will be there—and they ruthlessly exploit their own countrymen far worse than any Westerner. Good hearted but naïve villagers don’t stand a chance.

It should be noted that while the “Naw Wai Laang Lok” may steal the business, in many cases the greatest exploiters of rural villagers are the large American “Ecotourism” companies who print a fancy brochure and overcharge adventure trip by up to 300–400%. Both rural villagers and Western customers are ripped off so the staffs of Bay Area wholesalers can drive imported cars and travel business class with Gucci luggage.

In a perfect, incorruptible world, professional standards limit industry access to people who are at least willing to learn an activity. PADI is remiss for not requiring an experience requirement, but at least people have to know what a regulator is before they are allowed to guide or teach SCUBA. The same concept should apply to all nature-based tourism activities—especially on the sea. A commercial boat captain is well credentialed; why not a sea kayak guide, who depends upon muscle power and cannot be in every kayak?

Villagers, especially local fishermen, are immensely talented seamen, and easily adapt to sea kayaking with proper training. Professional standards are easily obtainable to these people, and help keep the industry in their hands, away from the “Naw Wai Laang Lok,” an extremely important point in Asia.

## Suggested Permitting and Business Formation Concepts

As with the Hawai'i Marine Resources Plan, scientific surveys should form the basis of any master plan. In South East Asia's limestone, particular emphasis must focus on limestone structures, especially sea caves. Suggested activities along with carrying capacities might be recommended for each particular site, available to qualified operators only by permit. Qualifications might include international standard "activity" credentials such as PADI provides for SCUBA, an environmental credential, lifeguard, first aid, and the basic national tour guide credential.

User fees of 2–5% of trip should go into special "fishbowl" funds earmarked for enforcement and permit oversight. To avoid corruption and inefficiencies, user fees should never go into general funds. Each country should form an "Untouchable" corps of environmental enforcers. In Thailand, this may be a special unit of the King's guard. In other ASEAN countries, it should report directly to the head of State.

ASEAN countries have provisions for outside entrepreneurs, but requirements and bureaucracies are set up to work permit multi-national corporate executives. The process should be adapted to accommodate nature tourism "coaches." At the same time that work permit and partnership requirements should be loosened, countries accepting these coaches should provide a screening process to guarantee the professional claims of each applicant.

## Strategies for Ecodevelopment

Each country must develop its own style of Ecotourism matchmaking. Bureaucratic excuses aside, the ASEAN country offering the best business formation and applicant screening systems will produce the most top-quality Ecodevelopments. That country's villagers and Eco-systems will be the region's major beneficiaries.

### The Coach

Virtually all adventure and nature tourism programs require an outside coach to achieve international standards of activities, service, nature interpretation, management and marketing. For example, Thai domestic ecotourism efforts are encouraging, but light years behind international standard. They lack themed nature interpretation or experienced experts in activities such as white water rafting, caving or sea kayaking. In disciplines where academics still

do not understand the basics, we simply cannot expect an untraveled villager with a fourth grade education to know how to serve or market to Europeans or Americans.

Like it or not, a coach is a pragmatic necessity, and if a country truly wants community-based nature tourism, they must develop a planning system that matches up the local villager with access to sites with the coach with expertise in an activity and the vision to succeed commercially.

Local entrepreneurs with a sincere commitment to Nature tourism could form an efficient third point in the "Coach-local villager" team. However, environmentally concerned entrepreneurs are a rare animal even in the West. In almost seven years in Thailand, we know of only one Thai entrepreneur who is in the "Ecotourism" industry to satisfy conservation goals.

Also, a basic concept for environmental regulation is that you can not turn back the clock. Once in, it is difficult to force operators out—no matter how bad they may be. Stringent professional standards are the only possible option to eliminate existing, low quality ecopirates. Therefore, master planning must be accomplished prior to ecodevelopment.

Criteria might include:

- Economic needs of a particular village
- Need for neighboring habitat protection
- Ability to protect existing cultures
- Commercial viability of the site

Once master planning is in place, it can be enforced with permitting by a non-corruptible high level public board such as the Palawan Council for Sustainable Development, a permitting body headed by Gov. Salvatore Socrates that also includes several national level cabinet ministers and department heads.

The Council considers each commercial application on a case-by-case basis against the Palawan Master Plan for Sustainable Development, and issues specific and stringent guidelines with each commercial permit. Operators not following their custom-made guidelines face the loss of their permit.

## "Joint Venturing" with National Development Planners

If "community-based tourism" or "adventure travel" or "ecotourism" is to achieve the promise of habitat conservation via commercialization, extreme cooperation is required. Bringing together free lance environmental

Entrepreneurs with high level ASEAN bureaucrats in a non-corruptible system may be an insurmountable task. Unfortunately, it is the only hope we have.

## Sad Realities

When SeaCanoe began operations in 1990, 90% of Thailand's mangrove had been lost since 1900. In the past five years, shrimp farms have claimed another 7% of the remaining 10%. In the Philippines, large fish are rare even in protected reefs. Most Philippine reefs—and almost all Indonesian reefs—have been dynamited, bleached and cyanided. In Vietnam's Halong Bay—a World Heritage Zone—islands are dynamited above the waterline for construction materials. Fishermen in all these countries complain of smaller and smaller catches.

There is virtually no environmental awareness in ASEAN's emerging economies. One of Thailand's best hopes is Khun Pradech Phayakvichien, the Tourism Authority of Thailand Deputy Governor for Planning. However, other T.A.T. executives argue that SeaCanoe should be happy—we have created five other companies, dozens of jobs and sea canoeing has a major impact on Phuket's economy. Never mind that there is not a single trained kayaker outside SeaCanoe. The Ecopirate owners all prefer a round of corruption golf with a bureaucrat to actually kayaking.

With all Thai ecopirates speaking out against professional standards and volume controls, no government agency has the conviction or responsibility to develop standards, or implement volume controls—least of all the National Park Service, the ultimate landowner. After initially agreeing to accept SeaCanoe's self-imposed volume controls, every Ecopirate has been allowed to operate with no controls whatsoever. When SeaCanoe located and released gibbons on a pristine island, the NPS guards assigned to guard the gibbons began poaching timber. A recent World Heritage survey team of Thai academics dropped Phang Nga Bay on the basis of over-commercialization and lack of planning. (Combined sea kayaking operations bring no more than 150 of the several thousand park guests per day.)

It takes a marriage of sincere, non-confrontive, altruistic, Western, environmentalists cooperating with their local NGO counterparts, sincere and sophisticated local entrepreneurs, and their village partners (who readily adapt to conservation once exposed to the concepts) working together with sincere bureaucrats to develop the system required to save ASEAN's magical marine environments.

The concept may seem impossible, the task insurmountable, but after seven years of practical experience, such a systems seems to be ASEAN's only environmental hope. Unfortunately, at the rate things are going, ASEAN habitats will be lost long before they are discovered.

## Addendum 1

*THE NATION*, Section A-8, Thursday, June 9, 1994

### Asia 'Key to Planet's Environmental Salvation'

Reuter, MANILA—The battle to save the planet from environmental destruction will be won or lost in Asia, a top conservationist has told a conference on biodiversity conservation in Manila.

"Asia has become the primary engine of world growth," said Maurice Strong, secretary-general of the 1992 Earth Summit in Rio de Janeiro. "But there is a real danger that many Asian nations will repeat the patterns of environmental destruction which characterized [the West's] industrial revolution." This, he said, would be "patently disastrous."

There is little hope of a global shift towards development that pays attention to environmental concerns unless Asia does so.

"But any visitor to [the Asia-Pacific region] today could not help but be concerned at the lack of any great evidence on the ground of this increasing awareness and commitment at the policy level," Strong said.

"It would be no exaggeration to say that the battle to save our planet—will be won or lost in Asia," he said.

Strong, currently chairman of the Earth Council set up after the Rio Summit, was speaking during a three-day Asia Pacific Conference on Biodiversity Conservation at the Asian Development Bank headquarters in Manila. He said there was little evidence, at least at the level of governments, of any major changes since the Rio conference.

The fundamental shift in attitudes necessary to stop the world from dying has not taken place, he said. "Fundamental change does not come quickly or easily," he said, adding that there were still grounds for hope. However, he added that more progress has been made outside government circles.



"There has been less progress than we wanted from governments, but more than we expected from citizens," he said.

## Addendum 2

### TWO YEARS FROM PATTAYA: IS THERE ANY PROGRESS?

On Tuesday, August 9, 1995, Mr. Noah Shepherd, General Manager of Sea Canoe Thailand, Ltd. delivered a presentation entitled "Sustainable Development of Tourism: Case Study from Phuket, Thailand." According to Conference proceedings, "The South East Asian Seminar on the Management of Coastal Cities and Town" (Localizing Agenda 21) was organized by the Advisory Committee on the Protection of the Sea (ACOPS), the local government Development Foundation (LOGODEF); International Union of Local Authorities, Section for the Asian and Pacific Section (IULA-ASPAC) Jakarta; Urban Management Programme (UMP) of the United Nations Center for Human Settlements (UNCHS-Habitat); the World Bank and the United Nations Development Programme; Regional Coordinating Unit for East Asian Seas Action Plan of the United Nations Environment Programme (RCU/EAS of UNEP); the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the City of Pattaya, with the assistance of the Government of Sweden.

"The main objective of the seminar is to enable local authorities in the South East Asian region to address the issues of coastal resources protection and ultimately to enable them to formulate and implement coastal zone management plans in their respective jurisdiction."

As capsulated on page 11 of the Seminar's "Summary of Proceedings," Mr. Shepherd's talk covered the following basic concepts: "Mr. Shepherd gave a background for the establishment of Sea Canoe Thailand Company, a company based in Phuket, Thailand which specializes in recreational adventure tourism and which gives priority to the conservation of the environment. He made mention of some salient features that contributed to the success of the company such as involvement of local share owning staff and managers. He underscored that Sea canoe has evolved into an active environmental campaign having put into practice its principle of putting the environment above profit. According to him, the company provides high quality recreational adventures specializing in natural history and cross-cultural education. As an eco-tourism environmental campaign, he stressed that visiting guests have to adhere to a strict set of rules in such pristine sites as caves. Such rules involve the no touching, no talking, no

eating, no drinking, no smoking and no collection of souvenirs in order to preserve these historic places."

Before concluding on August 10, 1994, the Conference adopted a "Declaration on the Management of South East Asian Coastal Cities and Towns," becoming the official policy of participating agencies. The participating organizations strongly encouraged local authorities to adopt the guidelines include the following "Recommendations on sustainable eco-Tourism."

Page 28 of the Conference proceedings addresses "effective environmental eco-tourism." These criteria and strategies are remarkably parallel to positions conceived and subsequently substantiated by the SeaCanoe model:

1. Involve local people in planning, management and ownership of projects.
2. Understand and preserve local customs.
3. Prioritize the actions required for preservation of the local environment.
4. Prioritize a platform for the environmental education of local people and visitors.
5. Provide trained and qualified staff to facilitate the establishment of an Eco-tourism business.
6. Introduce internationally-recognized standards of safety.

Local and national governments should:

- Discourage any commercial development within national park boundaries unless that commercial development helps fund and maintain the park and does not already affect the environment.
- Provide zoological or botanical sanctuaries, or both, within sensitive areas.
- License any commercial establishment using the guidelines as in one to six above.
- As necessary, allocate zones in which operators can carry out business.
- Set volume limits for environmentally-sensitive areas.
- Provide a public education programme to encourage environmental awareness.

For a full copy of seminar proceedings, contact:  
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# KAYAKING PARADISE: DEVELOPING KAYAKING AS A TOURISM ACTIVITY IN THE REPUBLIC OF PALAU

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**Abstract:** *Kayaking experts increasingly agree that the best warm water tour kayaking in the world is in the Republic of Palau. Visitors paddle in clear blue lagoons for a chance to view sea turtles, sunken sea planes, explore secluded sea caves, or land on palm-shaded beaches and admire Palau's phenomenal scenery. For the more adventurous, river kayaking offers opportunities to view stunning waterfalls, or, in the quiet mangrove channels, spot an endangered crocodile. Nowhere else can a visitor find such a diverse array of easily accessible kayaking options as Palau.*

*Kayak companies are discovering and actively promoting a new spectrum of previously unknown, overlooked, or rarely used coastal and snorkeling sites with high visitor appeal. Previously, visitation to these areas had been regulated by access problems, tour guide awareness of the site and the ability to find its actual location. Increased visitation to particular sites carries with it concerns about minimizing visitor impacts and enhancing visitor safety. Although present kayak companies are careful concerning site usage and are self-regulating, as key site information becomes common knowledge, overuse by other tour companies will become a problem.*

*As Palau moves to diversify its tourism base away from diving and into a variety of other low impact sustainable activities including kayaking, general tourism guidelines and regulations as well as specific tour guide education requirements need to be developed and adopted. Recommendations concerning the carrying capacity of certain visitor sites, as well as decisions concerning the quality of a visitor's experience while at these sites, need to be addressed before detrimental impacts occur to these beautiful and often fragile areas.*

**Keywords:** *kayaks, kayaking, Republic of Palau, Micronesia, tour guide education, diving*

## Background

The Republic of Palau is a stunning archipelago of over 500 lush jungle-covered islands nestled in the Western Pacific. Located south of Guam, north of New Guinea and east of the Philippines, the island nation is part of the Caroline Island Group of Micronesia. With a population of only 15,000 (U.S. Bureau of the Census, 1990), Palau remains a relatively unspoiled paradise above and below the water in the eyes of most international travelers. As several large-scale resorts begin the permit process, and

with increasing air service from Asian rim countries, and a new multi-faceted marketing strategy in the planning phase, Palau seems destined to be the next "soon-to-be-discovered" visitor mecca in the Pacific by travelers seeking scenic vistas, deserted beaches, exotic tropical islands, excellent seafood, a laid-back lifestyle, and the best diving in the world.

## Overview of Palau's Current Tourism Market

Palau has been known as an outstanding dive location since the 1970's. In 1989, the Conservation Education Diving Archeological Museum (CEDAM) in the United States designated Palau's reefs and underwater scenery to be the best of seven sites identified as the Seven Underwater Wonders of the World, as has the Smithsonian Institute (Otobed and Maiava, 1994). Due in part to this unique recognition, the Republic's visitor industry has been experiencing steady growth since 1989 when over 26,500 visitors arrived in the country. With an approximate 15% growth rate for the past five years, visitor figures topped over 53,000 in 1995, with 65% of those visitors traveling to Palau to dive. In 1995, tourism generated approximately \$20 million in local revenues. The Palau Visitors Authority (PVA) anticipates visitor arrivals to double to over 100,000 in the next four years (PVA, 1996).

The maintenance of Palau's tourism industry is largely dependent on Palau remaining a popular and significant diving destination. Recent reports affirm that Palau has ample natural and cultural assets with high visitor appeal to expand its tourism base from solely diving and into other nature-based tourism markets (PATA, 1993; Bell, 1994; Wylie, 1994) such as forest-based tourism, river running, tours of prehistoric and historic sites and kayaking.

In response to these findings, the PVA is working to develop a broader international image by recognizing and promoting a variety of alternative tourism activities such as tour kayaking (King, 1996).

## The Appeal of Rock Island Kayaking

International kayaking experts are just now discovering what local kayakers have been saying for years, that Palau is a world class location for warm water, ocean tour kayaking. Visitors are realizing that kayaking in Palau is a much more multi-faceted sport than diving. Even beginning kayakers can easily glide through Palau's calm, blue lagoons and bird watch, view sea turtles and sunken sea planes, explore secluded sea caves, land on palm-shaded beaches, or snorkel the best coral reefs in the world. For the more adventurous, Palau's river kayaking offers opportunities to paddle up to sun-dappled waterfalls, or, in the mangrove

channels, spot an endangered crocodile. For visitors who only have time in the evening, sunset paddling offers memorable moments such as listening for the twilight return of the Audubon shearwaters with their eerie cries, or watching flying fruit bats, that are frequently considered one of the highlights of their visit to the island. Night kayaking offers cooler temperatures and a unique occasion to observe swirls of golden-blue bioluminescence, silhouettes of the famous Rock Islands, and the chance to star gaze from quietly dripping sea caves. Nowhere else in the world can kayakers encounter such a diversity of fun and unique experiences with such easy access from a country's capital city. Kayaking appeals to families, as well as couples and solo paddlers, who are drawn to the activity by the sense of adventure, the peace and quiet, and Palau's phenomenal natural beauty.

Safety is another reason why visitors are willing to give kayaking a try in Palau as the waters inside the huge lagoon are warm and calm, so hypothermia and the fear of tipping over is minimized. The brightly colored sit-on-top kayaks themselves are completely user friendly and people adapt to them easily. Beginners like being close to the Rock Islands, and the fact that the water is clear and they can see the reef underneath them. All of this allows people to relax and enjoy their first kayaking experiencing.

## History of Kayaking in Palau

The first kayaks were brought to Palau in the late 1980s. At that time, the kayaks were the sit-in kind, for the personal use of four or five local kayakers, all U.S. expatriates. The activity was not actively promoted in the country until 1993, when the University of Hawaii Sea Grant Program established an extension agent position in Palau, whose mandate, in part, was to identify and develop sustainable ecotourism projects. The potential for sea kayaking as an alternative tourism activity had been mentioned in recent report drafts (Bell, 1994; Wylie, 1994). The extension agent laid needed groundwork for the kayaking industry by bringing in two of the first plastic sit-on-top kayaks and identifying sites with high visitor appeal, designing tour routes, giving many community members their first kayaking experience, and assisting the first kayak companies.

In April 1995, the first kayak business, Adventure Kayaking of Palau, Inc. opened with a fleet of five two-person kayaks and a single seater. In 1996, a second kayak company, Palau Kayak Tours, opened for business with six doubles and two single seaters. In addition, one of the dive shops began renting kayaks from one of the already established companies to give their own occasional specialty paddle tours.

In late 1995, the Palau Pacific Resort, a five-star resort owned by Pan Pacific, purchased three Ocean kayaks for their guests to paddle, and several more expatriates brought in sit-on-top kayaks and used them regularly.

Palau held its first triathlon during April 1996 in honor of Earth Day. The three day event, in which participants walked, bicycled and kayaked down the length of Babaldaob, a 27-mile long island, was filmed and shown on the local TV station. Kayaking is now a well recognized recreational activity enjoyed by Palauans, expatriates, and visitors.

## Struggling Though the First Year

Though Palau offers an exotic and unique nature experience for both beginning and experienced kayakers, kayak companies are finding it a challenge to reach potential customers. The first year of commercial kayaking from May 1995–April 1996 only grossed roughly \$32,000 with approximately 600 customers. These first year statistics are not indicative of the bright future for kayaking in Palau. Both kayak companies experienced serious start-up problems during their first months of operations. In addition, the atypical November 1995 through April 1996 weather pattern consisted of weeks of cloudy and rainy weather interspersed with occasional days of sunshine, substantially diminishing customer interest in additional outside activities.

Heightening general awareness about kayaking to prospective customers is essential since not only is kayaking a new sport in Palau, but generally throughout Micronesia. Travel writers, after a day of paddling, are eager to write about their new adventures. *Action Asia*, *Sea Kayaker*, and *Pacific*, the inflight magazine of Continental Airlines, will all soon feature articles on kayaking in Palau.

Currently, kayak companies are targeting divers already in the country, all of whom are recommended to take a day off from diving before they fly home to avoid decompression sickness. The companies are conducting regular slide presentations at major hotels and resorts, offering free kayak classes and demonstrations, placing signs at busy intersections, and distributing brochures.

They are also diligently educating tour packagers and wholesalers that Palau has something new and dynamic to offer visitors. Breaking specifically into the Asian tour package market will be an important step. In an exit survey conducted by the PVA between July 1994–June 1995, 68% of visitors to Palau came on package tours. The other 31% consisted of mainly Americans who traveled to Palau on their own with the remaining one per cent combining solo travel with a package (PVA, 1996).

## Palau's Kayak Customer

Palau kayaking tours are designed to meet the needs of two types of customers: American and Asian. Considering that Americans do not typically travel on package tours, and can make vacation choices whilst on-island, it is easy to understand why this group comprises over 90% of the kayaking customers. Since shopping and restaurant opportunities are limited on-island, these travelers tend to schedule an activity that will take the entire day, so full day tours are preferred.

The few Asian travelers who can get away from their tour package, or, are traveling on their own, are first-time kayakers and prefer a two or three hour kayak experience. They frequently take roles of photographs and appear to appreciate the opportunity to talk among themselves as well as view Palau's stunning environment in a new way. When the tour is finished, Asian customers comment on how tired they are, but frequently stop by the next day to remark on how good they feel and how surprised they are not to have any sore muscles.

For safety reasons, both kayak companies rent kayaks only to residents of Palau. Though, a large percentage of their customers are locals and expatriates, rental fees are low; therefore, a proportionately small percentage of income for both companies.

## The Need for Regulation and Management of Tour Sites

Kayakers are discovering and actively promoting an entirely new spectrum of previously unknown, overlooked, or rarely used land, coastal and snorkeling sites with high visitor appeal. Previously, commercial visits to such areas were regulated by access problems, awareness of the site and the ability to find its actual location. As information about these sites gradually becomes general knowledge, there is a growing concern about minimizing visitor impacts, maintaining the quality of the visitor experience and enhancing safety at these areas.

Take the following example. Kayak companies offer occasional visits to a certain secluded, marine lake containing thousands of stingless jellyfish, named Jellyfish Lake Koror. Kayakers tie up their boats in a shallow bay and proceed to hike a moderately strenuous 20 minutes to the marine lake. The lake edge is rimmed with overhanging jungle trees, and no one else is in the lake. The guide discusses the biology and of the lake and proper lake etiquette as the tour group listens attentively, then the group quietly ventures into the lake to experience the sensation of floating with thousands of harmless jellyfish. However, imagine how different the experience would be if

the group had met several other tour groups talking loudly along the trail, one throwing a plastic water bottle deep into the jungle, then coming to the lake edge to see 40 snorkelers already in the lake, two of them throwing jellyfish at each other.

To date, only a small number of tours have been to Jellyfish Lake Koror. However, as Palau's tourism increases, so will the number of tours and tour companies. As other marine-related tour businesses realize there are closer locations with similar visitor appeal, nearby sites, such as Jellyfish Lake Koror, will become more frequently and heavily used. Although many tour sites can stand heavy visitor traffic, the quality of some sites would be irreparably diminished by the actions of a dozen unknowing people.

As Palau moves to diversify its tourism base away from diving and into a variety of other low impact sustainable activities including kayaking, general tourism guidelines and regulations as well as specific tour guide education requirements need to be developed and adopted in the very near future. Recommendations concerning the carrying capacity of certain visitor sites, as well as decisions concerning the quality of a visitor's experience while at these sites, need to be addressed before detrimental impacts occur to these beautiful and often fragile areas.

## Conclusion

The kayaking industry in Palau, after a difficult beginning, continues to establish itself as a "must do" activity in Palau. The Palau kayaking experience sells itself, with many visitors exclaiming that if they had had more time, they would like to have paddled more. The first year start-up problems of both companies have been, by and large, solved. Promotion of Palau as one of the best kayaking locations in the world is being set in place by the PVA, and international experts are just beginning to discover that Palau really is a warm water tour kayakers paradise. As tour packagers and independent travelers discover kayaking as an additional reason to vacation in Palau, especially those visitors who live within Micronesia, Palau's reputation as one of the best kayaking areas in the world will be increasingly recognized.

In order maintain the integrity, conservation and quality of the visitor experience at all tour sites, an overall tourism plan needs to be developed and implemented.

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# NATURE-BASED TOURISM DEVELOPMENT IN SOUTH CAROLINA

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**Abstract:** *Tourism is South Carolina's second largest industry, with a \$13 billion per year impact on the state's economy. Clustered near Hilton Head, Charleston and Myrtle Beach, traditional golf, tennis and beach related activities form the largest parts of the South Carolina tourist economy. However, abundant and relatively undisturbed natural resources in close proximity to developed areas make South Carolina an ideal setting for domestic nature travel. With the continuing support of the National Coastal Resources Research Institute (NCRRI), staff and faculty of South Carolina Sea Grant and Clemson University have worked to establish the value of nature-based tourism as a tool for sustainable rural economic development while conserving natural resources and preserving the unique character of small coastal communities. Their efforts and the work of many volunteers have led to the establishment of the South Carolina Nature-Based Tourism Association, an educational organization of community leaders, natural resource managers and tourism businesses. The Association's accomplishments include the publication of voluntary guidelines for nature-based tourism planning and management, a bi-monthly newsletter, three annual state-wide nature-based tourism educational conferences, and a series of in-service trainings for practicing natural resource interpreters. In 1996, the Association will begin a project to create a state-wide directory of South Carolina nature-based tourism businesses and resources. The directory will provide the basis for a pilot industry marketing effort, a subsequent analysis of visitor satisfaction, and a preliminary attempt to assess the economic impact of nature travelers.*

**Keywords:** *nature-based, tourism, conservation, planning, rural economic development*

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## Background and Introduction

### The South Carolina Setting

Tourism is now a \$13 billion industry in South Carolina, with about \$7 billion of that total generated in three of the state's eight coastal counties. The industry's growth represents both opportunities and challenges for natural resource conservation and rural economic development on the coast.

Tourism development on the South Carolina coast is clustered in three areas: Myrtle Beach on the north coast,

Charleston on the central coast and Hilton Head in the south. Between Myrtle Beach and Charleston lies the Santee River delta and the Francis Marion National Forest. Just south of Charleston, along U.S. Highway 17, is the ACE Basin, a 350,000 acre expanse defined by the basins of Ashepoo, Combahee and Edisto Rivers.

A thriving tourism industry combined with abundant and relatively undeveloped natural resources and the state's location within a day's drive of almost half the population of the U.S., to make South Carolina an ideal domestic nature-based tourism destination. But for all its potential, nature-based tourism, if not carefully planned for and managed, could harm the resources it depends on. Therefore, the challenge is to engage all stakeholders in the development of a nature-based tourism industry to integrate, or balance, the need for economic development in rural coastal areas with the need to conserve our natural resources. This is a strategy of inclusion, consensus and optimization.

## Defining Nature-Based Tourism

"Nature-based tourism is responsible travel to natural areas which conserves the environment and improves the welfare of people." This is the Ecotourism Society's definition of "ecotourism" and also the definition adopted in South Carolina by the South Carolina Nature-Based Tourism Association (SCNBTA) for "nature-based tourism." Why is this kind of tourism variously called "ecotourism" or "nature-based tourism?" Perception is reality. In South Carolina, nature-based tourism organizers feared that an "eco" label might cause the concept to be misperceived as a sign of exclusivity by more conservative or traditional natural resource users such as campers, hunters and fishermen. Organizers also reasoned that because the key element of the definition of both eco- and nature-based tourism is conservation, then hunting and fishing (both well-managed, and thus non-consumptive of total resources) could be considered a subset of nature-based tourism. Organizers decided to include the broad spectrum of activities under the umbrella of nature-based tourism so that it would not seem to be exclusive or elitist in concept or practice, believing that the place from which to educate is from within the organization.

## Planning for Nature-Based Tourism

Achieving a balance of economic development and natural resource conservation through nature-based tourism requires good planning involving all stakeholders, including rural residents, public and private natural resource managers, tourism businesses and tourists. The key to good planning for nature-based tourism lies in matching activities with the most appropriate natural resource areas.

More sensitive natural resource areas might be appropriate for very low impact activities of small numbers of wilderness campers, for example. Less sensitive areas might be developed into nature and visitor centers with interpretative programs able to accommodate large groups, the disabled, elderly and others requiring more infrastructure (parking lots, ramps, walk ways, etc.).

Ross Dowling outlined a planning process to match natural resources with appropriate tourism activities (Dowling, 1993). Dowling's model is now being examined for its potential as the basis for a joint effort by the South Carolina Department of Natural Resources, the South Carolina Department of Parks, Recreation and Tourism, and the South Carolina Sea Grant Consortium to create a nature-based tourism plan for the ACE Basin region located between Charleston and Hilton Head.

## Nature-Based Tourism in South Carolina

### Initial Work

Nature-based tourism became a focus of attention in South Carolina in 1990 when Margaret Davidson, South Carolina Sea Grant Consortium director, and Robert Becker, director of the Strom Thurmond Institute at Clemson University, began to look at the changing fabric of the state's rural coastal communities. As the traditional economies of agriculture and fishing lost ground to tourism and residential retirement development, traditional ways of life in many small towns were threatened. In fact, even the physical appearance of many communities was changing under developmental pressure. Some welcomed the changes and others were concerned about the loss of the small town heritage that makes rural South Carolina unique. Davidson and Becker began to consider rural development alternatives which tended both to conserve cultural and natural resources and offer opportunities for economic growth. Nature-based tourism is one such alternative.

In partnership with the National Coastal Resources Research Institute (NCRI), Davidson and Becker began to explore nature-based tourism as a tool for rural economic development on South Carolina's coast. In their initial work investigators began to identify nature-based tourism businesses already in existence. They interviewed the operators and began to understand something of both the challenges they faced in operating their businesses and the things which made them successful. Investigators also attempted to draw a socio-economic profile of nature-based tourists with an interest in nature photography. The goal was to identify a segment of the nature travel market and help operators target that group in their marketing efforts. The products of this initial project included several videos of nature-based operators relating how they got

started in the business and the problems they faced; a bibliography of nature-based tourism to assist other researchers; and a publication which offers guidance on how to start a nature-based tourism business. A related publication, "Developing Naturally" by Dr. Thomas Potts, was published in 1995 by the Strom Thurmond Institute. It is a guide for communities interested in exploring their potential as a nature travel destination.

Continuing the partnership with NCRI in 1992, Robert Bacon and Dr. Lorin Toepper, then director of Clemson University's Recreation, Travel and Tourism Institute, created an outreach mechanism for previous and future nature-based tourism information in South Carolina. Bacon and Toepper established a pilot Grand Strand nature-based tourism organization using the concept of "satellite" nature-based tourism development. The concept of "satellite" nature-based tourism development uses the existing tourism base in the Myrtle Beach area to draw visitors into adjacent rural areas for, at least, part of their visit. Nature-based tourism, as a niche market, enhances the existing tourism industry by expanding the available product mix, diversifying the kinds of activities offered and offering a product which is viable in the off-peak fall and winter seasons. Nature-based tourism benefits rural areas by providing a flow of visitors to local shops and restaurants, and creates business opportunities for residents with knowledge of local natural resources. Such nature-based tourism entrepreneurs, who may be the sons and daughters of farmers or fishermen, could use their familiarity with local streams, rivers and marshes to start a canoe livery or wildlife guide service. Entrepreneurs might also establish bed and breakfast inns or "eco-lodge" accommodations. The "satellite" development concept addresses a "chicken or egg" problem of how to begin to attract visitors with limited existing tourism infrastructure. Day visits by nature tourists provides an initial flow of visitors into rural areas, stimulating an increased demand for products and services which can lead to the development, or expansion, of a variety of small local businesses. The emphasis on local businesses is important, because nature-based tourists enjoy experiencing both natural and cultural resources with the "local" flavor which helps to make these resources unique.

As the involvement of the South Carolina Sea Grant Extension Program in nature-based tourism grew, a tourism specialist, Tamela Kibler, was placed in the Myrtle Beach area to provide educational and outreach services to existing and start-up nature-based tourism businesses and to develop a working relationship with the established tourism industry. Kibler has worked closely with Dr. Lorin Toepper, former director of Clemson's Recreation Travel and Tourism Institute (RTTI) and with Dr. Bill Norman, his successor. Toepper and Norman have provided an academic and research base upon which Kibler has developed programs in the Myrtle Beach area and

statewide. An example of Kibler's outreach activity among rural communities is a water trails workshop she organized to extend the successful model of the Edisto Canoe and Kayak Trail Commission in Walterboro, South Carolina to other communities with similar riverine resources.

### The South Carolina Nature-Based Tourism Association

The success of the Grand Strand task force stimulated interest in creating a statewide organization. Bacon, Toepper, Kibler and the members of the Grand Strand task force organized the state's first nature-based tourism conference in March 1993. Speakers, including Dr. John Hunt from the University of Idaho's Department of Resource, Recreation and Tourism Management, introduced nature-based tourism to 125 interested conference participants. The conference speakers addressed the potential impact of nature-based tourism on local businesses and communities, and extended much of the information gathered through Davidson's and Becker's earlier project, including a socio-economic characterization of the nature-based tourist. The conference provided a first opportunity for existing nature-based business operators to meet and exchange ideas. It also drew participants from the established tourism industry, providing an opportunity for them to become acquainted with the potential benefits to them of nature-based tourism. The conference received wide press coverage in local newspapers and also received a mention in *USA Today*.

The South Carolina Nature-Based Tourism Association (SCNBTA) was formally established at the second statewide nature-based tourism conference in March 1994. Officers were elected, and a constitution and by-laws adopted. The association was formed as primarily an educational organization to encourage and plan for sustainable nature-based tourism. Organizational objectives include the establishment of voluntary standards and practices; the development of interpretative quality control mechanisms; the development of in-service training for natural interpreters; the provision of business assistance to members; the planned development of a nature-based tourism industry in South Carolina including all stakeholders in the planning process; and enhanced industry impact through collective marketing and promotion activities. Organizers opened membership in the Association to all industry stakeholders, especially representatives from communities, natural resource managers and tourism businesses.

Prior to the election of association officers, much of the leadership for nature-based tourism organization was undertaken by Bacon, Toepper and Kibler in conjunction with their NCRI grant. Between the first and second conferences, Bacon, Toepper and Kibler identified leaders

to form the slate of nominees to head the Association. The nominees included: for president, Charlie Sweat, the chair of the Edisto Canoe and Kayak Trail Commission; for vice president, Jim Koenig, the director of Camp St. Christopher, a barrier island environmental education program; for secretary, Tim Todd, the president of the South Carolina Association of Tourism Regions; and for treasurer, Vicki Scott, an interpreter/guide from Capt'n Dick's Explorer Cruises, a nature tour operator in Murrell's Inlet. The slate of nominees became the Association's first elected officers in March 1994. Bacon, Kibler and Norman, Toepper's successor at RTTI, all now serve on an advisory board appointed by the president. In addition, Kibler functions as a part-time staff assistant to the SCNBTA board.

One of the first decisions of the SCNBTA board under its elected leadership, was to organize the Association as a private, non-profit educational organization. The secretary obtained a federal identification number and state recognition for the Association's non-profit status. A Charleston attorney has agreed to provide his services on a *pro bono* basis and is now working on the Association's application for Federal 501(C)3 tax exempt status.

Association by-laws, drafted by Bacon, were also approved at the second conference. The by-laws established a Board of Directors with representation from each of the state's ten tourism regions. The tourism regions are operated as private, non-profit entities and supported, in large part, by the South Carolina Department of Parks, Recreation and Tourism. The link between the Association's structure and that of the existing tourism regions, provides the Association with a support system and useful links with tourism policy making within state government. The director of each of the ten tourism regions appointed the first board member from within each region. Thereafter, board members will be elected by association members. Providing a regional structure also allows for greater interaction among members within a region, sets the stage for cooperative marketing and allows for the industry to develop at different rates within each region.

In 1994, based on the interest generated by the first nature-based tourism conference, Bacon and Toepper were able to secure a place for nature-based tourism on the program of the South Carolina Governor's Conference on Travel and Tourism, the industry's largest and most prestigious event. Bacon and Toepper assembled an international panel from business and academia to address the audience on the nature-based tourism market and the issue of sustainability in tourism development.

Meanwhile, in 1993 Davidson and Bacon convened a group including academics, business people and public and private agency representatives to consider how to plan for and manage sustainable nature-based tourism in South



Carolina. The outcome of a series of meetings which took place over a year's time was "Guidelines and Recommendations for Nature-Based Tourism Planning and Practice in South Carolina." The guidelines were developed to address the roles of communities, resource managers, tourism businesses and tourists in contributing to a sustainable nature tourism industry. The group benefited greatly from the generosity and cooperation of the Ecotourism Society in providing it with examples of similar guidelines from around the world. Because the general nature of nature-based tourism guidelines remain relatively constant from place to place, the South Carolina group reviewed the guidelines, selecting those most suitable for the South Carolina setting and modifying them to address South Carolina specific issues.

The SCNBTA membership formally adopted the guidelines at the third nature-based tourism conference in 1995. The guidelines constitute the Association's official set of standards and practices to guide the industry's planning activities and the member's sustainable business practices. The guidelines were published by the Association with the assistance of NCRI and the South Carolina Sea Grant Consortium and distributed to the membership, in response to mailed requests from around the country and at tourism industry gatherings, such as the 1996 South Carolina Governor's Conference on Travel and Tourism.

South Carolina's fourth nature-based tourism conference will be held in November 1996 in Myrtle Beach. For the first time this year, the SCNBTA board voted to use the services of a meeting planner in putting together the conference. This decision was a concession to the individual board members' increasingly busy schedules. With other jobs or businesses to run, attending to the details of putting on a first class conference simply became too demanding. Using the services of meeting planners has freed the officers and volunteers from the routine organizational chores and allowed them to focus more attention on planning the conference's educational programs and field experiences.

Hiring the meeting planners was financed through membership dues, conference registrations and most especially the proceeds from auctions conducted at the two previous conferences. Live and silent auctions are both fun and entertaining for the participants and have proven to be an excellent fund raising tool for the Association. Volunteers from the conference committee solicit items from tourism and nature-related businesses around the state. Donated auction items have ranged from T-shirts to vacation weekends to a sea kayak. Over \$2000 were raised within a 2-hour period at both auctions. The sale of conference sponsorships (coffee breaks, dinners, lunches and field trips) is another funding mechanism used with success by previous conference organizers. This year, the meeting planners will take charge of much of the

sponsorship solicitation activity as well as negotiate favorable rates for accommodations and meeting space. The board anticipates that through these efforts the meeting planners will generate the funds necessary to pay for their services. Still, hiring meeting planners represents a calculated risk for the Association, which is responsible for the fee regardless of the outcome of the conference.

In 1996, NCRI has again funded a joint two-year project of the SCNBTA, South Carolina Sea Grant Extension and Clemson's RTTI. The project is designed to create, market and evaluate nature-based vacation packages and itineraries. Susan Reid, the South Carolina Sea Grant Extension Community and Business Development Specialist, joined the project staff in planning this project. The goal of the project is to transform an unrelated series of nature-based tourism activities into coordinated nature vacations.

In order to enhance the attractiveness of South Carolina to nature tourists and establish South Carolina as a nature tourism destination, the project planners reasoned that it was necessary to promote the entire industry and provide easy access to its individual businesses. There is a business in the Myrtle Beach area called "Myrtle Beach Golf Holiday." It is a magazine which lists participating golf courses and accommodations. Using this service, golf vacationers can, with a single phone call, make all necessary golf and accommodation reservations for an entire vacation. Golf courses and accommodations benefit from cooperative marketing and the vacationer has convenient access to all the information he needs.

The creation of a South Carolina Nature-Based Tourism Business and Resource Directory will provide nature tourism businesses and nature travelers with the same benefits. In addition, the directory will serve as a membership tool for the SCNBTA. Again, the project is modeled after another successful publication, the "Bed and Breakfasts of South Carolina." This guide was published by the South Carolina Bed and Breakfast Association with grant support from the South Carolina Parks, Recreation and Tourism Department (SCPRT). Because it was produced with state money, the guide must list all bed and breakfast inns, not just association members. Members, however, receive enhanced listings which include promotional tag lines, the Association logo and a designation of association approval. Non-members are simply listed by name address and phone. Nature-based project organizers are working with the staff person at SCPRT who assisted the bed and breakfast association with its guide.

Bacon, representing the SCNBTA, has applied for a 50/50 matching grant from SCPRT under its Tourism marketing Partnership Program to help support the development and marketing of the nature-based tourism guide. On the

technical side, the guide will be produced in a standard rack compatible 4" by 9" format. The guide will also be created on-line for worldwide web access and facilitate updated listings between hard copy revisions. Norman is directing the data collection effort for the guide and is now supervising a pilot project to create a guide for the Grand Strand region. Kibler, working with a student from Coastal Carolina University, is testing data collection formats and methods in preparation for the statewide effort scheduled to begin this summer. The anticipated publication date for the guide is November 15, 1996 in conjunction with the annual SCNBTa conference. The back-up date is in early February 1997, in conjunction with the South Carolina Governor's Conference on Travel and Tourism.

The "SC Nature-Based Tourism Business and Resource Guide" will be distributed by the Association and SCPRT at travel industry trade shows; at South Carolina Welcome Centers; by mail in response to individual inquiries; at individual businesses; in state parks; and via the world-wide web through the linked home pages of the South Carolina Sea Grant Consortium, the South Carolina Parks, Recreation and Tourism Department and the State of South Carolina. The guide is also designed to be used by travel agents and receptive tour operators in assisting them and their clients with vacation and tour planning.

Finally, the SCNBTa has begun to address issues of quality control in the interpretation of natural resources through a series of educational seminars. These seminars are being conducted under the direction of SCNBTa Vice President Jim Koenig, director of Camp St. Christopher and environmental learning center on Seabrook Island, in collaboration with the education program staff of the SC Department of Natural Resources' Marine Division. At these seminars, natural resource scientists from the department and the state's universities will provide the state's public and private resource interpreters with in-service training to help ensure the accuracy of information provided to the traveling public. Eventually, the Association would like to offer a certification program for interpreters, perhaps modeled after the one required by the City of Charleston for its historic tour guides.

## Conclusion

In conclusion, over the past five years while many have contributed to setting the stage for the development of a sustainable nature-based tourism industry in South Carolina, much still remains to be done. Little has been done to address the issues of natural resource carrying capacity for nature travel. Although now being discussed by South Carolina Sea Grant, the South Carolina Parks, Recreation and Tourism Department and the South Carolina Department of Natural Resources, no regional planning process has yet begun. The SCNBTa is still a

young, fragile organization which must engage and maintain the interest and participation of many more members to ensure its continued success. It must produce meaningful outcomes for its members and maintain an active voice within the tourism industry as a whole.

Finally, Davidson, Becker, Bacon, Toepper, Norman, Kibler, the SCNBTa board and all the other industry leaders have all realized from the beginning that raising the awareness of nature-based tourism among state natural resource agencies, community leaders and the tourism industry was only the first challenge. The next and most important challenge lies in finding and maintaining a generally accepted and workable balance between economic development and the conservation of natural and cultural resources. If we can find that balance that, we will have gone a long way toward preserving those resources which have made our state an attractive and unique place in which to live, work visit and play.

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# MARINE TOURISM IN NEW ZEALAND: A PROFILE

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**Abstract:** *Tourism is the fastest growing sector of the New Zealand economy and accounts for more than \$NZ3.84 billion in foreign exchange. New Zealand's tourism is based predominantly on scenic attractions, wildlife and natural resources. The country has a diverse and relatively pristine marine environment and it is likely that coastal and marine tourism will become increasingly important. However, the marine species and habitats targeted by tourism need to be identified and environmental implications assessed if this growth is to be managed sustainably.*

*This study investigated the current status of marine tourism in New Zealand, with particular regard to environmental issues and options. The term marine tourism was used to include all commercial operations visiting natural areas for the purpose of diving, recreational fishing, tour boating and cruises, and the viewing of seabirds and marine mammals. A mail-out questionnaire sent to all (~380) commercial operators was used to profile the industry. The major types of operation were identified as were the key areas, species and habitats targeted by each.*

*New Zealand's marine tourism industry is still in its infancy; most operations are small, locally controlled businesses, and have evolved within the past five years. Wildlife viewing is the most common activity, with more than 44% of operators noting marine mammals and 78% seabirds as their key attraction.*

**Keywords:** *marine tourism, environmental issues, New Zealand*

## Introduction

In response to the demand for travel and adventure, tourism is now the world's largest and most rapidly growing industry (Miller and Kirk, 1993; Snow, 1990). In line with this trend, tourism is New Zealand's fastest growing industry and its largest earner of foreign exchange, contributing close to \$NZ4 billion in 1995. A thriving domestic tourism industry generates a further \$NZ4 billion a year, making tourism worth some \$NZ8 billion a year, and contributing more than 5% to the country's gross

national product (NZTB, 1995). This growth rate for tourism is somewhat higher than the current world average of 3.8% per annum (Endicott, 1996). For the year ended June 1995, visitor arrivals to New Zealand were 1.37 million, an increase of 11% over the previous year. It is projected that the annual number of overseas visitors will exceed 2 million by the turn of the decade (NZTB, 1995). By comparison, New Zealand's current population is only 3.5 million (Statistics New Zealand, 1995).

New Zealand (269,000 km<sup>2</sup>) lies in the southwest Pacific and comprises two main islands (North and South) at temperate latitudes (~34-47° S). The country also includes, however, a number of smaller islands from the subtropics to the subantarctic. New Zealand has a diverse marine environment and an intricate coastline some 15,000 km in length. By world standards much of the country's coastal and marine environment is pristine or still relatively unimpacted by human activity. An estimated 483,000 international visitors participated in marine tourism related activities in 1993 (NZTB, 1992-1993). Whilst this represents only 27% of the total visitors surveyed, it is expected that coastal and marine tourism will become increasingly important. For instance, in the same survey scenic boat cruises (and short bush walks) were identified as the most popular activities.

The predominant style of tourism in New Zealand is based on wildlife, wildlife areas and scenic beauty, with nature-based tourism given considerable prominence in New Zealand's domestic and international marketing strategies. With the rapid expansion and diffuse nature of tourism in New Zealand there has been very little documentation of the extent of marine tourism in the country. It is thus imperative that the marine species and habitats targeted by tourism are identified and environmental implications assessed if this growth is to be managed sustainably.

This paper documents the current status of marine tourism and quantifies the major types of attractions and activities. In addition it addresses some of the issues regarding the sustainability and future growth of the industry.

## Methods

For this study marine tourism was defined as commercial operations visiting natural areas for the purpose of diving, fishing, marine mammal and seabird watching, cruising and tour boating. A survey of all marine tour operators was conducted during September and November 1995. Names and addresses of operators were obtained by writing to all the visitor information centres in New Zealand that have a coastal interest. In addition, a search was made through the Yellow Pages of all the telephone directories under the key word/phrases "charter services-boat and launch charter, divers and diving tuition, fishing trips, tourist

attraction and tour services, sightseeing and excursions." A direct mail survey was selected as the most appropriate and economic method for collecting the data given the large number of tour operators dispersed throughout the country.

A total of 376 operators were initially identified as having some type of marine attraction component included in their tour. To maximise the response, stamped return-addressed envelopes were provided, and follow-up telephone calls were made to all those who had not returned completed questionnaires after three weeks. Twenty-seven surveys were returned as undeliverable. The possible survey sample was therefore reduced to 349. A total of 190 responses were received giving an overall response rate of 55%. The data were collated and analysed using the program SPSS for Windows.

Objectives of the survey were: (1) To obtain profile data on tour operations and the marine tourism industry as a whole (e.g., locations of operations, types of trips offered, and key attractions). (2) To identify possible environmental concerns, specifically the species and habitats perceived as vulnerable to tourist pressure. (3) To investigate the attitudes of the tour operators to the current and future management of the industry. This paper reports results of the first two objectives, examines the characteristics of New Zealand's marine tourism industry, and discusses some of the management issues that need to be addressed.

## Results and Discussion

### Profile of the Industry

There is a marked seasonal pattern in numbers of visitors participating in marine tourism activities, with a distinct peak over the summer months December to March (Figure 1). A similar pattern is shown by total international visitor arrivals.

New Zealand's marine tourism industry is still in its infancy; 61% of operations have developed within the past five years (Table 1). 43% of the respondents indicated that they close for a period of two weeks or more during the year. The closure usually coincided with the winter months June to August and was primarily a result of weather restrictions or lack of tourist demand. Together these factors contribute to a difficult operating environment where an operation must be able to support itself over the winter lull in tourist numbers to remain commercially viable. Also, the industry is largely composed of small, locally owned and operated businesses. Overall, 82% of the operations employ less than three staff members. Small operators are relatively uncontrolled except by market forces which raises the issue of new operators visiting areas without an adequate knowledge of the resources.

### Activity and Attractions:

The price of tours varied considerably depending on the activities offered, but averaged NZ\$30-35 per hour. 72% of operations used powered boats, 15% yachts and 16% kayaks. The use of powered vessels provides access to locations and wildlife previously inaccessible to visitors. This highlights a concern expressed widely in the literature that, increasingly, nature tourism activity constitutes traveling to relatively undisturbed locations with fragile ecosystems or endangered and threatened wildlife (Butler, 1980; Koziowski, 1985; Boo, 1990; Cellabos-Lascurian, 1991; Hawkins and Roberts, 1993; Jacobson and Lopez, 1994). In addition, species in these areas are unused to human presence and often more sensitive to disturbance (Klein et al., 1995).

New Zealand's marine tourism industry encompasses a diverse range of activities, the major ones being cruises, line fishing, seabird and marine mammal watching (Figure 2). Wildlife viewing is the most common activity, with 44% of respondents noting marine mammals and 78% noting seabirds (including penguins) as a key attraction of their tour (Figure 3). Many operators (52%) noted a wide range of attractions ranging from historic sites to sea caves and the general marine vista. These attractions, grouped as scenery, in Figure 3, account for the large proportion of operators in this category.

Dolphins were the species targeted most frequently, with 22% of operators identifying them as a key attraction. There are four dolphin species commonly sighted in New Zealand waters: common (*Delphinus delphis*), bottlenose (*Tursiops truncatus*), dusky (*Lagenorhynchus obscurus*) and Hector's dolphin (*Cephalorhynchus hectori*), the latter endemic to New Zealand (Slooten and Dawson, 1994). New Zealand fur seals (*Arctocephalus forsteri*) and penguins were the next most commonly targeted species. The viewing of penguins involves blue penguin (*Eudyptula minor*), Fiordland crested penguin (*Eudyptes pachyrhynchus*) and the yellow-eyed penguin (*Megadyptes antipodes*), recognised as the world's rarest penguin. Thirteen respondents identified whales as a target attraction. New Zealand is the only place in the world where resident sperm whales are close enough to the shore to be viewed on a commercial basis. Other transient cetaceans are also viewed on an opportunistic basis. One of these is the rare southern right whale which has been sighted regularly in New Zealand waters for the past few years (Department of Conservation, 1995).

Many wildlife enthusiasts have a particular fascination for marine mammals (Kovacs and Innes, 1990; Simonds, 1991). Commercial whale watching worldwide has grown spectacularly over the past decade, almost doubling annually in terms of revenue and passengers (Hoyts, 1995). The abundance of marine mammals inhabiting New

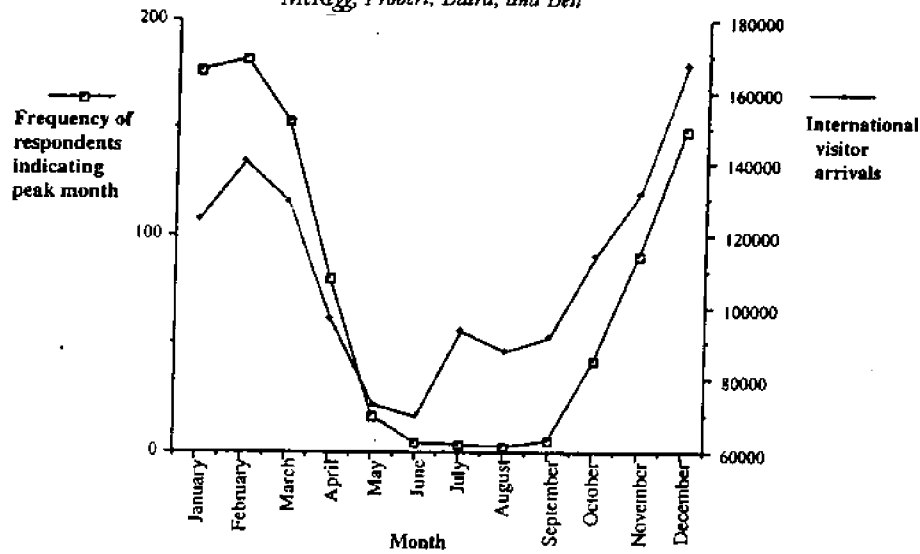


Figure 1. Seasonal pattern in visitor numbers participating in marine tourism activities compared with the trend in total international visitor arrivals for the 1994 season (Market research NZTB/Statistics New Zealand).

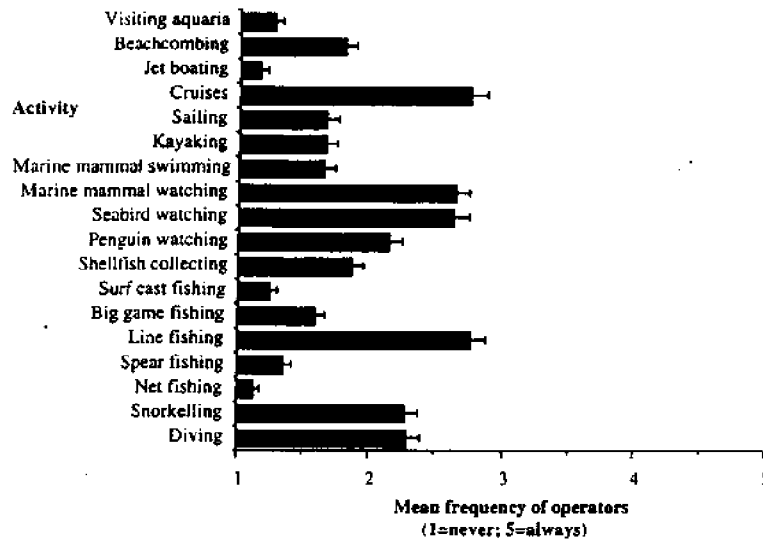


Figure 2. Type of activities incorporated in New Zealand's marine tourism industry (n=190, error bars represent one standard error).

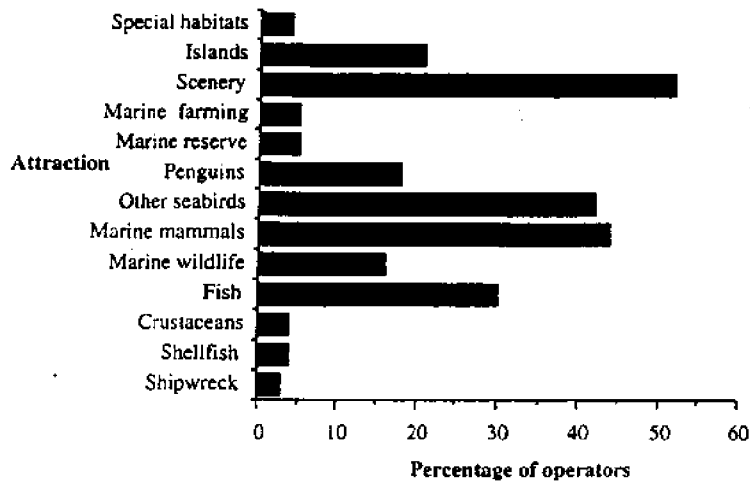


Figure 3. Key attractions targeted by marine tourism operators in New Zealand (N=190).

Zealand's coastal waters will continue to attract increasing numbers of visitors, creating commercial pressure to expand the current level of activity. Care must be taken to weigh up the threats and opportunities with management decisions based upon rigorous environmental impact assessment.

To date there is no system in New Zealand which can be used to ensure operations are ecologically sound. To achieve sustainable management there is a need for industry-wide environmental standards ensuring operators have adequate guidelines and knowledge about the ecosystem in which they are operating. The governmental body charged with conservation matters in New Zealand is the Department of Conservation, consequently it has the most significant and direct role in administering marine tourism. It must be noted that where marine mammals are not encountered, the Department has no powers of regulation over marine based tour operations, such as seabird or general aquatic viewing. The Department has adopted a very precautionary approach to any increased commercial marine mammal watching (Baxter and Donoghue, 1995). The lack of information to guide management necessitates this approach. All marine mammals around New Zealand are fully protected under the Marine Mammals Protection Act 1978. In 1990 regulations (promulgated under the Act) were introduced, establishing a permit system specifically for the control and management of marine mammal watching. These were revised in 1992 in response to the rapid growth of marine mammal watching around the country. The regulations are based upon research conducted overseas, and the results of two New Zealand studies which assessed the impact of marine mammal watching on sperm whales (Baker and MacGibbon, 1991; Gordon et al., 1993).

Few respondents noted marine reserves as a major attraction on their tour (Figure 3). This may reflect the small number of marine reserves in the country (13 have so far been established under New Zealand's Marine Reserves Act 1971) and their location generally away from key tourist destinations. In addition, 11 of the 13 protected areas have been created within the past five years. Recovery of natural resources in an undisturbed area is a gradual process, hence changes in the environment generated by protection may not yet be clearly visible.

### Environmental Concerns

Respondents were given a list of marine attractions and asked to note any which they considered particularly vulnerable to pressure from tourists in their locality. In addition they were asked to identify how much of a detrimental environmental effect they felt a list of 10 different scenarios could *potentially* have on the species or habitats visited during a "tour like theirs" (responding on a

four point scale from 1—major detrimental effect to 4—no detrimental effect).

Respondents were then grouped on the basis of their target attraction. This enabled us to examine the degree to which the operators felt their particular key attraction was vulnerable to tourist pressure and the actions during a tour like theirs, which may have a notable detrimental environmental effect on the key species or habitat identified. None of the four key taxa noted above was regarded as being particularly vulnerable to tourist pressure (Table 2). Concern about actions that might affect the species or habitats targeted related mainly to: increasing amounts of litter, and overcrowding by tourists spoiling the 'naturalness' of the sites visited (Table 3). Very few operators considered that detrimental effects would arise from such actions as touching, noise, or the general presence of tourists, even though these have been identified elsewhere as potential problems associated with wildlife viewing. Reliant as they are upon sound for communication, prey detection and orientation, marine mammals may be especially vulnerable to noise disturbance (Reeves, 1992). An echolocating animal has the problem of discriminating the echoes from its target from general background noise. Anything which increases the level of background noise, such as vessel traffic, could reduce the efficiency at which it can perform an echolocation task (Gordon et al., 1992), yet none of the operators targeting marine mammals identified noise as a potential concern.

This indicates that targeted animals are either not affected by current levels of marine tourism activity, or that operators are unaware or not prepared to acknowledge an impact. The terms 'potentially' and 'tour like yours' were used to try and take the onus off the individual and remove any inherent bias in the question. If in fact operators do not perceive their type of tour to have any potential effects on the species or habitats targeted it may raise an issue of concern to managers as they encounter the problem of trying to effect change in the industry without willing participants.

### Conclusion

New Zealand is endowed with spectacular coastal scenery and unique marine wildlife. Marine-based tourism is likely to become increasingly important in New Zealand. The relatively successful management of marine tourism to date is potentially a result of the industry still being in its early stages of development. As the industry continues to grow there will be an increasing need for proactive coordinated planning if negative impacts are to be minimised and the environmental, social and economic returns maximised.

**Table 1. Number of years marine tourism operations have been established in New Zealand.**

Years of operation	Number of operations	Percent of operators	Cumulative percent
0-5	116	61.4	61.4
5-10	42	22.2	83.6
10-15	14	8.4	92.1
15-20	6	2.2	94.2
20-25	2	1.0	95.2
25 +	9	4.8	100.0

**Table 2. The number of operators targeting the four most frequently identified attractions and the proportion of those operators indicating the target attraction was vulnerable.**

Target Attraction	Number of operators targeting the attraction(n=190)	% of operators indicating species vulnerability
Dolphins	42	40
Seals	35	50
Penguins	35	45
Whales	13	23

**Table 3. Actions that operators identified could have a major to moderate environmental effect on the animals or habitats visited during a tour like theirs (only includes actions of concern identified by > 50% of the operators).**

Target Attraction	Action of concern	% of operators identifying concern
Dolphins	Increase in litter	56
	Overcrowding of natural sites	54
Seals	Increase in litter	63
	Overcrowding of natural sites	50
Penguins	Increase in litter	52
Whales	Overcrowding of natural sites	50

This paper highlights some of the issues emerging in New Zealand's marine tourism industry. In particular, the operators perception that tourism does not impact the environment, despite the long catalogue of literature documenting the environmental impacts which result from tourism. Managers are likely to encounter increasing resistance as they try to regulate the industry. To achieve sustainable management it is vital that research and monitoring keeps pace with rising tourist numbers. Resistance to regulation will be alleviated if operators and the general public can see management policies are not formulated in an ad hoc manner but are based upon robust, scientifically defensible research.

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# A STUDY ON THE PHYSIOLOGICAL EFFECTS ON THE HUMAN BRAIN WAVES OF ULTRASONIC WAVES CONTAINED IN THE SOUND OF WAVES IN COASTAL AREA

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**Abstract:** *Currently in Japan, for the purpose of health care, relaxation as well as recreation in the coastal area, a research aim at and/or use ocean natural environmental element is conducting and Talassa-Therapie is one of examples. This paper reviews the ultrasonic properties of coastal wave processes and their effect on humans from the view point of relaxation in the coastal area, as well as finding new value in the coastal area, by the ultrasonic which is new evaluating scale. Specifically, the paper describes the characteristics of ultrasonic noise in waves and evaluates their potential to act as a previously unrecognized measure of coastal wave processes and as an influence on human physiology. It is known that these waves reach the brain through the skin and airborne vibrations—these stimuli are believed to have some influence on brain function and information processing. Recent studies in the field of music, for instance from analyses of Gamelan music in Bali, have reported that ultrasonic waves influence the brain by vitalizing the alpha wave. To determine the extent of these influences from coastal processes, studies were carried out using both artificially produced ultrasonic noise and actual coastal wave noise. It is expected that application of this result to coastal region may add new menu to the eco-tourism. The implications of these findings for both the measurement of coastal processes and on understanding human interaction with coastal environments are discussed and further research needs outlined.*

**Keywords:** *sound of coastal wave, ultrasonic wave, alpha wave*

## Introduction

According to our questionnaire survey on the appeal of coastal areas, many subjects said that the sound of waves was one of the agreeable environmental factors (Nagata, 1993). The sound of waves differs with the shape of the sandy beach, artificial coast or bay, the incline of the sea floor and other factors. Where the coastline is long, waves break one upon another, producing a sound that can only be perceived as a noise. Studies conducted so far have

pointed out that the rhythm and the sound volume of waves are important factors in making people comfortable. In recent years, attempts have been made to apply such findings to the construction of wave-absorbing structures (embankments, breakwaters, etc.) and generate agreeable sounds of waves while analyzing the appeal of the auditory environment in coastal areas (Nadaoka, 1995). In Germany, France and other countries in the Mediterranean area, healing through the use of various factors of the natural environment in the ocean and coastal areas (thalassotherapy) is practiced. Also, intensive efforts are being made to explore ways to utilize environmental resources in coastal areas and, thus, to create a new attractive environment harmonious with nature. In the present study, the sound of waves is assumed to be a new environmental resource in coastal areas. We consider it is important to evaluate sounds inaudible to the human ear (ultrasonic waves) in addition to the audible sound of waves (8Hz to 20kHz). To explain the effects on humans of ultrasonic waves contained in the sound of waves, we will provide the results of physiological measurements and sensory tests (evaluation of sound quality). We will also discuss the properties of the sound of waves and ecotourism.

## Method of Experiment

In the experiment, 14 students with normal hearing (nine male students and five female students) were confined in an anechoic room, as shown in Figure 1, and exposed to ultrasonic waves recorded in a natural coast and artificially generated ultrasonic waves, and their brain waves were recorded to see how the appearance of the brain waves varied with sound pressure and frequency. The experiment was conducted according to the following method.

## Implements for the Experiment and Sounds Presented to Subjects

Figure 2 shows the arrangement of implements for the experiment and the scene of the experiment. As shown in Figure 3, sounds presented to subjects were of three types: audible sounds, artificial ultrasonic waves superimposed on audible sounds, and natural ultrasonic waves superimposed on audible sounds. The subjects were exposed to each type of sound on the master tape for 26 minutes. Three kinds of sound fields were created by combining different degrees of sound pressure (35dB, 45dB and 55dB) and different frequencies (25kHz, 35kHz and 45kHz). Figure 4 shows the frequency bandwidth of natural ultrasonic waves. For each subject, the brain waves on both sides of the front of the head as well as the pulse were recorded. To find out how the sound of waves was perceived, sensory tests using 25 pairs of adjectives on the seven-grade evaluation system were performed.

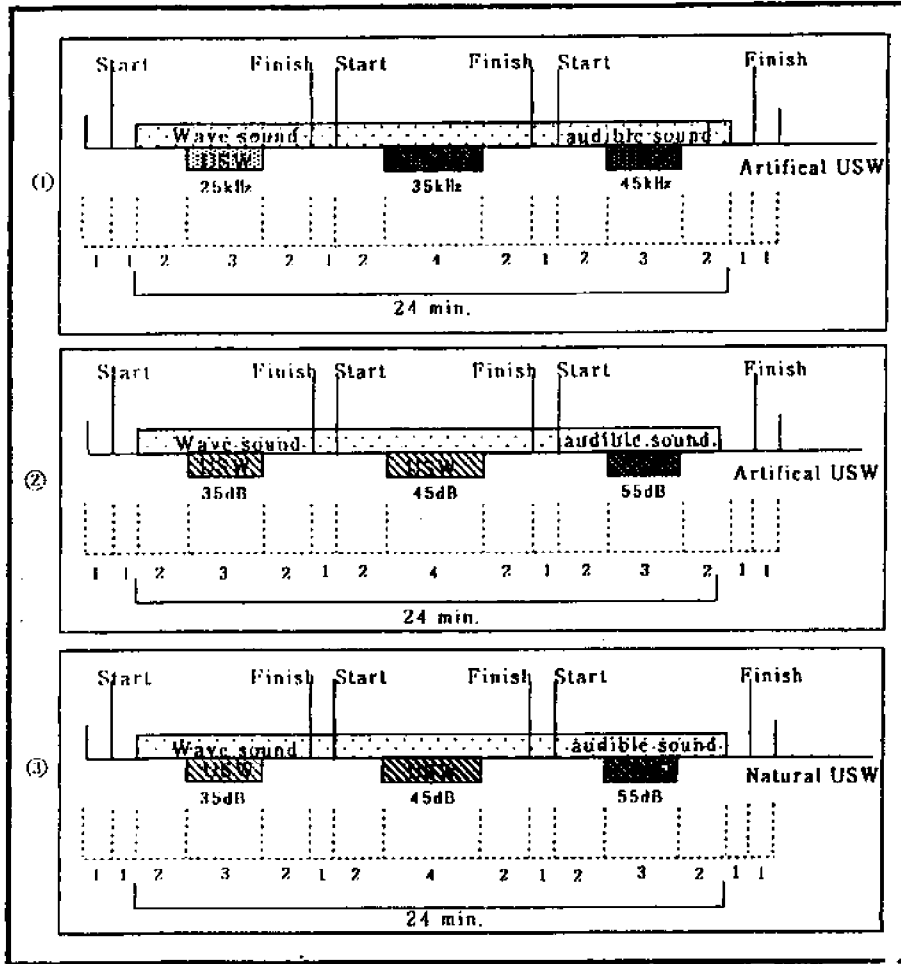


Figure 1. Three types of the sound source.

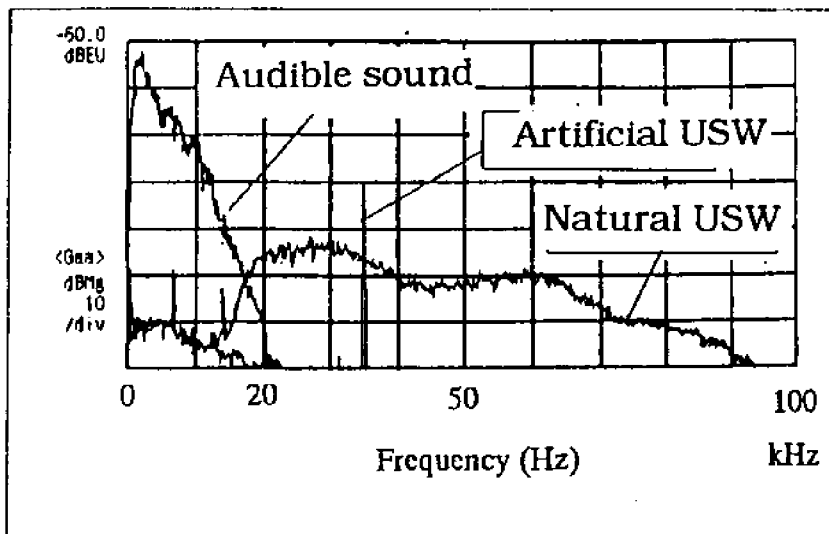


Figure 2. Frequency bandwidth of natural ultrasonic waves.

## Results of Measurement

### Effects of artificial ultrasonic waves with different frequencies

A comparison of the effects of supersonic waves with three different frequencies (25kHz, 35kHz and 45kHz) showed that the greatest change in brain waves occurred when the frequency was 25kHz. Some subjects showed brain wave changes in response to both 25kHz and 35kHz waves. It can be inferred from this that somewhere between 25kHz and 35kHz and closer to 25kHz, there is a certain frequency which produces the greatest effect on brain waves. Table 1 gives the number of subjects whose alpha wave appeared in response to ultrasonic waves with each chosen frequency.

Table 1. Number of subjects of observed alpha wave vital in each frequency (in case artificial USW)

	Frequency (KHz)	No. of Subjects (total 14)
Artificial USW	25	13
	35	8
	45	2

When the frequency was 25kHz, the alpha wave was activated in 13 out of 14 subjects. Figure 3 shows a typical example of how the brain waves of such subjects changed with the passage of time.

### Effects of Artificial Ultrasonic Waves with Different Degrees of Sound Pressure

As shown in Table 2, in which the effects of ultrasonic waves with different degrees of sound pressure (35dB, 45dB and 55dB) are compared, 13 out of 14 subjects showed much activity in their alpha wave when the sound pressure was 45dB. Eight subjects showed alpha-wave activity also when the sound pressure was 55dB. It can be inferred from this that somewhere between 45dB and 55dB there is a sound pressure zone which produces the greatest effect on brain waves. Figure 6 shows a typical example of how the brain waves of such subjects changed with the passage of time.

Table 2. Number of subjects observed alpha wave vital in each sound pressure (in case artificial USW)

	Sound Pressure (dB)	No. of Subjects (total 14)
Artificial USW	35	3
	45	12
	55	9

### Effects of Natural Ultrasonic Waves With Different Degrees of Sound Pressure

As shown in Table 3, both natural and artificial ultrasonic waves elicited the greatest reaction when the sound pressure was 45dB.

Table 3. Number of subjects observed alpha wave vital in each frequency (in case natural USW)

	Sound Pressure (dB)	No. of Subjects (total 14)
Natural USW	35	2
	45	13
	55	8

### Comparison of Artificial and Natural Supersonic Waves

Figure 7 shows how artificial and natural ultrasonic waves produced different results. Brain waves reacted more strongly to natural supersonic waves than to artificial ultrasonic waves. The probable explanation is that, whereas artificial ultrasonic waves are made of a single frequency, natural ultrasonic waves have a wide range of frequencies, as shown in Figure 4.

### Reaction Time of Brain Waves

Allowing for individual variation, subjects showed reaction in their brain waves (the alpha wave) 20 to 40 seconds after they were exposed to artificial and natural ultrasonic waves. Generally, the reaction time of brain waves was short when the audible range was narrow, and long when the audible range was wide. Table 4 shows the reaction time of the brain waves of all subjects.

Table 4. Reaction time of brain waves.

Subject	Max. audible sound (KHz)	Reaction speed(sec)
NO1	16.55	27
NO2	16.75	28
NO3	14.25	16
NO4	16.5	37
NO5	16.5	35
NO6	16.25	34
NO7	15.75	26
NO8	14.25	18
NO9	15.75	25
NO10	16.25	41
NO11	14.5	23
NO12	15.25	30
NO13	15.75	32
NO14	16	28
Average	15.71	28.57

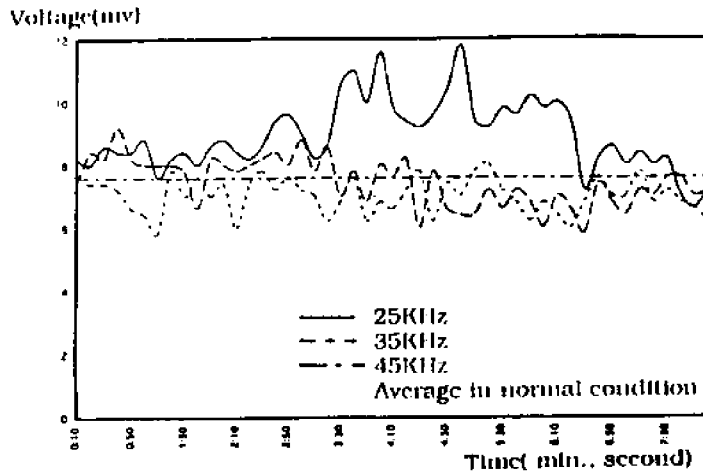


Figure 3. Alpha wave appearance by different frequency (in case subject No.3, 45dB).

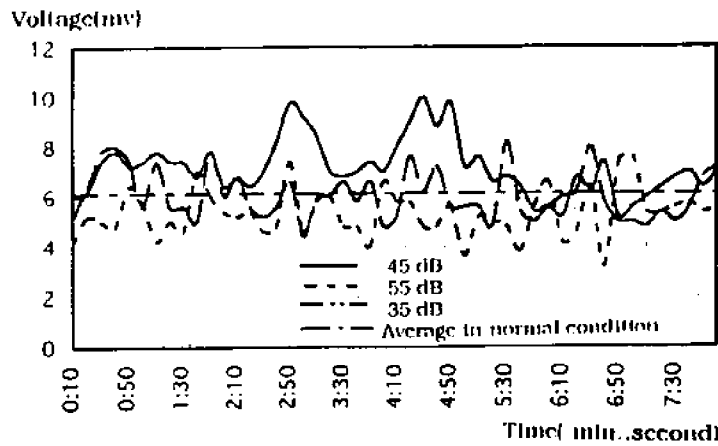


Figure 4. Alpha wave appearance by different sound pressure (in case No. 13, 25 KHz).

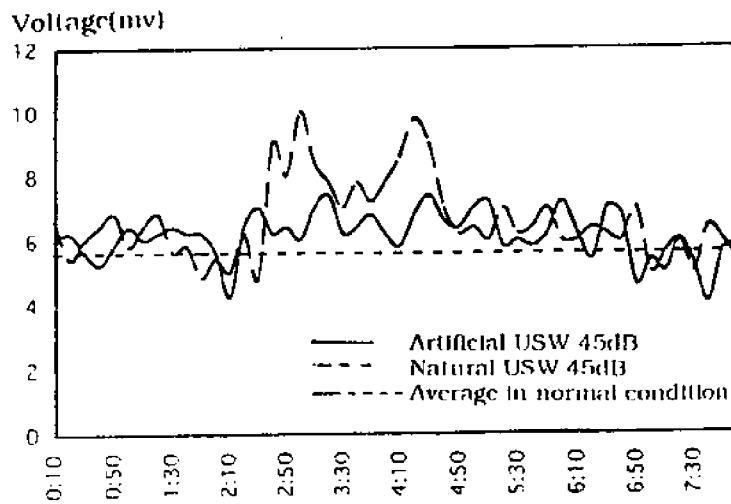


Figure 5. Alpha wave appearance by different USW sources (in case subject No.7, 25 KHz).

**Psychological Evaluation**

To find out how sounds containing ultrasonic waves and sounds not containing them are perceived differently, the subjects were asked to describe their feelings by using 25 pairs of adjectives such as clear-turbid, pleasing to the ear-jarring, rhythmical-unrhythmical and warm-cold when they were exposed to sounds. The results (profile) are shown in Figure 6.

The results are summarized as follows:

- (1) From a comparison of the effects of ultrasonic waves with various degrees of sound pressure, it was found that there was a sound pressure around 45dB which affects the alpha wave most strongly. Through an experiment in which subjects were exposed to artificial ultrasonic waves with various frequencies, it was found that there was a frequency around 25kHz which most strongly affects humans.
- (2) It was found that natural ultrasonic waves produce greater effects on human brain waves than artificial ultrasonic waves.
- (3) It was demonstrated that, allowing for individual variation, it takes 20 to 40 seconds for ultrasonic waves to produce effects on human brain waves (the alpha wave).

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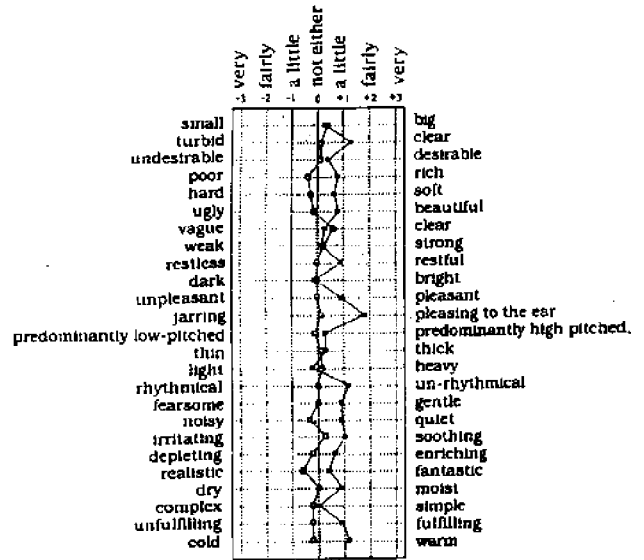


Figure 6. Sound quality evaluation profile depicting the 25 pairs of adjectives.

**Conclusion**

In the present study we described the experiment designed to find out about the physiological effects on humans (the activation of the alpha wave of brain waves) of ultrasonic waves contained in the sound of waves. The experiment demonstrated that exposure to ultrasonic waves activates brain waves. When the alpha wave appears on a person's brain waves, it means that the person is undisturbed, if not comfortable or relaxed. The way waves are generated on the coast and the sound of such waves differ with the shape of the coast. We believe that our study will provide basic data in the process of creating an attractive coast by making use of the results of evaluation of the coast in terms of the sound of waves.

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# USING SOCIAL SCIENCE RESEARCH IN THE MANAGEMENT OF COASTAL WILDERNESS SETTINGS

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**Abstract:** *Although there exists a significant literature dealing with visitor management in terrestrial areas, relatively little research exists to inform us about visitor management of coastal wilderness areas. Coastal wilderness areas are particularly attractive to visitors in part because so few of the desirable coastal regions in the world are protected in any kind of wilderness condition. These settings are usually highly diverse in flora and fauna, yet are extremely fragile and difficult to sustain for tourism or other purposes. As a result, the cost to manage such areas is often high, compared to other types of wilderness settings. Hence coastal areas are particularly challenging to manage in a wilderness condition.*

*This paper describes how survey research can be used to deal with crowding, the control of visitor impacts, and the establishment of user fees. Within the framework of these management issues, the paper extends the wilderness literature in such important areas as carrying capacity, quotas, reservation systems, and willingness to pay (contingent valuation).*

*This paper is illustrated with visitor surveys and management actions introduced in the West Coast Trail wilderness area of Pacific Rim National Park, located on the west coast of Canada. Visitor research was used to establish a quota of 52 people per day, a telephone reservation system, and a user fee of CAN\$65.00 per person. Surveys indicated that visitors supported these measures, and felt that crowding and resource impairment had been reduced to acceptable levels.*

**Keywords:** *wilderness management, satisfaction, carrying capacity, quota, willingness to pay*

## Introduction

The attraction of coastal areas for tourists is well known, and has resulted in the development of many island and coastal settings around the world for intensive forms of tourism. Marinas, resorts, hotels, restaurants are examples of the kinds of tourist venues developed in attractive coastal settings. However some coastal settings have been managed for less intensive wilderness experiences. In Canada, Pacific Rim National Park and Pukaskwa National Parks are two examples of coastal wilderness settings where few facilities are found and human influenced change is not significant.

Compared to terrestrial wilderness areas, coastal wilderness settings are often more fragile and difficult to sustain as tourism destinations, without compromising the pristine nature of the resource base or the wilderness experience provided. Crowding, and damage to natural features are significant management issues affecting the quality of tourism experiences. The purpose of this paper is to examine approaches to wilderness management in coastal settings, and how management can be supported with visitor research, drawing upon studies conducted on the West Coast Trail wilderness area of Pacific Rim National Park.

## Wilderness Management in Coastal Areas

Wilderness areas are pristine natural settings, with few facilities, and little evidence of human induced change. These are places where natural processes and natural energy flows are sustained "as they existed in the absence of human influences" (Hendee, Stankey, and Lucas, 1990). The associated tourism experience is usually characterized by opportunities for solitude, spiritual integration with nature, learning about nature, challenge, and self reliance. This wilderness experience differs from the experience provided in more developed natural settings, where easier access is provided, more facilities are provided, a greater management presence is provided, higher densities of visitors are accepted, visitor impacts on natural features are more pervasive, and other types of use of the area may be more evident (e.g., urban development, logging, commercial fishing). Natural tourism settings can in fact be arrayed along a continuum from the primitive to the modern, by varying each of these management factors (Clark and Stankey, 1979).

Coastal settings can also be developed to different levels, depending on the planning objectives and visitor experience provided. In this paper, the discussion concerns only those settings at the primitive or wilderness end of the spectrum. This is not to suggest that other types of coastal tourism settings are of lesser value or significance. Coastal wilderness areas however are somewhat less numerous, and often are significant for ecological/scientific reasons as well as tourism values. For this reason, the management of coastal wilderness is particularly challenging.

Management of wilderness areas has come to mean the "management of human use and influences to preserve naturalness and solitude" (Hendee et al., 1990). Appropriate wilderness management strategies include techniques such as the following: limiting use (rationing use); dispersing use; limiting party size; limiting length of stay; providing information on minimal impact camping; concentrating use; prohibiting certain kinds of use; separating incompatible uses; and, requiring reservations.

More controversial wilderness management strategies include the following: providing more facilities (such as toilets, tables, and garbage containers); providing more enforcement of regulations (such as more frequent patrols by park wardens); and, hardening heavily used sites to protect against resource damage (e.g., high standard trails; provision of tent pads at campsites). These strategies are controversial because some people feel such measures represent too high a level of development or management presence for designated wilderness: the naturalness of a setting is diminished by such actions.

Some of these strategies have emerged out of the carrying capacity literature, which suggests that there exists some level of visitor use beyond which unacceptable impacts occur—impacts to the resource, or impacts on the experience (e.g., crowding). Many difficulties have emerged with this approach (Graefe et al., 1984). For example, who determines what is an acceptable/unacceptable resource impact? Who determines what is unacceptable/unacceptable level of crowding? Should managers make these decisions; should tourism operators make these decisions; should visitors make these decisions? Is it possible to arrive at consensus between these groups; is it possible to arrive at consensus within any one of these groups? Research has indicated that managers often hold different views than visitors, and that visitors vary considerably in their preferences for wilderness conditions.

In summary, coastal wilderness areas face similar visitor management challenges as found in other types of wilderness settings, in terms of crowding and resource impacts. However, coastal wilderness areas are particularly difficult to manage, for the following reasons:

1. It is often difficult to disperse use away from congested areas.
2. Coastal environments are particularly sensitive to human impacts.
3. The cost to manage these settings can be high.
4. Lack of consensus of acceptable or appropriate management conditions.

### **Wilderness Management on the West Coast Trail (Pacific Rim National Park)**

Many of the wilderness management issues described in the literature have occurred at Pacific Rim National Park, in the designated wilderness area known as the West Coast Trail. Located on the west coast of Vancouver Island, the area is characterized by a variety of spectacular beach settings, flanked by lush temperate old growth rainforests. Opportunities are excellent for observing whales and other marine wildlife. The hiking experience includes beach walking when tides allow, and a rough trail carved through the dense forest. This trail is made quite physically

challenging due to the numerous bogs, streams, and gullies to be crossed, as well as the weather which can be very wet and stormy.

Twenty five years ago the West Coast Trail was not well known, and was hiked by only a small number of people. Over time, more people heard about this magnificent hiking experience, and use levels rose sharply. As a result, visitors began to raise concerns about crowding and undesirable impacts on park resources. Park managers responded by making improvements in trail standards to protect the heavily trampled vegetation and soils. These improvements included the construction of boardwalks, ladders, bridges and cablecars.

Visitor surveys conducted in 1984 and 1989 revealed concerns regarding crowding, muddy trail conditions, litter, human waste, need for a second information centre at the southern trailhead (Port Renfrew), ferry service, and the effects of nearby logging. The management response to these concerns included the following: limit of group size to 10 persons; quota of 52 people allowed to start each day; reservation system; toilets at campsites; more regular trail maintenance schedules; and, establishment of a second visitor information centre, to provide information on trail conditions and minimum impact camping.

These management responses were criticized by some people, feeling that use levels should be restricted further, and that actions aimed at hardening the trail in some fragile actions and providing toilets detracted from the wilderness character of the experience. Parks Canada implemented these measures partly because of the lack of other options. For example, it is difficult to disperse use because the West Coast Trail is located in a narrow protected band skirting the shoreline, the area is heavily forested and difficult to penetrate away from the established trail, and visitors are most interested in the experience located at the forest-beach interface. In short, the opportunity to redistribute use to other areas in the park is limited.

Nevertheless, park staff felt the need to return to the public to determine the acceptability of these measures, so a visitor survey was conducted in the summer of 1993, using mail survey techniques developed by Dillman (1979) to encourage high response rates and response quality. A total of 768 completed usable questionnaires were returned, representing a response rate of 66%. This sample size allowed for a calculation of a margin of error of plus or minus 3.3% at the 95% confidence level.

### **Visitor Perceptions of Wilderness Conditions**

In order to measure visitor acceptance of the trail conditions and prevailing management strategies, respondents were asked to assess the quality of their

experience, and what contributed or detracted from their experience. Past experience with surveys of visitor to this area suggested that visitors like to be consulted, particularly if they feel their opinions will have an impact on the way the setting will be managed.

We asked visitors to indicate how they felt about each aspect of their experience, using a five point rating scale: very dissatisfied; somewhat dissatisfied; neither; somewhat satisfied; and, very satisfied. Nearly everyone in the sample indicated they were somewhat satisfied or very satisfied with their experience, but when they were asked to comment on specific aspects of their experience, a number of concerns emerged (Figure 1): frequency of staff patrols; garbage at campsites; condition of boardwalks; human waste; privacy at campsites; and, condition of outhouses. These are all factors where at least 30% of the sample did not indicate they were somewhat satisfied or very satisfied.

Although some of these concerns are fairly significant to some visitors, park managers decided they were unwilling to create more facilities, or provide more warden patrols. Even though as many as 30% of respondents indicated concerns, park staff felt any additional management presence would detract too much from the wilderness experience they wished to provide. This response is consistent with some of the wilderness literature which argues that management actions should be driven by management objectives, rather than relying exclusively on visitor preferences (Hendee et al., 1999).

### Acceptability by Visitors of the Quota System

A quota of 52 people per day entering the trail was implemented the previous year. This management action was aimed at reducing crowding reported in previous visitor surveys, and reducing visitor impacts on natural features. Previously, use levels had not been controlled and had reached 10,000 people, most of whom visited during the peak period of July–August. The quota of 52 people entering per day was determined by taking the prior annual use level of 10,000 people, and redistributing this use evenly throughout the entire season, running from May 1 to September 30. Hence annual use levels were kept constant, but daily use levels were greatly reduced in the peak season by shifting visitation more into the shoulder seasons.

Visitors were asked to comment on the quota system, crowding, and perceived resource impacts. Most visitors (77%) were satisfied with the quota system, but a significant number (27%) felt the number of people encountered at campsites was too high (Figure 2). However, numbers of encounters on the trail were not as large a concern. Perceived impacts on park resources (e.g., litter, damage to vegetation) were viewed as unacceptable

by 26% of Canadian visitors; but only 9% of German visitors objected (Figure 3).

With this level of visitor support, Parks Canada decided to retain the quota system at 52 people per day, recognizing however that support for this approach was not unanimous and approximately 25% of current visitors would prefer fewer encounters.

At a theoretical level, these findings appear to be consistent with a significant body of literature dealing with perceived crowding in natural settings. For example, Grammann (1982) argues that a situations will be evaluated as crowded not when contacts reach a certain level; rather, when the number of contacts restrict or interfere with a desired goal, such as achieving solitude or establishing a campsite. In this study, hikers felt more constrained at campsites (which were limited in size), compared to the situation on trails where the number of encounters may not have constrained people as much as at campsites.

### Acceptability by Visitors of the Reservation System

Reservation systems are not always favored by wilderness writers, because visitor behavior is controlled rather than influenced, thus diminishing the freedom of action associated with wilderness experiences (Hendee et al., 1990). However, when a quota system is implemented, a reservation system is more supportable, in that people can be guaranteed the opportunity to visit an area where use levels are controlled. On the West Coast Trail, up to 40 of the 52 places available in the daily quota are allocated for reservations; the remaining 12 places are available on a first come, first served basis.

Visitor opinions were mixed regarding this reservation system, with 26% opposed. Reasons for this mixed response were explored with a series of follow-up questions, illustrated in Figure 4. Although many people felt the reservation system made it "easier to plan ahead," many felt this made it "more difficult to hike the trail on short notice;" it was "difficult to phone to make a reservation;" it "detracts from the freedom of a wilderness experience," or, "the CAN\$25 fee was a concern."

Parks Canada responded by retaining the reservation system, but improved the telephone system by implementing a 1,800 telephone number developed by Tourism B.C. for all accommodation listings in the province. Use of this reservation system remains high. In the two years since this study was conducted, the reservations for the season are sold out within three days.



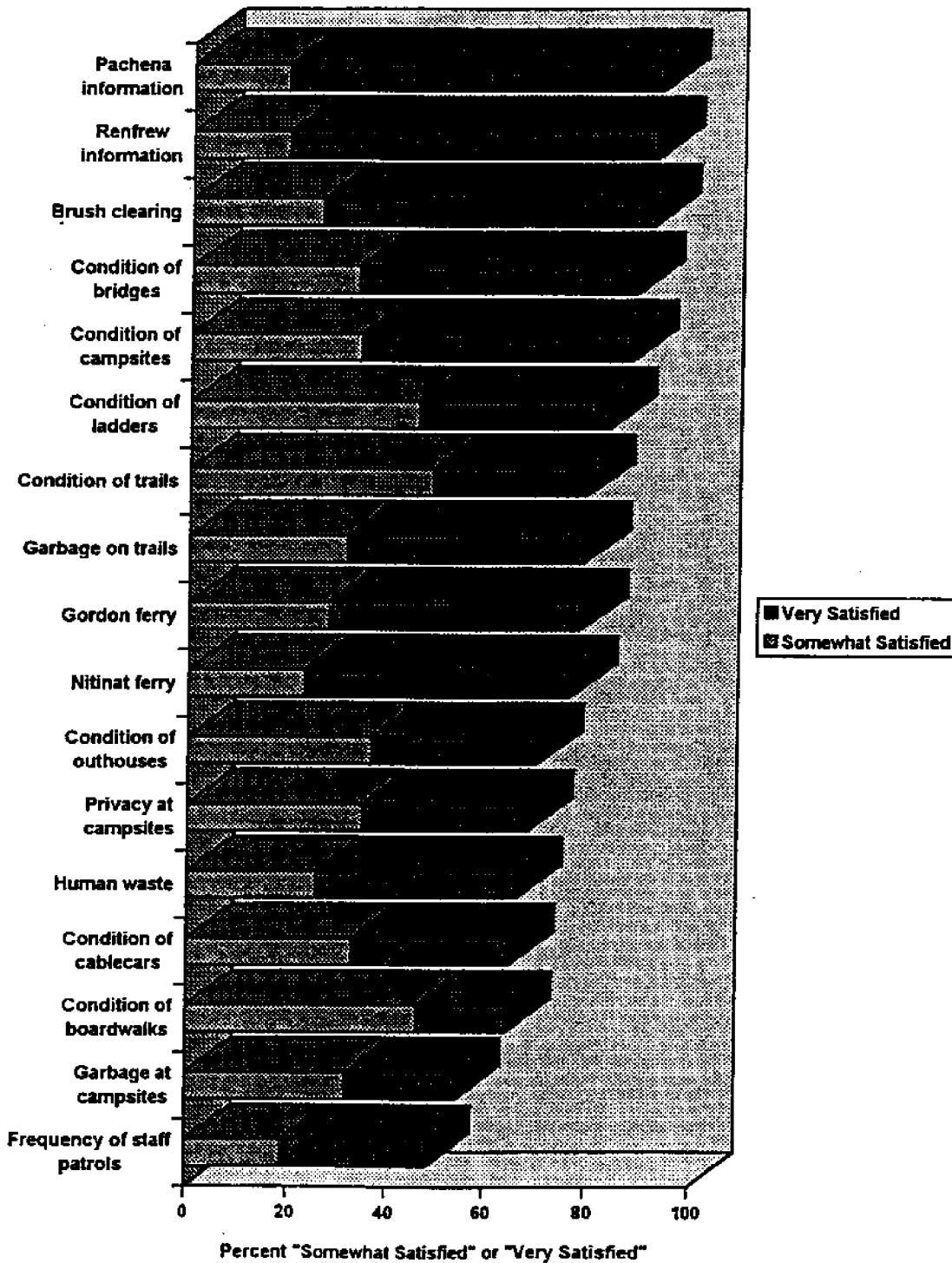


Figure 1. Satisfaction with the West Coast Trail.

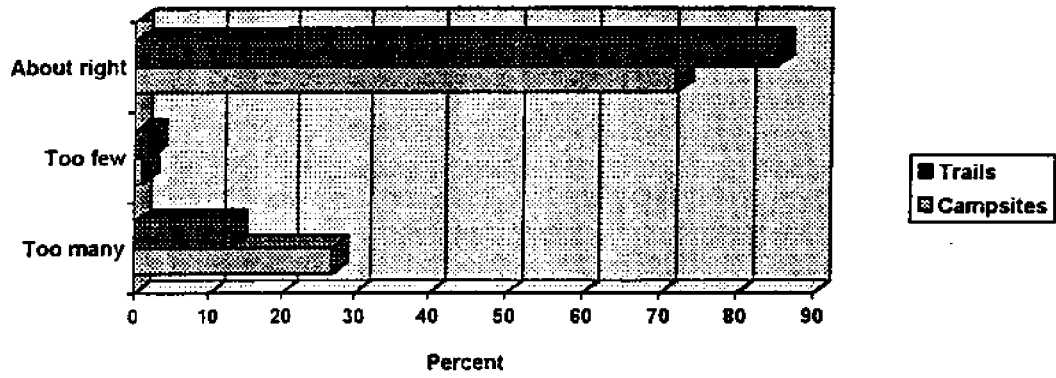


Figure 2. Perceptions of crowding: number of encounters.

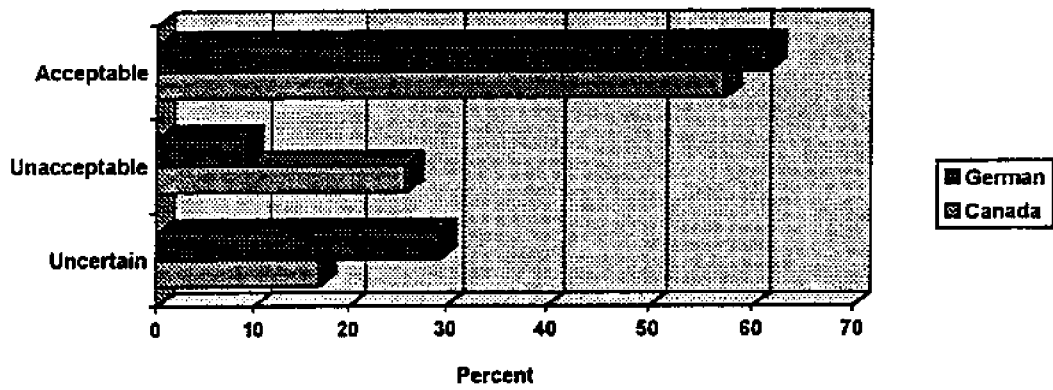


Figure 3. Perceived visitor impacts on park resources.

## Acceptability by Visitors of a Proposed User Fee System

User fees have been criticized because, like a reservation system, they regulate or restrict visitor behavior rather than influencing or modifying visitor (Hendee et al., 1990). Specifically, user fees are criticized because they may constrain those unable to pay a fee. However, fees were considered for the West Coast Trail because the budgets for managing national parks in Canada have declined dramatically in recent years due to fiscal restraint policies of the federal government, while at the same time, the number of national parks has increased.

The limited literature addressing willingness to pay to travel in a wilderness area suggests the maximum acceptable price is about CAN\$25 per person (Fedler & Miles, 1986; Lindsay et al., 1992). A national public opinion poll had indicated support in principle of establishing a user fee at heavily used backcountry areas in national parks (Reid, 1993). However, the determination of how much visitors were willing to pay to hike at particular settings such as the West Coast Trail was not known.

Respondents were provided with the information that the cost to taxpayers in Canada to maintain the West Coast Trail was CAN\$65 per hiker. How much of this CAN\$65 did they feel was fair to charge people to hike the West Coast Trail? Responses in Figure 5 indicate that 85% of the sample were prepared to pay at least CAN\$25, although Germans were less willing to pay a fee at the higher end of the scale. Subsequent analysis by income level showed no significant variation by lower or higher income groups.

Possible reasons for this result are as follows:

1. Respondents were provided with the real cost to manage the trail. This information was not provided in other studies reviewed.
2. Hikers were assured that the revenues collected in the user fee would be retained in the park for trail maintenance, and would not be collected in consolidated revenues by the federal government.
3. People already spend considerable sums for equipment and food; so the user fee may be rather small in comparison.
4. Hikers may be comparing this fee with the cost to stay in commercial campgrounds or provincial parks (generally between CAN\$12-CAN\$16 per night).
5. Hikers surveyed can relate their opinions on a user fee to high emotional feelings as a result of their hiking experience.

It is also important to mention that willingness to pay measures have been criticized on at least two levels; "strategic bias," and "hypothetical bias" (Bishop & Heberlein, 1990; Johnson et al., 1990). Strategic bias refers to the tendency of respondents to deliberately provide a

lower or higher willingness to pay response compared to their true feelings. Hypothetical bias refer to the difficulty many people have in assigning a monetary value to a commodity not normally sold or purchased in the market place. Both of these concerns were addressed in the West Coast Trail survey. First, hypothetical bias was mitigated by providing hikers with the actual cost to manage the West Coast Trail. Hikers could provide what they felt was a reasonable user fee, given the true actual cost of managing the trail. Strategic bias was addressed by providing a relatively low consequence. The maximum consequence was CAN\$65, which compares favorably with the cost of other camping opportunities in commercial campgrounds or provincial parks. Finally, it should be noted that these results are more an indication of "acceptance to pay," rather than willingness to pay. We suspect that visitors would probably pay even more than indicated in these results. True willingness to pay estimates may be difficult to determine, but we feel these results indicate a strong acceptance of the principle of paying a fee. This is significant finding, within the context of a national park system where user fees were virtually non-existent at the time this study was conducted.

As a result of this research, Parks Canada decided to implement a user fee of CAN\$65 per person to hike the West Coast Trail. During the last two years, the quota and reservations have been filled to capacity, with few objections. Similar studies conducted in Banff and other national parks have resulted in the introduction of user fees in other national park wilderness areas in Canada (Parks Canada, 1995).

## Summary

This paper describes how concepts of wilderness management can be applied to coastal wilderness areas. In coastal areas, management for wilderness is constrained by the following:

1. The difficulty in protecting coastal areas in a wilderness condition, given the high demand to use these places for other purposes, or for intensive forms of tourism development.
2. The difficulty in dispersing people away from the marine interface, where crowding and resource impacts are most severe.
3. Marine settings are particularly sensitive to visitor impacts.
4. The cost to maintain ecological integrity in these settings is often higher than in other types of wilderness settings.

Of the management issues described for the West Coast Trail, site hardening and trail design (bridges, boardwalks, ladders, cablecars, toilets) are viewed by some people as controversial and a departure from the simpler forms of

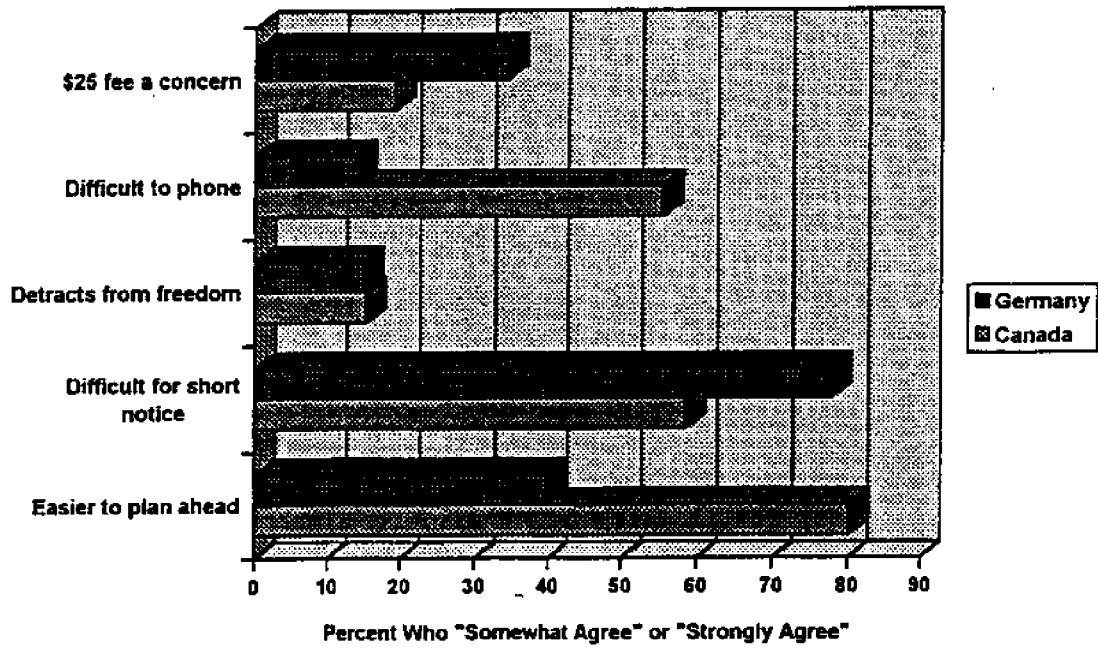


Figure 4. Attitude to reservation system.

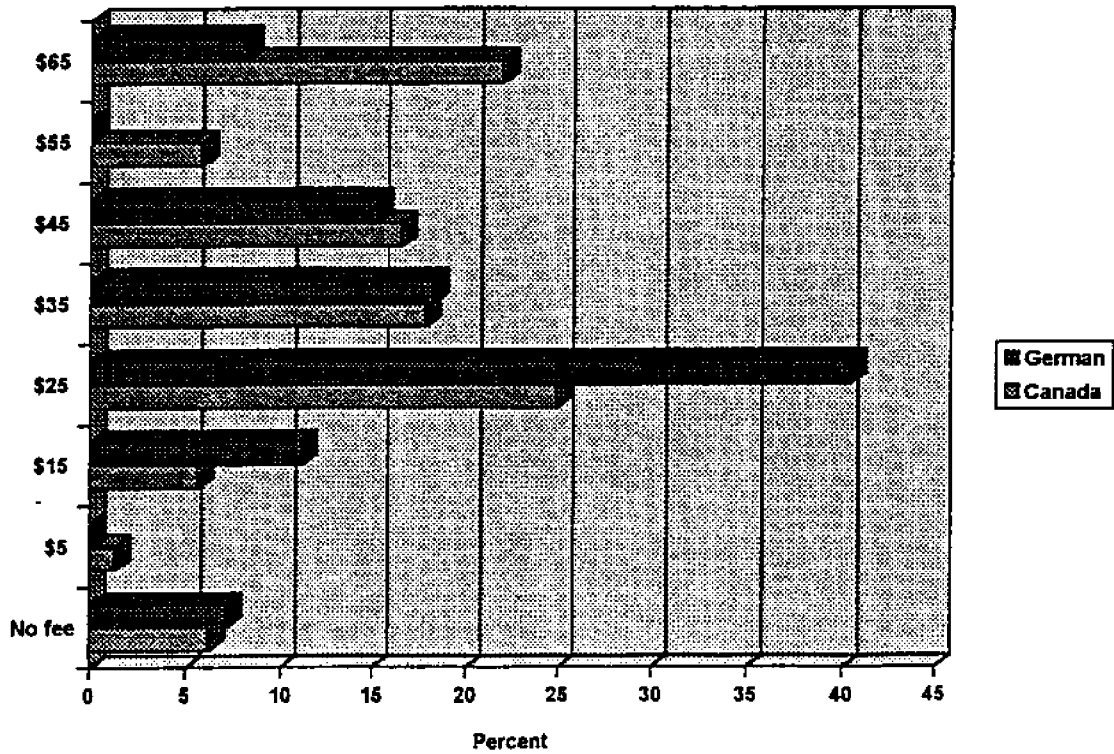


Figure 5. Acceptable user fee.

infrastructure normally associated with wilderness areas. However, this level of site management may be necessary in coastal wilderness where site conditions are so sensitive to visitor impacts. Other management strategies for coastal wilderness areas were supported by visitors to the West Coast Trail, including the following: limits to party size; quota system; reservation system; and user fees.

Visitor research was an integral part of the process for introducing and validating the use of these strategies, although it can be argued that wilderness areas should not be managed just to meet tourism demands. In fact this study demonstrated circumstances where Parks Canada decided not to provide more services and facilities such as more warden patrols, even though a significant number of visitors would welcome such actions.

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# UNDERSTANDING PATTERNS OF TRAVEL IN THE GREAT BARRIER REEF REGION: IMPLICATIONS FOR MANAGEMENT OF COASTAL AND MARINE TOURISM

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**Abstract:** *A critical component of managing coastal and marine tourism is understanding the patterns of tourism use of these areas. The Great Barrier Reef (GBR) is one of Australia's major tourism drawcards visited by more than 1.3 million commercial tourists in 1994. Despite this significance there is virtually no data available on the patterns of use of this area by tourists. A search of the tourism and environmental management literature indicates that such information about tourists is generally scarce. In response to this gap in the research data one of the core questions guiding a major research project focused on tourism and the Great Barrier Reef is this one of understanding where and how tourists access the GBR. The present paper will report on a survey of over 1600 tourists to the GBR region which included questions designed to elicit information on numbers of trips to the GBR, points of departure and types of operations used. The survey also measured various socio-demographic and psychographic details of the tourists. The resulting data provides two levels of information on coastal and marine tourist behaviour in the GBR region. The first level is an overall pattern of where and how visitors access the reef. The second level will examine the relationships between travel patterns and visitor characteristics. The two major questions to be addressed in the paper are concerned with the identification of patterns of marine tourist behaviour and explanations of this behaviour. The answers to these questions are of significance in developing models to explain and predict coastal and marine tourism patterns.*

**Keywords:** *travel patterns, visitor segments, sustainable tourism*

## Research Needs For Strategic Tourism Planning in Coastal and Marine Settings

Currently in the field of tourism two concepts are seen as essential for the successful management of tourism. They are the principles of ecologically sustainable development, and strategic planning. These two interrelated concepts focus on the quality of both the tourism experience and the setting for tourism, and are critical to the successful management of tourism in coastal and marine settings, particularly in protected areas. In establishing a framework for research needs to support the management of tourism in these settings it is important to review the major components of these two concepts.

It is appropriate to begin with the principles of ecologically sustainable development as these provide the broad framework within which strategic tourism planning operates. In Australia we have had the benefit of a federal government sponsored process of examining what ecologically sustainable development means for tourism. The ESD Working Group concerned with tourism (1991) suggested that an ecologically sustainable tourism industry would be one which:

- considers carefully the quality of experiences offered,
- does not diminish the range of educational, recreational and environmental activities available to present or future generations,
- protects biological diversity and maintains ecological processes and systems,
- ensures the cultural integrity and social cohesion of communities.

To achieve such a tourism industry as described above requires regional strategic planning. The major elements and principles of in strategic planning for tourism are described in Gunn (1994) and Hall and McArthur (1993). The most important point for the present paper from discussions of tourism strategic planning is the need for planning to be based on research information. In particular research into tourists and the structure of tourism in a region is seen as important for effective planning. These are the elements, however, most often missing from the process of planning and management of protected areas. Many authors have suggested that there has been too much emphasis, often as the result of political pressure, on development or implementation rather than research and evaluation (Dowling, 1993; McArthur and Hall, 1993; Gunn, 1994). "The long-standing reliance on 'gut feeling' is being overdone and cannot be seen as reliable in the dynamic world of the visitor" (McArthur and Hall, 1993, p. 267).

## Issues in Marine Protected Area Management

Kennington (1993) proposed three major components of marine conservation management. These were management of structure (or the preservation of viable examples of the ecosystems under protection), management of process (or the maintenance of those process necessary to sustain biological processes in the protected area), and management of amenity or the provision of options for human use of the protected area). It is this last component of management that is most direct relevance to the present discussion. Management for amenity involves decisions about the location and type of access and facilities provided for human use, and the regulation of different uses. It has long been recognised in the recreation and protected area management literature that managers have a major influence on visitor experiences through the way in which they provide settings

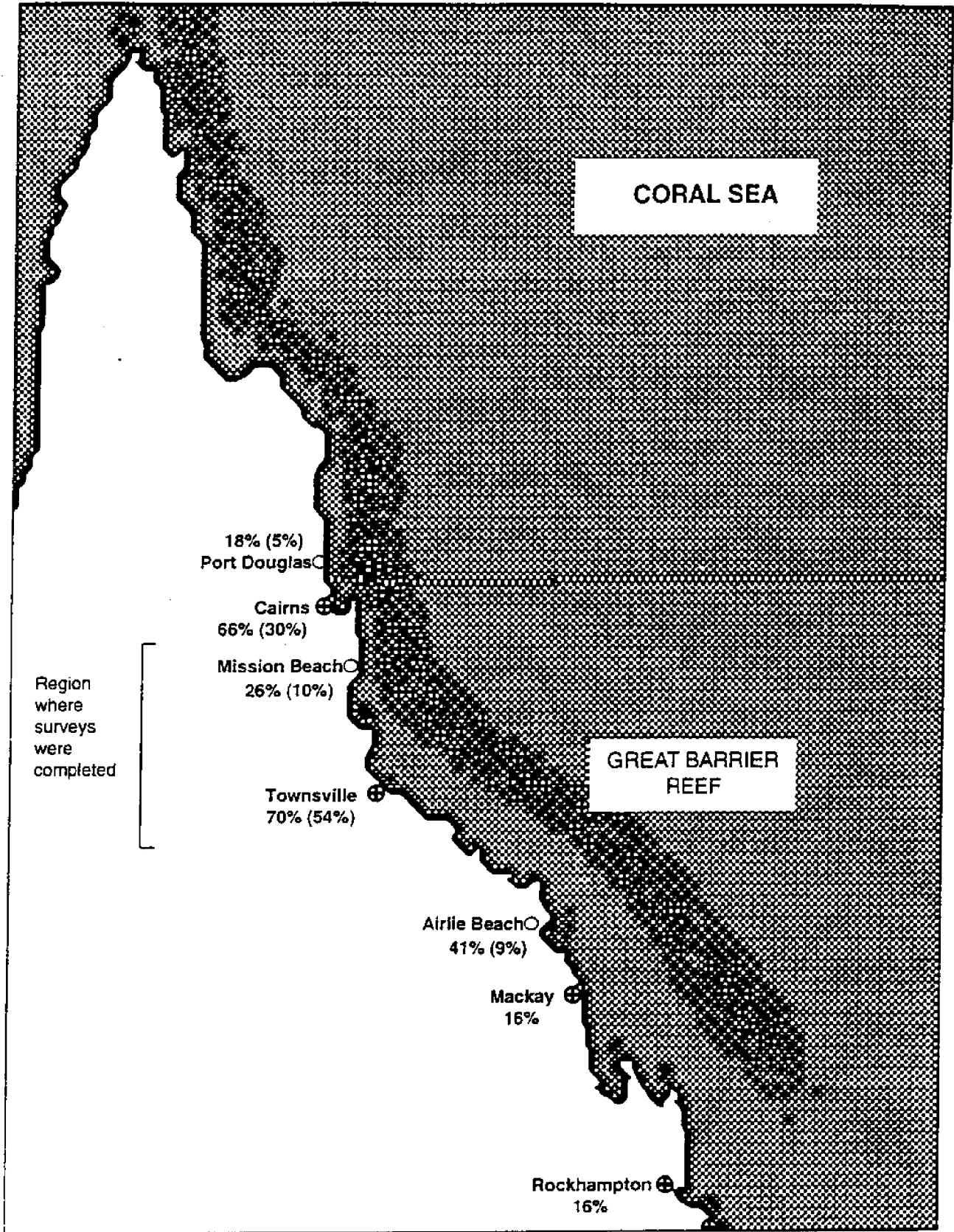


Figure 1. Overall patterns of travel in the GBR Region.

for activities (Driver and Brown, 1978). Thus it is the management of amenity that most directly impacts upon the nature of tourism in a region.

### Research Needs: A Summary

In summary, we must understand and research the following aspects of tourism in order to effectively plan for, develop and manage quality sustainable tourism to marine and coastal settings.

**1. The spatial distribution of tourism.** This first research area refers to a generating a detailed description of tourist use of an area. Such a description is necessary if managers are to be able to identify such things as sites of potential impact or use conflicts, or locations for facility provision.

**2. The nature of the market.** In order to make sound decisions on matters of access and facility provision managers must understand the factors which influence the experiences sought by visitors. These decisions must be guided by information on the motivations and expectations which guide tourist decisions. Specifically, it is must be recognised that there are different types of tourists, or market segments, each with a different profile in terms of activities sought, motivations and expectations.

**3. The factors which explain each of the above.** As previously noted, it is also necessary for managers to be able to predict future trends and requirements. Such predictions require both an understanding of larger forces in tourism such as changing patterns of travel opportunity, and the processes which create existing patterns of tourist activity.

### The Present Study

The Great Barrier Reef Marine Park (GBRMP) encompasses an area of nearly 350,000 km<sup>2</sup> stretching from latitude 10.5 to 24.5 degrees along the coast of Queensland. Much of the Great Barrier Reef World Heritage Area is included in the Marine Park. The GBRMP contains 2,900 reefs and 250 continental islands (Ottesen, 1988). The Great Barrier Reef (GBR) is a major tourist attraction with more than 1.3 million commercial visitors in 1994. The growth in tourism to this marine protected area has been a cause for concern over sustainability and impacts in recent years with agreement that much more research into tourist use of the region is necessary (Kenchington, 1993; Benzaken, 1993). In particular information on the spatial distribution and types of tourist visiting the GBR has been identified as of particular value to managers (Benzaken, 1993).

The present paper will report on these two aspects of tourism to this region using the information gathered in a

major survey of visitors to a region adjacent to the Central Section of the GBRMP. The survey results will be used to investigate overall patterns of use and the relationships between patterns of use and visitor characteristics. Thus the present paper is concentrating on the first two aspects of tourism described in the summary above and seeks to use data on these aspects to examine the fifth aspect of understanding the factors which influence the structure of tourism. As the fifth topic is of direct interest to a broad audience this paper will concentrate on examining the relationships between travel patterns and visitor characteristics.

### Method

A total of 1,664 surveys were collected from visitors to the North Queensland region. The aim of the research project was to gather information about reef tourism from as broad a range of visitors as possible. To achieve this aim surveys were handed out at local and regional tourist information centres, at transport modes such as ferry terminals, major tourist attractions and on a variety of commercial reef tourism operations. These operations included day trip operators using large catamarans with pontoons moored at the destination reef, large catamarans visiting sand cays, smaller boats traveling both to reefs and to islands, cruise boats and dive trips. The overall response rate was 80%.

International visitors accounted for 36% of the sample, with a further 23% interstate visitors, 33% residents from coastal regions adjacent to the GBR and 9% visitors from other parts of the region. The average age of the sample was 37 years (Std Dev = 15) with a median age of 33 years. The mean length of stay for visitors not on a recreational day trip was 25 days (Std Dev = 47), although more than half of the sample were staying in the region for less than 12 days.

### Results

#### Understanding Patterns of Access

Respondents were asked to use a map of the region to indicate their actual and intended travel itinerary. They were also asked about actual and intended visits to the GBR focusing on the types of operation used to access the GBR and points of departure. Figure 1 provides a map of the region under study showing the distribution of visitors' stopovers. The figure also provides the distribution of departure points used to access the GBR. Tourists appear to travel extensively throughout the coastal regions adjacent to the GBR. The prominence of Townsville as a departure point for reef tours reflects the restrictions of the



survey region. Cairns and Port Douglas are the major departure points for commercial reef operations.

As the major focus of this paper was on investigating the relationships between travel patterns and visitor characteristics the data were examined to identify travel patterns. Thus examination indicated that visitors could be segmented or categorised on the basis of their reef travel behaviour.

Five main groups were identified:

1. Visitors who had not been and were not going to the reef on this trip to the region (24% of the sample).
2. Visitors who had not been to the reef when surveyed but who intended to go while in the region (9.4% of the sample).
3. Visitors who had been on one reef trip during their stay and did not intend to visit the reef again (34%).
4. Visitors who had been once and intended to go again during their stay (9%).
5. Visitors who had been to the GBR more than once during their stay in the region (22%).

Three travel pattern groups were chosen for further study. The last two groups were combined as the only difference between them was the time they had spent in the region before being surveyed, and the second group was removed from further analysis as it was not possible to determine whether their actual behaviour would match their intentions.

The two groups who had visited the reef were used to further examine patterns of reef access. Table 1 summarises the date on types of reef operation used and points of departure for these two groups. Clearly day trips using large catamarans traveling to pontoons moored at a reef are popular operations especially for visitors who travel only once to the reef. Visitors who go more than once are more evenly spread across the different types of operation. Of particular interest is the difference between first and second trips for those who go to the reef more than once. More detailed analyses of this information suggested that these visitors sought variety in their reef experiences with 74% choosing a different kind of operation for their second trip to that used on their first trip. This was particularly the case for large day trip operations with 83% of the visitors choosing a different type of operation for their second experience. Visitors going on dive trips were the most likely to repeat that experience (47% repeated a dive trip). The respondents also chose variety in their departure points with nearly 70% choosing a different location for their second trip.

### Relationships Between Travel Patterns and Visitor Characteristics

The major question driving the analyses reported in this section was why do some people not visit the reef, why do some only visit once, and why do some repeatedly visit the reef? To answer this question a number of visitor characteristics likely to distinguish among these three groups were explored. The characteristics investigated included sociodemographic features (such as length of stay or transport used), activity participation and motivations for, or benefits sought from travel experiences.

Table 2 contains a summary of the analyses conducted for sociodemographic and trip features. Only analyses which found differences between the groups significant at the .01 level are reported. The results reported in Table 2 tell us that visitors who do not go to the reef are older, more likely to be traveling with children, more likely to be using their own vehicle, to be staying for a shorter time and to be interstate visitors. It is also worth noting that the biggest differences were usually found between this group and the two groups of actual reef visitors. It is noteworthy however that repeat reef visitors did have much longer trips and were more likely to be international than were visitors going to the reef on only one occasion.

Significant differences were also found among the three groups for activity participation and these are summarised in Table 3. Two major points can be made about the results in Table 3. Firstly, the "Don't Visit" group generally have low rates of participation across the full range of activities. Secondly, in this table the largest differences usually lie between those who visit more than once and the other two groups. This is particularly the case for more physically strenuous activities such as walking and rafting and for the more nature-based activities such as seeing wildlife and bird watching.

The final set of characteristics which were investigated were the benefits sought from travel. Table 4 provides information on the travel benefits sought by the three groups. Again, a clear pattern emerges with the "Visit More Than Once" group valuing learning and excitement more highly than the other groups. The "Visit Once" group place the highest value on the social benefits of travel. Investigations were also conducted into the levels of satisfaction expressed for reef experiences by the two groups who had visited the reef. There were no difference between the two groups for overall satisfaction but the repeat visit group were more likely to say they would visit the GBR again if they returned to the region (87% versus 74%).

The research identified three main types of visitor to the coastal regions adjacent to the Great Barrier Reef. The first group who did not visit the GBR can be described as

**Table 1: Types of Tourist Operation and Points of Departure for Great Barrier Reef Trips**

Type of Operation	Visit Once	Visit More than Once	
		First Trip	Second Trip
Day Trip (Pontoon)	50%	34%	12%
Day Trip (no Pontoon)	9%	12%	10%
Cruise (more than one night)	7%	7%	5%
Dive Trip (more than one night)	4%	8%	8%
Dive Trip (day trip)	4%	13%	17%
Charter Fishing	-	2%	5%
Day Trip (Island/s)	19%	20%	38%
<b>Place of Departure</b>			
Port Douglas	4%	4%	6%
Cairns	22%	31%	22%
Mission Beach	7%	8%	17%
Townsville	50%	29%	30%
Airlie Beach	5%	12%	9%

**Table 2: Summary of Analyses of SocioDemographic and Trip Features.**

Feature	Don't Visit	Visit once	Visit more than once
Mean age (SD)	39 years (15)	36 years (15)	35 years (15)
% traveling with children	24%	19%	16%
% traveling with friends	16%	21%	24%
% International	8%	38%	54%
% Interstate	21%	26%	25
% Intrastate	16%	8%	5%
% Local residents	55%	27%	16%
% using private vehicle	55%	37%	31%
% using bus	7%	13%	24%
% using plane	11%	17%	16%
Mean Length of Stay in region (SD)	16 days (28)	17 days (25)	35 days (62)

**Table 3: Summary of Analyses of Activity Participation.**

Activity Participation	Don't Visit	Visit Once	Visit More Than Once
Birdwatching*	11%	17%	26%
Bushwalks*	19%	26%	37%
Camping*	19%	22%	35%
Canoeing*	10%	9%	14%
Mangrove Visits*	10%	15%	23%
Rainforest Walks*	45%	64%	91%
Sailing*	16%	20%	29%
Scuba Diving*	8%	20%	34%
Seeing Wildlife	22%	30%	52%
Snorkeling	22%	66%	72%
Swimming	41%	74%	78%
Viewing Marine Animals	17%	40%	49%
Visit Beaches	48%	69%	75%
Visiting Islands	29%	55%	66%
Visiting National Parks	28%	43%	58%
White Water Rafting*	4%	9%	64%

\*Difference is greatest between third and other two groups

**Table 4: Summary of Analyses of Travel Benefits Sought.**

Travel Benefit	Don't Visit	Visit Once	Visit More Than Once
<b>Travel in General</b>			
Learn/develop new skills	2.2 (0.7)	2.0 (0.6)	1.9 (0.6)
Be with family and friends	2.2 (0.8)	2.5 (0.9)	2.7 (0.8)
Seek entertainment	2.3 (0.7)	2.0 (0.7)	1.9 (0.6)
<b>Travel to the GBR</b>			
Be with family and friends	-	2.3 (1.0)	2.6 (1.0)
Learn about the GBR	-	1.7 (0.8)	1.5 (0.7)

Note: Table reports mean scores on a four point scale from 1 "very important" to 4 "Not at all important"  
 Figures in brackets are Standard Deviations.

older, more likely to be local residents, travelling with children for shorter stays with low levels of activity participation. The second group who visit the GBR only once during their stay in the region were younger with shorter stays in the region and moderate levels of activity participation particularly for more strenuous and nature based activities and with mainly social travel motives. The third group of repeat reef visitors were the youngest, most active, most international, with the longest stays and motives related to self development and nature experience.

## Discussion

The visitors profiles described in the previous section are consistent with other major surveys of visitors to this coastal region. None of the previous studies, however, investigated actual reef travel behaviour and so were not able to connect these visitor or market segments to types of operation used or frequency of reef travel. The present study provides this connection and these results on the relationship between travel behaviour in a marine protected area and visitor characteristics has valuable implications for managers.

Several important management implications can be drawn from the results which have been described. The first and most important is that of growth and change in demand for operations. Clearly there will be continued growth in demand for reef operations with growing visitor numbers to these coastal regions and this will provide continued support for large day trip operations which are the preferred option for one time and first time reef visitors. As the region matures as a destination, however, and attracts higher proportions of repeat visitors, the present study results suggest greater demand for smaller more specialised operations at a greater variety of locations. Demand is likely to both support existing high use nodes and spread use to other areas. Currently the Great Barrier Reef Marine Park Authority allocates two types of permits to commercial tourist operators—site specific and roving permits which allow the operator to move around several reef locations. Roving permit operations are harder to monitor and control. So the increased demand in currently low use areas will be for smaller boats with roving permits. Given that visitors using these operations are more active and more interested in reef contact, then this increased demand will result in more pressure on a broader range of sites.

Managers then are faced with the dilemma of allocating use or access to two growing but not necessarily compatible uses, thus large site specific day trip operations and smaller, roving, more reef intensive operations. If, as this study indicates, there is a tendency to move to smaller, more specialised operations, then managers need to understand that current allocations of access to any one particular type

of operation may restrict future growth and opportunities for other types of operations.

Finally, the visitors who do not go to the reef need to be considered. Why doesn't this group go to the Great Barrier Reef? It could be that the appropriate opportunities are not available. In that case further research could indicate new opportunities for tourism operators. It could be argued that encouraging more reef visits is inconsistent with sustainable use. It should be remembered, however, that this group are less likely to be exposed to interpretation about the reef (they were not significantly different to the other groups in their use of land-based interpretive settings such as aquaria) and less likely to support its conservation. (The study found that this group were consistently, although not significantly, less likely to describe the Great Barrier Reef as valuable, living, complex, unique, fragile or beautiful.) More than half of this group live on the coast adjacent to the Great Barrier Reef and so their reluctance to visit the reef is a lost opportunity to promote more sustainable behaviours where they live.

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# USING INTERPRETATION TO MANAGE VISITOR BEHAVIORS IN FRAGILE COASTAL AREAS

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**Abstract** *Visitor use of fragile coastal areas often causes problems such as erosion of sand dunes and destruction of wildlife habitat. Managing visitor behavior patterns in these areas is crucial to preserving them. Interpretation (i.e., educating visitors about resources and attractions in an entertaining way) is an important mechanism for managing visitor behaviors. By implementing a carefully planned interpretive program that includes the development of interpretive signs, publications, and exhibits, and hiring of interpretive staff, the impacts of visitor use can be reduced. The planning process involves inventorying coastal resources, identifying objectives and goals, and implementing and evaluating the plan. A case study of the interpretive program developed for the Eastern Lake Ontario Dune and Wetland Area, a 17-mile stretch of sand dunes and wetlands along Lake Ontario's eastern shore in New York state, will be discussed. Interpretive signs, publications, and staff are used in this program to decrease visitor impacts in the area. This program coordinates the activities of the two state agencies and one not-for-profit group that own property in the area, making it possible to create interpretive signs and publications that meet visitor and resident needs, are suitable to the coastal environment, are consistent throughout the area, and are economical to produce. Program evaluation is currently underway and includes measuring the re-vegetation of beachgrass on dunes eroded by visitor use, and observing visitor use patterns. Positive feedback has been received from private property owners, and state and local agencies.*

**Keywords:** *interpretation, interpretive planning, wetlands, sand dunes*

## Introduction

Coastal areas are often susceptible to damage caused by visitor use. Sand dune erosion, sand infiltration into wetlands, and loss of wildlife habitat are a few of the issues that face coastal areas today. These issues are not likely to decline in the future. Visitation to coastal areas is expected to increase into the next century as more and more people participate in water-related activities such as boating, swimming, and fishing (Cordell, 1990). Because of this, finding a way for visitors to use coastal areas while preserving these fragile resources is crucial.

One method that has been found effective for lowering visitor impacts is interpretation. By educating visitors about the damage that incorrect use of coastal areas causes and enabling them to correct their actions, the destruction of coastal areas can be greatly reduced. This presentation

focuses on how an interpretive plan was developed and is being implemented along a sand dune and wetland area in central New York state.

## Background Information

Along Lake Ontario's eastern coastline is a 17-mile stretch of sand dunes and wetlands, New York's only freshwater dune ecosystem (Figure 1). This area is comprised of three Wildlife Management Areas managed by the New York State Department of Environmental Conservation (DEC), one state park managed by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), two natural areas (one managed by the DEC) owned by The Nature Conservancy (TNC), and many privately-owned properties.

Visitor use is high in the area. Visitor use studies conducted from Memorial Day Weekend through Labor Day Weekend in 1988, 1989, and 1990 show that the mean number of one-hour summer visits to state-owned properties varied from 73,500 at Southwick Beach State Park to 26,400 at Deer Creek Wildlife Management Area. Of these visits, 67.0% were for beach use, 18.0% for swimming, 7.0% for dune use, 1.3% for camping, and 0.3% for off-road vehicle use (Bonanno et al., 1990).

Dune erosion caused by visitor use is a continual problem in the area. Activities such as walking or riding vehicles across the dunes kills the American beachgrass that holds the sand in place, causing dune erosion. Once erosion begins, sand filters into the wetlands once protected by the dunes, harming wildlife habitat and decreasing the quality of recreational opportunities there.

In order to educate the public about the fragile dune and wetland environment, a group called The Ontario Dune Coalition (TODC) formed in the mid-1980s. Members of the group included state and local agency representatives, and members of local community and not-for-profit groups. Early efforts of the group included hiring a dune naturalist and holding an annual Dune Appreciation Day during which the dunes were planted with beachgrass and naturalist-led hikes were offered to the public.

The combined efforts of the naturalist and the Dune Appreciation Days increased public awareness of the problems facing the dune and wetland area, and, to a certain degree, reduced pedestrian and visitor traffic over the dunes. TODC realized that a more comprehensive interpretive effort was still needed. In 1993, New York Sea Grant, a founding member of TODC, suggested that a comprehensive interpretive plan be developed. This plan would contain a list of prioritized recommendations for interpretation on the five properties in the dune and

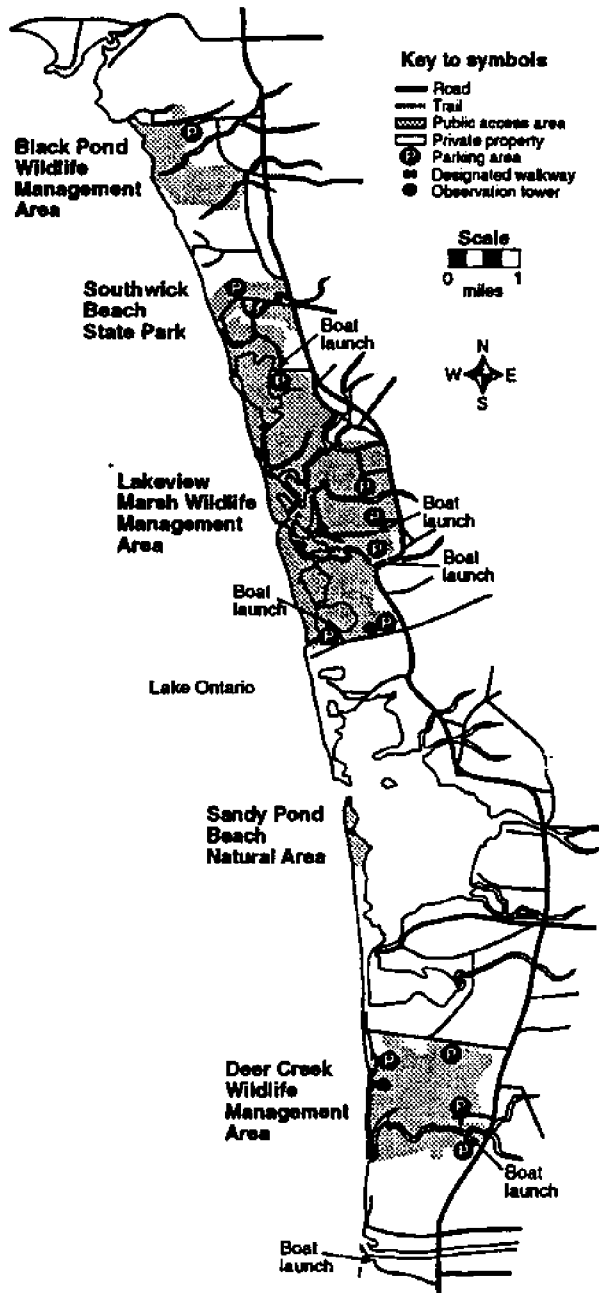


Figure 1. The five state-managed properties within the Eastern Lake Ontario Dune and Wetland Area contain numerous access point, trails, and creeks.



Figure 2. One of the "erosion control" signs developed for the dune and wetland area.

wetland area open to the public. During the summer of 1995, a graduate student from the State University of New York College of Environmental Science and Forestry (SUNY CESF) was hired as a Sea Grant Scholar to develop the plan.

## The Planning Process

### Inventorying Coastal Resources

Inventorying involves identifying the resources that exist in a coastal area. For the Eastern Lake Ontario Dune and Wetland Area, the resources consisted of the dunes and wetlands; local flora and fauna; and numerous trails, creeks, and ponds scattered throughout the area. Access points to the trails and waterways were also inventoried, along with the facilities (e.g., rest rooms, fishing piers) located at each. "Trouble spots" (i.e., areas of incorrect or high use) as well as information on the absence or presence of adequate directional signage were noted.

### Developing Objectives

Several outcomes or objectives were identified from the inventory and group discussions with TODC. These objectives were:

1. To change incorrect visitor use of the dunes by educating visitors about the effects of improper use on dune erosion and wetland degradation.
2. To channel visitor use to designated walkways, trails and boat routes, dune walk-overs, and state-owned or state-managed access areas.
3. To interpret information about flora, fauna, and wetland and dune habitats to visitors.

### Developing a Theme

Theme development was crucial to guiding the development of the interpretation in the dune and wetland area. A theme is the concept or idea that unifies or connects the resources of a region, and is stated in sentence format. Visitors should have a clear understanding of it during their visit. The theme developed for the Eastern Lake Ontario Dune and Wetland Area is: "With a little understanding and care, the sand dunes and wetlands of eastern Lake Ontario can be preserved for both wildlife and people."

### Identifying Interpretive Recommendations

Interpretive recommendations are developed by considering the objectives and theme for the area, and determining the best methods for accomplishing them through interpretation (i.e., by developing interpretive centers, exhibits, signs, guidebooks, or taped messages, or hiring staff). The recommendations for the Eastern Lake Ontario Dune and Wetland Area were compiled in a report

1995, a graduate student from the State University of New York entitled "Interpretive Recommendations for the Eastern Lake Ontario Dune and Wetland Area" (Earnest, 1995). The recommendations are prioritized in the report to enable easy decision making and implementation by state and local agencies should funding become available. Some of the recommendations included in the report are below.

Signs. Three series of interpretive signs are suggested for the area. The first, "erosion control signs," are recommended for installation on the beach in front of the dunes, especially near high impact areas. A small size (9" x 11") was chosen so that, while still visible, the signs would not detract from the natural landscape.

The second type of sign suggested are directory signs. By showing where public access points are in the area, these signs would reduce the use of "unofficial" or highly sensitive access areas. Interpretive information about lowering the impacts of visits to the area would also be included on them.

The third type of sign are trail signs. This series of interpretive signs would be installed along a highly-used trail that travels through Southwick Beach State Park and Lakeview Marsh Wildlife Management Area. The signs would educate visitors about the habitat transition from woodland to wetland to sand dune along the trail.

Guidebook. A guidebook to the many trails and canoe routes in the area is recommended in the plan for channeling visitor use to designated public access areas and trails. Interpretive information about how to prevent dune erosion and local flora and fauna would also be included.

Other recommendations. Several other recommendations were included in the interpretive plan:

1. Develop lesson plans on dune ecology for the teachers of school groups visiting the area.
2. Continue hiring a dune naturalist annually.
3. Increase the patrolling of the state-owned properties by the DEC.
4. Develop additional trails.
5. Improve the directional signage at designated access areas.

The development of a dune interpretive center, while included in the plan as a potential option for future development, was not strongly recommended. Such a center could potentially increase visitation to the area, and consequently dune erosion and wetland degradation.

### Implementing the Plan

All members of TODC have worked together to implement and fund the interpretive recommendations. Each agency has installed its own interpretive signs, saving

installation costs. Guidebook printing and sign production costs were funded by a New York state grant obtained by the Oswego County Department of Planning and Community Development. The salary for the Sea Grant Scholar position was funded by the New York Sea Grant Institute. Sea Grant staff also designed the signs and guidebook, saving an estimated \$3,000 in design costs. Dune naturalists have been hired by the DEC, NY Sea Grant, OPRHP, and TNC, and through foundation grants in the past.

Certain factors were kept in mind during the design of the interpretive signs and guidebook. First, that visitors were being given a negative message during their visits (i.e., "stay off the dunes"). This message needed to be communicated to visitors in as positive a way as possible. This was done by not only educating visitors about dune erosion and its causes, but encouraging them to become land stewards during their visits to prevent it. Next, if visitors are expected to stay off the dunes, they will need to cross the dunes on designated walkways. A series of walkways is currently being established, some of which are wooden structures, others designated paths. Both signs and guidebook maps identify the locations of these walkways. Third, certain site characteristics needed to be considered as sign materials were chosen. In the past, wood signs and sign posts installed along the beach were used for campfire fuel. Aluminum signs and posts were therefore chosen. Heavy-gauge aluminum signs would also be able to withstand the fierce coastal environment. Finally, the limited budget for the signs and guidebook (\$10,000) made it necessary to look for sign materials that could be made into multiple copies as inexpensively as possible. For this reason, fiberglass embedded signs were chosen for the area directory signs and silk-screened ones for the "erosion control" signs.

**Signs.** Six different "erosion control" signs were designed and produced: "Poison ivy," "Dunes are fragile," "Dunes are fragile...use designated walkways," "Bank swallows," "Dune blowout," and "Designated walkway" (Figure 2). These are being posted on state-owned and TNC properties by the DEC, TNC, and OPRHP. Private landowners have also agreed to post these signs on their property.

Fiberglass embedded signs were chosen for the large (30" x 45") directory sign. These signs are being posted at ten major access areas throughout the dune and wetland area on kiosks funded and built by the DEC and Seaway Trail, Inc. (the planning organization for the Seaway Trail, a scenic byway along New York's Great Lakes coastline which passes through the dune and wetland area).

**Guidebook.** Five-thousand copies of the 24-page guidebook entitled "Sand, wind, and water: A recreational guide to eastern Lake Ontario's dunes and wetlands" were

printed in 1996 (Earnest and Kuehn, 1996). These are being distributed by the DEC, OPRHP, TNC, NY Sea Grant, and other state and local agencies.

**Brochure.** One outcome of this project that was not included in the interpretive plan was the revision of a short four-fold brochure interpreting sand dune and wetland ecology originally printed in 1985. Ten-thousand copies of the revised brochure were produced in 1995 by the Oswego County Environmental Management Council.

### Promotional Considerations

Because of the fragile nature of the dune and wetland area, the interpretive plan suggests that no formal promotion strategy be implemented. Rather than attracting increased numbers of visitors to the area, the interpretive program should continue to focus on lowering the impacts of the visitors that are already coming.

### Evaluation

Prior to the development of this comprehensive interpretive plan, evaluation of interpretive efforts was purely observational. Namely, identifying whether areas that were planted with beachgrass and posted with a "Stay off the dune" sign were soon trampled or not. Many of the areas planted with beachgrass continue to be undisturbed today. However, extensive dune erosion continues in certain locations, indicating that while the combination of hiring a dune naturalist and encouraging public participation in dune restoration efforts was effective, a more comprehensive interpretive plan was still needed.

Following the installation of "erosion control signs" throughout the area in the spring of 1996, a formal evaluation program was initiated by NY Sea Grant. This program is comprised of two major components: identifying the impacts of the interpretation on the visitors coming to the area, and identifying changes in the growth of beachgrass on the dunes. The first component involves observing visitor use of the dunes in the Deer Creek Wildlife Management Area, a highly-impacted area that has been posted with erosion control signs. The second component involves measuring the revegetation of beachgrass in dune blowout areas (gaps through the dunes caused by wind erosion), and measuring changes in revegetation annually. The results of this second component will not be available for several years.

Other outcomes have resulted from this project. The graduate student hired to write the interpretive plan successfully completed her Master of Science degree. The state and local agencies involved have a better understanding of the value of interpretation, and are now working on their own to implement portions of the interpretive plan in the state-owned properties they

manage. And finally, the willingness of landowners to participate in the interpretation program by posting interpretive signs has been established.

## Conclusion

In the past, studies of visitor use have indicated that most visitors visit the dune and wetland area mainly to use the beach and lake for recreational activities. An average of 7% of visitors walk through the dunes, and 0.3% use off-road vehicles on the beach and in the dunes, both activities which lead to dune erosion (Bonanno et al., 1990). It is this 7.3% of visitors that need to be educated about the impacts of their activities on dune erosion and wetland degradation.

Past interpretive efforts have proven to be effective in increasing the public's awareness of dune erosion. Through the development of a comprehensive interpretive plan for the area, this effectiveness will increase. Although increased patrols of the area combined with interpretation would be most effective, declining state budgets do not make this feasible at present. Increased stewardship by private landowners is an important component of interpretive efforts in this area. Implementation of more of the recommendations in the interpretive plan is anticipated (pending funding) in the future.

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# TOURISM IN PULAU SERIBU: THE SEARCH FOR SUSTAINABILITY

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**Abstract:** *Tourism in the region of Pulau Seribu, Indonesia has doubled in the last seven years. As a result of this increase and haphazard development, impacts of this activity on the region and the marine park found there are now being felt. Based on observations made during field research in the summer of 1995, two areas where greater sustainability of tourism development/activities can be most easily achieved are through education and modification of tourism "type." Education of tourists can include approaches such as interpretation trails, marine ecology information sessions, and park signage. Modification of tourism "type" could involve changing the type of tourist sought as a visitor to Pulau Seribu, utilizing "greening" evaluations of tourism businesses in the region, and enforcing current laws and guidelines designed to protect the marine environment.*

**Keywords:** *tourism, coastal, marine, park, conservation, sustainability, management*

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During this presentation I will deal specifically with two areas in which I believe the most impact can be made in creating a more sustainable tourism in Pulau Seribu, a coastal region just North of Jakarta. These two themes originate from a very versatile article written by Dr. Richard Butler in 1991, titled "Tourism, Environment and Sustainable Development." In this article Dr. Butler suggested four possible solutions to reduce the pressure of tourism on an area. These are:

1. Reduce tourist numbers to a level which allows the environment, at once human, natural, and physical, to function without being under pressure, and to sustain itself;
2. Change the type of tourism;
3. Change the resource itself into a form that is more capable of withstanding the pressures of tourism, while still being attractive to tourists and maintaining a fair level of integrity and authenticity; and
4. Education of the tourist, the host, the entrepreneur, and the government, to reduce impacts and control development (Butler, 1991, p. 204).

Two of these, (1) changing the type of tourism, and (2) using education as a tool to promote change, will be the focus of my discussion here. From observations made in the field, I feel these two approaches are the most easily implemented in Pulau Seribu, and currently the most appropriate.

## Pulau Seribu: Tourism and Conservation

When translated into English, Pulau Seribu means "Thousand Islands." In actual fact it is a grouping of just over 100 islands. All islands in this chain can be reached by speed boat within two hours. Approximately 70 of these islands, located furthest away from the pollution effects originating from the Javanese mainland, lie within a marine national park. This park represents one of the first attempts anywhere in the world to use zones as a method to manage user activities (a project first proposed in the early 1980s). The park which was established in 1982, it has now been granted "Marine National Park" status. In 1992 a zonation plan was finally agreed to by all parties associated with the park (Alder et al., 1994). Within one of these zones—the IUZ, or Intensive Use Zone—lie most of the tourism resorts which I will talk about in this presentation).

Visitors to Pulau Seribu have increased rapidly in the last 14 years. Interestingly, almost 70% of tourists to Pulau Seribu are Indonesian; the remaining 30% are foreigners, although certainly some of these are residents of Jakarta. The number of tourists visiting Pulau Seribu has more than doubled in the last seven years (1987–1994) (57%–44% for foreign tourists and 62% for domestic tourists) (Halpenny, 1995). Since little was known about visitors to the islands I conducted a survey of visitors during the summer of 1995 (this was in partial fulfillment for my Masters in Environmental Studies from York University). It was hoped that through increased understanding of who visitors are to Pulau Seribu, more informed decisions could be made about the management of tourists and tourism in the region. Listed below are some of the findings from this survey.

- Average age of respondent was 36 years old (15 was the youngest, 72 the oldest)
- 29% of respondents were recreationists, 70% were tourists
- 60% of respondents were domestic visitors, 40% were foreign (compared with a 70 - 30 ratio shown in tourist numbers to the islands collected by the local tourism ministry)
- 12% were SCUBA divers
- 41% were repeat visitors

Respondents' overall satisfaction with the trip:

- 22% very high satisfaction,
- 50.5% moderately high satisfaction,
- 21% average satisfaction,
- 5% moderately low satisfaction

Top three preferred activities included:

- Nature Observation (24% of respondents),
- Swimming in the Ocean (21%),
- Snorkeling (17%)

Demographics:

- 77% of respondents were male, 22% were female
- 73% of foreign respondents were Western (not including Turkey)
- 27% were from Asian countries
- 72% had completed post-secondary education
- 27% had completed secondary school

Primary reason for visiting Pulau Seribu:

- 32% of respondents stated "spending time with family and friends,"
- 20% said "finding a quiet, relaxing place,"
- 8% stated "SCUBA diving,"
- 7% said "experience a sun, sand and sea holiday,"
- 25% said "other" factors such as fishing, or that they were on a company tour

Average length of stay among respondents was 1.5 nights (Halpenny, 1995).

Most of these statistics will have little interest to people not associated with management of tourism activities in the Pulau Seribu region. However, there are several lessons that we as managers and policy makers can take away from a survey like this. To expand on this point, let me return to the two themes that I promised to discuss—themes or approaches that should lead to a more sustainable tourism in Pulau Seribu, and other coastal regions like it.

### Tourism and Tourist Type in Pulau Seribu

As is usually the case with coastal regions, tourism development Pulau Seribu occurred in a haphazard fashion, often without thought to the long term impacts to the environment or local communities. One of the greatest challenges now facing resource managers, conservationists and business owners in the region is creating a balance between tourism development and the marine environment. As alluded to earlier in this presentation, a key element in obtaining this balance, is to identify the "type" of tourism that occurs in the region, and determine if another type of tourism is desirable, as well as feasible.

One way to measure tourism type is accomplished by identifying who invests in the site and what control the government has over them. While foreign investment exists in Pulau Seribu (e.g., Japan Airlines' partial ownership of Pulau Hantu Barat/Kecil), the greater problem of ownership comes from another form of

external ownership—the majority of islands are owned or controlled by wealthy Jakartans or government departments. It is perhaps the management practices of the former that is so alarming—as little action has been taken in the past to curb the activities of these "external" owners and their impact on Pulau Seribu's marine environment. Wealth and ties to power insulate owners from any punitive action.

Indonesia has an extensive set of environmental laws, but lacks the ability or desire to enforce them. Endemic corruption, apathy and ignorance can be three causes of this problem (Ritcher, 1993). If a positive relationship between tourism and conservation is to be achieved, policies such as Indonesia's environmental impact assessment process, AMDAL, must be enforced. Misuses of Pulau Seribu's natural environment, as seen in the "illegal" construction of a golf course on Bira Besar, cannot continue to happen.

The construction of a golf course on Pulau Bira Besar makes a good example of the complexities of environmental law enforcement in the Pulau Seribu region, and for Indonesia in general. A controversy has been simmering in the islands for the last three years. Television and print media have brought this issue to light, when in previous years it would have remained taboo. The course was constructed in 1993–94 without a building permit or an approved environmental assessment. The developer, PT Pulau Seribu Paradise cannot open the course without AMDAL approval (*Jakarta Post*, 1995) and Jakarta's commission on environmental impacts has turned down the developer's environmental analysis three times already. Payment of a fine (estimated by one source at 200 million rupiahs or US\$100,000) by the developer may not be enough to appease local groups (*Kasus Lapangan Golf Pulau Bira Besar: Pengelolanya*, 1995; *Jakarta Post*, 1993). The lesson here is, no matter how well-crafted environmental laws and guidelines are, they will remain ineffective if willingness or ability to implement them does not exist. The confusion and ambiguity created by the ineffective implementation of coastal management policies damages efforts by conservationists and tourism businesses to implement the best strategies for achieving their goals. This brand of irresponsible tourism and recreation development must be eliminated if a positive relationship between tourism and the marine environment is to be achieved.

To create a new "type" of tourism several authors have discussed the "greening" of tourism. One example of this was put forward by Hawkes and Williams. They suggest eight themes which should be applied to ecotourism and other forms of tourism. These are:

1. *Efficiency*, for example in regard to re-use or recycling of waste or in the use of energy or resources.

2. *Employment involvement*, so that enthusiastic people can help to introduce more sustainable forms of practice into tourism operations.
3. *Redefining success*, for example by recognizing and promoting the idea that financial profit is not necessarily the fundamental driving-force in private business ventures in tourism.
4. *Environmental education and interpretation*, where that includes promoting the deep understanding and appreciation of cultural and ecological resources which are absolutely essential to wise environmental management and sustainable development.
5. *Building alliances*, for example involving government agencies, private businesses, resources managers, and citizens, thereby gaining access to a large pool of shared resources, information, expertise, and values.
6. *Recognizing and dealing with trade-offs*, for example, the transport of large numbers of tourists by jet aircraft, which consume large quantities of non-renewable fossil fuels and emit much pollution, has to be considered along with attempts to reduce vegetation change, pollution, or other effects, in any destination areas operated on a low-impact or ecotourism basis.
7. *Code of effects*, i.e., the need to develop ethical guidelines which encompass environmental and social factors and are aimed at all parties involved in tourism, including the tourists themselves.
8. *Monitoring and environmental assessment*, where this refers to the need for all sectors of tourism to develop a means of monitoring the economic, social, and ecological, effects of their activities as a basis for improved planning, management, and decision-making. (Hawks and Williams, 1993; cited in Nelson, 1993)

This rather impressive list of factors makes an excellent checklist for indicators of sustainability. Unfortunately, not enough time is available to talk about each one, instead, I will discuss two approaches to measuring tourism activity—which may aid in understanding what type of tourism is desirable in Pulau Seribu.

An example of “green-tourism” promotion may be found in the implementation of Pacific Asia Travel Association’s (PATA) “Green-leaf Awards,” designed to promote “environmentally responsible tourism.” Travelers will be encouraged to support the businesses who have passed general and sector-specific self-assessment questionnaires. The Ecotourism Society’s “Green Evaluations” represent a second and perhaps more rigorous example. TES’ approach to Green Evaluations involves using consumers as on-site monitors, as they are the only group that is always present on a wide variety of tours, year-round. In a recent trial run of TES’ Green Evaluations consumers, enticed by the chance to win a trip to Ecuador, completed an eight page survey of their experience, covering topics such as:

- pre-departure information
- education and information provided while on the trip
- tour operator contributions to local conservation efforts
- environmental and social compatibility of accommodations
- what is being done to monitor the business’ impact (Cecil, 1995)

These are just a few examples of how tourism type can be evaluated, and perhaps changed. Another approach to modifying the type of tourism in an area often involves attracting a different kind of tourist.

Lindberg (1991) identifies four types of nature tourists. These include: (1) Hard-Core Nature Tourists, (2) Dedicated Nature Tourists, (3) Mainstream Nature Tourists, and (4) Casual Nature Tourists. Categories 2, 3, and 4 are all present in Pulau Seribu. The Dedicated Nature Tourist is a person who takes trips specifically to see protected areas and who wants to understand local natural and cultural history. Promotion of this type of tourist to Pulau Seribu would benefit conservation in the area, as they would demand and support activities that work to conserve social, cultural and natural characteristics of the region. Efforts to encourage this type of tourist should be undertaken—perhaps, for example, as research tours or birding tourism. A serious constraint does exist in promoting this type of tourism however, as the quality Pulau Seribu’s environment is decreasing rapidly.

The Mainstream Nature Tourist is an individual who visits a destination to take an unusual trip. Few people would call the “sun, sand and sea” tourism found in Pulau Seribu unusual, however, by introducing elements such as SCUBA diving courses, the experience can become highly unique. As this does happen occasionally in Pulau Seribu, there are a small and perhaps increasing number of tourists who fit this category. By diversifying the types of tourists who visit Pulau Seribu—tourism managers and businesses may elongate the life of their own industry through the diversification of their destination.

It seems, judging from responses given by visitors interviewed during the survey that I conducted, that a majority of respondents described their trip to Pulau Seribu as partaking in nature as an incidental part of the trip. Lindberg would call this group of visitors Casual Nature Tourists. While this last group of tourists may have little contact with the environment, they nevertheless can contribute to the erosion of coastal resources, (e.g., through waste generation). This group often lacks fundamental knowledge about the marine environment. Efforts to educate this group of tourists, about Pulau Seribu Marine National Park and its environment must be undertaken. An example of this was found on Pulau Ayer, where trees

on the island were identified with signs, to educate and entertain tourists as they explored the island. Similar examples can be found on Pulau Putri, where visitors can visit a "zoo" and an extensive aquarium facility. This environmental interpretation could be expanded—increasing the conservation awareness of visitors to the region. This brings us to the second recommendation made by Butler that I would like to address—education.

## Education

Butler's last suggestion, education, could be vigorously applied in the Pulau Seribu area. Today I will only talk about educating the visitors of Pulau Seribu. However, there is also much work to be done in educating government officials, dive guides and other tourism personnel, local community members, etc.

Criticism has been leveled at the park information signs, which are located at Ancol Marina (the main entry point to the island from the mainland) and on the resort islands in the park. In a 1993 study of the region Cochrane recommended the signs be redesigned, stating the park's name is above eye level and the rules are explained in language too complex for lay persons (Cochrane, 1993). When I surveyed visitors to the islands to find out if they were aware of the park's existence and where they had learned of it, more than 50% stated they did not know of the park's existence. Of the 49.5% that did know of its presence, only 15% of this group learned of it from park signs (respondents from Pulau Ayer were included, even though the island lies outside the park and a sign is not present there). The most frequent response given as a source of information of the park's existence was the category "other," (friend was the most prevalent response in this category), and "media" (Halpenny, 1995). Awareness of the park is an important component in making visitors conscious of conservation efforts, and why they are necessary.

A final strategy for reaching a park's financial objectives through tourism is the development of marine ecology information sessions, designed in part, to entertain tourists who are staying the night on the islands. This is based on my experience attending a popular nightly slide show on reef ecology on the Belizean island of San Pedro. Through this slide show environmental education of visitors was converted into a source of income for a marine park nearby. From responses of the 103 visitors to Pulau Seribu that I surveyed, 77% said they would be interested in such an information session. Seventy-four percent of those interested stated they would be willing to pay an average of US\$5.50 for the presentation (Halpenny, 1995).

These are just some of the areas where an improved relationship between tourism and conservation can be

generated. It will fall to NGOs, conservation officers, government planners, community members, and tourism businesses in the Pulau Seribu region to act on these ideas to achieve a more sustainable form of tourism.

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# JOINT MANAGEMENT OF MARINE PARKS IN AUSTRALIA: A COMMUNITY BASED PERSPECTIVE

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**Abstract:** 121,000 Aboriginal and Torres Strait Islander people live within 20 kilometres of the Australian coastline; this is nearly half of the indigenous population. Coastal land and marine and estuarine resources continue to be of great cultural and economic importance to Aboriginal and Torres Strait Islander people. Aboriginal people currently have no role in fisheries management and Aboriginal participation in Australian marine park management has so far been limited to one Aboriginal member of the Great Barrier Reef Marine Park Consultative Committee.

The concerns and conflicts expressed by representatives of indigenous peoples relate to the lack of opportunities for involvement in decision making relating to Marine Parks. These concerns embrace a wide range of issues relating to the management of the resources of the coastal zone. Furthermore, they arise from perceptions of inadequate levels of participation by Aboriginal and Islander people in the management of what they regard as their traditional domains both on land and in the sea. Participation is seen to be inadequate in three respects: recognition of traditional ownership; joint management arrangements; and consultation procedure. Aboriginal communities are often expected to take an Euro-Australian approach to organising representation and operation within an Euro-Australian bureaucratic framework. If this approach is alien to the Aboriginal communities, then it must logically place them at a disadvantage in the process of negotiating Aboriginal rights and interests.

Aboriginal communities must therefore have the opportunities to present a position on joint management issues in a manner and setting that is culturally appropriate. Community studies operating from within Aboriginal communities can provide the mechanism and techniques for achieving this by effectively translating issues for understanding across cultural barriers and produce both more effective management and better understanding.

**Keywords:** marine parks, Australia, Aboriginal community, joint management

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## Introduction

*What modern civilisation has gained in knowledge, it has perhaps lost in sagacity. The Indigenous peoples of the world retain our collective evolutionary experience and insights which have slipped from our grasp. Yet these hold critical lessons for our future. Indigenous peoples are thus indispensable partners as we try to make a successful transition to a more secure and sustainable future on our precious planet*

—Strong (1990)

With the increasing focus on marine parks within Australia and increasing recognition of Aboriginal communities' involvement in managing these, there is a need to examine how management frameworks can be formulated that move away from the existing polarised views and perceptions of marine parks. Recent changes in the legal status of Aboriginal rights and ownership of marine areas have highlighted this.

Marine park management frameworks have to address joint management, and the facilitation of a cross-cultural flow of information will promote the development of the cross-cultural understanding that is vital to resolving issues within joint management.

The Aboriginal Land Grant (Jervis Bay Territory) Bill 1986 provided for the granting of "...inalienable freehold title to the Wreck Bay Aboriginal community over an area of some 403 hectares in Jervis Bay Territory" (C of A, 1986). Jervis Bay National Park will thus become "...the first park outside the Northern Territory to be owned and managed by Aborigines [sic] in a lease-back arrangement with the Federal Government." (Caruthers and Cant, 1994:12) Under the lease-back agreement the government will pay an annual rent to the Wreck Bay community to ensure the area stays accessible to the public as a national park (Cook, 1994) as per the Northern Territory model.

In announcing the grant, the Commonwealth Government Minister for the Environment, Senator possession Faulkner, and Minister for Aboriginal Affairs, Mr. Tickner, criticised the State and Territory governments for not initiating similar arrangements with Aboriginal groups, as was recommended in the 1992 Royal Commission Into Aboriginal Deaths in Custody (RCLADIC) report. Mr.

Tickner was concerned that while all the States and Territories endorsed the report, none put it into practice, and said "The Commonwealth's direct opportunities to advance this agenda are limited given the fact that most parks are under the control of State and Territory governments" (Carruthers and Cant, 1994:12). The Jervis Bay grant was seen to illustrate "...the Federal Government's commitment to reconciliation, as the joint management of Jervis Bay could not have been achieved under Mabo legislation" (Carruthers and Cant, 1994:12).

Jervis Bay is one of 13 coastal and marine conservation areas administered by ANCA, but is one of only two coastal national parks under ANCA on the Australian mainland. Consequently, there is little more that the Commonwealth Government can do in this way towards furthering Aboriginal land claims, and in the absence of positive action from the State governments the onus will rest with conservation groups and Aboriginal communities and organisations.

The declaration of the Commonwealth National Park for Jervis Bay in 1992, and the subsequent announcement to grant the local Wreck Bay Aboriginal Community title to the park in 1994 (under a conditional lease-back joint management arrangement) has included Jervis Bay in a scenario that may see upwards of 30 National Parks in local Aboriginal ownership within the next few years (De Lacy, 1991). This ownership is currently accompanied by obligatory joint management arrangements with government agencies, under a model developed in the Northern Territory for the joint management of Uluru-Kata Tjuta and Kakadu National Parks. A feature of this model is the success arising from involvement of Aboriginal communities in consultation and management procedures and the eventual progression to genuine Aboriginal control of many of the issues affecting their communities.

## Opportunities for Participation in Decision Making

*Torres Strait is one part of Australia in which indigenous people have a formal involvement in the management of commercial fishing. Aboriginal people currently have no such role in fisheries management and Aboriginal participation in Australian marine park management has so*

*far been limited to one Aboriginal member of the Great Barrier Reef Marine Park Consultative Committee.*

—RAC (1992: xxvii)

The concerns and conflicts expressed by representatives of indigenous people fall into three interrelated categories. The first is the lack of opportunities for involvement in decision making relating to marine parks. The second arises from what indigenous people regard as inadequate responses from governments when administrative or legislative mechanisms have been established to involve them in such decision making. The third relates to the lack of financial, social and vocational benefits flowing to indigenous people from projects that commercially exploit what they regard as their resources.

The above concerns embrace a range of issues relating to marine park management and arise from perceptions of inadequate levels of participation by Aboriginal and Islander people in the management of what they regard as their traditional domains both on land and in the sea. "Participation is seen to be inadequate in three respects: recognition of traditional ownership; joint management arrangements; and consultation procedures" (RAC, 1992: xxvii). While this situation is beginning to be addressed—via the 1992 "Mabo" (Native Title) Ruling—there is a clear lack of techniques to facilitate effective participation and consultation. Aboriginal communities are often expected to take an Euro-Australian approach to organising representation and operation within an Euro-Australian bureaucratic framework. If this approach is alien to the Aboriginal communities, then it must logically place them at a disadvantage in the process of negotiating Aboriginal rights and interests.

Aboriginal communities must therefore have the opportunities to present a position on joint management issues in a manner and setting that is culturally appropriate. Community studies operating from within Aboriginal communities can provide the mechanism and techniques by effectively translating issues for understanding across cultural barriers. The three areas where participation is considered inadequate will be briefly addressed below.

A House of Commons Select Committee in 1837 found that the "native inhabitants of any land have an incontrovertible right to their own soil, a plain and sacred right." (Fagan, 1994:8) However, the government persists in avoiding dealing with moral issues and restricts the discussion of land rights to questions of legality which obviously

disadvantages Aboriginal cultural perceptions of marine parks and their use.

Indigenous people are not asking for western-style ownership, as they don't see their connection to the land and sea in terms of the western concept of ownership. Instead, they want ownership in terms of control. Ann Creek, a spokesperson for the Kaanju clan on the Cape York Peninsula, expressed this sentiment, as she believes any negotiating must be done with legal advisers and anthropologists. She wants the right to sit on the boards of marine parks on Aboriginal land; the power to issue permits and the authority to say what is done with these lands; and Aboriginal people to be recognised as authorised officers of the Park." (Creek, 1992:23)

Effective control is thus a central issue for Aborigines. But this is not the most crucial issue, as the exclusion of indigenous peoples from the mechanisms of control is symptomatic of a deeper problem within Euro-Australian society. Woenne-Green et al. reported (1992:8) "...the major issues for Aboriginal people did not so much involve the augmentation of their involvement in the control and management of the conservation estate, but rather involved the limitations placed on their involvement by prevailing public attitudes and political positions towards sharing power with Aboriginal people in decision-making about lands reserved as part of Australia's national heritage."

Thus the public and politicians are being implicated in maintaining restrictionist policies at the social, cultural and economic expense of an indigenous minority group. There is currently much focus on questions of legality arising from various Aboriginal land claims around Australia. Given that the Mabo ruling has extinguished the Terra Nullius concept in legal terms, the imperative now is to accept the challenge to deal with the morality of the situation. This challenge is increasingly being met in legal spheres and must now be met in the social spheres where personal morality can achieve what many a law could not. "The nation and justice would be far better served, rather than facing a landslide of post-Mabo litigation, if the Federal cabinet would sit down with us and negotiate a treaty, something we sought long before the Mabo decision" (Dodson, in Cordell, 1993:11).

There is no question that Aboriginal participation in the management of protected areas (while vitally important) is subordinate to the basic issue of security of land tenure to those parts of the conservation estate that are of cultural significance to them. Without security of tenure

based on the formal acknowledgment of Aboriginal rights, governments will continue to find it unnecessary or politically inconvenient to negotiate with aborigines on equal terms for the control and management of conservation areas (Nutting, 1994:30).

The security of land tenure for Aboriginal groups is effected by default. This is via the Commonwealth's Racial Discrimination Act 1975, which "...prevents States and Territories treating native title less favourably than other forms of title" (Woenne-Green et al., 1992:13). Adding considerable weight to the case for moral responsibility is Recommendation 315 of the Royal Commission Into Aboriginal Deaths In Custody (RCIADIC). This calls for implementation of recommendations that would create an environment for equitable joint management of national parks in Western Australia. The 1992 High Court decision on native title (the "Mabo" case) is seen as groundbreaking in the fight for recognition of Aboriginal customary rights. The view expressed in an article by Wootten is that "Mabo is about people not real estate." (Wootten, 1993:19) Accordingly, the focus of attention must be broadened to include sociological issues and sociological studies.

As has been witnessed in recent years by the emergence of literature titles such as "Competing Interests" (Woenne-Green et al, 1992), the conservationist principles of park management are often in conflict with Aboriginal culture (Horstman, 1992). Whilst there are indications of that this situation is changing (Bita, 1994) the divergences between a Western environmental ethic and an Aboriginal land ethic are felt by some to be irreconcilable (De Lacy, 1991A). During negotiations over a proposed Northern Territory national park, traditional owners expressed their frustration as follows: "You want to look after that country, all right, we'll look after it for you, you give us a spoon and we'll spoon feed those lizards, but it's our country and we want to live there" (Figgis, 1986:28).

On another level, judging from Kakadu and Uluru, Aboriginal involvement in Protected Area management is on the verge of degenerating into Smoky the Bear style ranger training where the role of traditional owners is simply to add an interpretive and marketable ethnic element to running the Parks (Cordell, 1993:8).

Consequently, joint management arrangements for protected areas need to acknowledge the benefits to be gained by all parties in the formal recognition of Aboriginal rights and interests in marine parks. This recognition could perhaps best be achieved by approaching negotiations for joint management of marine parks from the perspective of



acknowledging traditional Aboriginal knowledge and practices. In this way, indigenous communities can manage a protected area's resources in a manner that is both environmentally and socially sustainable.

A management structure designed around day-to-day input by Aboriginal communities and natural resource agency staff alike, will see the establishment of marine parks which allow the identification of all expectations for each individual community. The joint management model that the Australian Nature Conservation Agency used in central Australia may bring with it the principles, but not necessarily all the practices for marine parks, as the practices need to be defined by the joint management participants at each individual location.

### Aboriginal Land Rights, Ownership, and Community

In the 1992 "Mabo" decision, the High Court of Australia recognised that in 1788 Aboriginal communities owned the various parts of Australia under customary 'native title' (Wootten, 1993:18). However it also recognised the sovereignty of its own state, Australia. The end-result of the judgement was that aboriginal people could only inherit land that they had maintained customary connection with, but "...they could lose their title if the new sovereign disposed of the land in a way inconsistent with their title" (Wootten, 1993:19). By this definition, in 1992 very little native title remained. In marine parks however, it is possible to argue that land usage is not inconsistent with native title. This would usually not negate the existence of the park, but would leave the relevant Aboriginal people with ownership rights that demand respect (Wootten, 1993:20).

Recognition has thus been given to the role that marine parks can fulfil in furthering the aspirations of indigenous people for access to traditional sea areas. Access to these areas is integral to the preservation of culture and traditional lifestyles, as is gaining access to resources of economic and social significance to the process of self-determination. In recognising this, there is now the imperative to not hinder this process, and to indeed actually promote it.

While much of the debate over Aboriginal territorial rights has been restricted to land rights, as noted by Allen, "...the boundaries of ancestral estates do not abruptly end at the water line: to indigenous coastal and island people, land and sea are one" (Allen, 1992:16). However, the Commonwealth Land Rights Act (Northern Territory)

1976 does not allow indigenous people to claim seawater country. "Instead, it confers a right of traditional use of marine resources up to 2 km off the coast of Aboriginal land- without providing any mechanism for Aboriginal people to participate in the management of those resources" (Allen, 1992:16). "Traditional ownership of 'seawater country' may be generically called Customary Marine Tenure or CMT. It is a system of property rights that pre-dates by millennia the system which English colonists brought to this country over 200 years ago. But nowhere in Australia does it have judicial or legislative recognition—yet. Some legislation makes provision for limited traditional use of marine resources, but such provisions more effectively deny customary marine tenure rather than recognise it" (Allen, 1992:16).

The United Nations Convention on the Law of the Sea came into effect in Australia on 16 November 1994. This has potential for enormous flow-on benefits for indigenous coastal communities. The Convention allowed for the declaration of "Australia's Exclusive Economic Zone" (EEZ), which effectively extends Australia's jurisdiction to 200 km offshore (excluding areas where neighbouring borders conflict with this). This trebles the area in which Australia has priority access to natural resources, and gives Australia the world's second largest exclusive marine economic zone (Cribb, 1994: 1). In the light of this increase in our natural resource wealth, it will be interesting to note the outcome of a current Aboriginal Claim for Sea Rights in the Arafura Sea (Nason, 1994), which will undoubtedly be joined by other claims as Aboriginal and Torres Strait Islander groups move to regain access and management rights to traditional resources within the EEZ. The potential for a sustainable harvest from the EEZ worth \$30 AUS billion annually (Cribb, 1994: 2) could provide coastal Aboriginal communities with tremendous economic opportunities and resultant flow-on social benefits through increased employment and economic independence.

The Supreme Court's recent decision on the Eddie Mabo case has prompted the Federal Government's current stand on Aboriginal land rights. Implicit in this stand is the recognition of the Australian aborigines' traditional rights to ownership and use of the Australian continent, although some areas have been excluded from inclusion; these include some pastoral and mining leases. Having recognised this, it must surely follow that decisions relating to Aboriginal land, heritage and culture have to involve aborigines themselves. Decisions as to what sites are visited, who the visitors are, and the intensity of use are of great concern to aborigines. The various states and territories of Australia have differing levels of involvement of aborigines in this area, but overall, the States are

regarded as failing in their responsibilities (Carruthers & Cant, 1994).

Northern Australia and some of the more recent national parks have not suffered the separation of Aboriginal culture and natural place management that characterises the situation in most of Australia. This separation of cultural and natural resources is seen as a product of the lack of recognition of (a) Aboriginal occupation of the continent in pre-European times, and (b) that the landscape was the product of Aboriginal culture (Sullivan, 1991).

This lack of recognition of Aboriginal culture has even extended to some park managers feeling

...that Aboriginal site management was in conflict with, or ran counter to their other management responsibilities." (Sullivan, 1991:169) Some commentators on the issue see this stand as hypocritical given that it is "...Aboriginal cultural heritage value which is exploited in the promotion of the parks for the economic benefits of tourism (Blowes, 1991).

In telling a story about the defining of Aborigines, their lands and their cultures, Barlow makes four points:

Aborigines have never had to define themselves, their cultures or their lands - that definition was made in the time before time when the great ancestral creative beings brought into existence land, people, and Law. All other definitions have been made, by people who are not Aborigines, for their own reasons. People who are not Aborigines continue to define Aborigines, their cultures and their lands for their own reasons. These definitions are effectively imposed on Aborigines so that they are impelled to act in accordance with them (Barlow, 1991:57).

## Management Frameworks

*Aboriginal cultural themes, together with the significance of protected areas to Aboriginal people are increasingly being promoted by government and non-government conservation and tourist agencies as values and attractions of the land as a tourist destination. Aboriginal people are still largely in an advisory role with respect to this*

### *appropriation of Aboriginal culture.*

—Woenne-Green et al.  
(1992:375)

The Euro-Australian environmental ethic has traditionally placed Science on such a pedestal that practices generally considered unacceptable within conservation areas have been permitted "in the name of scientific research." Thus the collection of flora and killing of fauna could be carried out by scientists with relative impunity. The failure to recognise Aboriginal culture and the importance of rituals and traditions to it, meant that Aboriginal groups were denied an equivalent access to the flora and fauna. A member of the Australian Heritage Commission provides the following example: "I have a vivid recollection of a park superintendent carefully explaining to a group of Aborigines why they could not shoot a kangaroo from the park for a special cultural gathering they were organising. The appearance of a young research scientist with six kangaroo carcasses was justified as being "for scientific research." The researcher got his PhD; the Aboriginal group did not get their dinner" (Sullivan, 1991:171).

Problems arising from different perceptions marine parks include differing perspectives as to what constitutes management; what is the purpose of the parks and protected areas; the role of Aboriginal staff in management; and, whether there is a place for traditional usage of the lands by Aboriginal people for hunting and gathering, and holding ceremonies at sacred sites.

The term 'joint management' used here refers to situations where government agencies and indigenous peoples have equal representation and authority on management committees. The current emphasis on developing a 'model' for joint management, that can be transposed from one situation to another, gives insufficient acknowledgment to the unique attributes of different conservation areas and the particular relationship that local indigenous communities have with these areas.

A central factor in the success of the joint management model at Uluru was the commissioning of a study reviewing the Anangu (traditional landowners) perspectives on the developing management model. This was essentially a sociological study to document community problems and "...to develop, in full consultation with them, realistic plans for the future of the community" (Young et al, 1991:164). The acknowledged success of this study, and its ability to be applied to other developing joint management arrangements, suggests an important role for community-based sociological studies within the protected area joint management framework.

With joint management arrangements currently being negotiated for Jervis Bay National Park, it is an appropriate time to incorporate consultation processes to ensure the inclusion of Aboriginal perspectives into the longer term joint management process. This may help to overcome historical attitudes within national park management that failed to recognise Aboriginal culture and regarded only the conservation of 'natural resources' as important. This lack of recognition of Aboriginal culture has even extended to some park managers feeling "...that Aboriginal site management was in conflict with, or ran counter to their other management responsibilities" (Sullivan, 1991:169).

To adequately address these issues Aboriginal people must play a significant role in the marine parks management framework, and to facilitate this there needs to be mechanisms which allow for the cross-cultural transfer of information and understanding.

Joint management arrangements in Australia vary widely between the States and Territories. In the Northern Territory for example, "The Land Rights Act provides for the recognition of Aboriginal traditional rights in the form of a grant of statutory freehold title" (Blowes, 1991). In contrast, "Aboriginal people in New South Wales have no legal responsibility in decision-making about Aboriginal site protection, site management or the destruction of sites due to development," and "...have no legal say in regard to the granting of research permits dealing with Aboriginal sites" (Geering, 1991:208). This issue causes concern among aborigines in NSW as they often have different priorities for restoration or conservation than site management authorities (Geering, 1991:211). Indeed the NSW situation is seen as so unsatisfactory that Under the proposed arrangements, genuine Aboriginal involvement in management is unlikely (Blowes, 1991:6). Similarly, the situation in Queensland is unlikely to prove satisfactory, with the relevant legislation (the Aboriginal Land Act 1991 and the Torres Strait Islander Land Act 1991) being labelled via a colloquialism as Claytons Legislation (Woenne-Green et al., 1992), or in other words, land rights legislation by name but not capable of producing the desired outcome.

The traditional Euro-Australian approach of park management made a distinction between natural and cultural resources. Natural resources were to be conserved, whilst cultural resources were to be preserved for exhibition. Aboriginal peoples, however, make no such distinction between the cultural and the natural (Bates & Witter, 1991; Nesbitt, 1991), as their relationship with the land is fundamentally different. Certain sites may have a special significance, but the entire landscape has meaning within their spiritual base, the Dreamtime. "Indeed, the

majority of Aboriginal religions have a centre at a particular place, be it river, mountain, plateau, valley, or other natural feature" (De Lacy, 1991A:1).

In contrast to this, Europeans "...practised relationships of subjugation and domination, even hatred, of European lands," and "...made little attempt to live with their natural communities, but rather altered them wholesale" (De Lacy, 1991A:1). Aborigines lived within the limits of the land by letting the seasons determine their movement through the land. Different areas produced food in different seasons, and as the natural food in one area diminished the aborigines moved on to another and allowed the previous one to regenerate (Kneebone, 1991). The deep personal attachment to the land that aborigines have, is at odds with Western culture and concepts of ownership. Aborigines have traditionally seen themselves as belonging to the land, rather than the reverse.

Aboriginal communities are currently involved with ANCA in joint management of a variety of conservation areas. The two most prominent examples are Kakadu National Park (NT) and Uluru-Kata Tjuta National Park (NT). The Agency and Aboriginal participants regard these two examples as highly successful (ANCA, 1993; Tjamiwa, 1991) and ANCA has been investigating the appropriateness of introducing a similar model to JBNP. Towards this end, members of the Wreck Bay and Jerrinja communities, from the Jervis Bay region, have visited Uluru and Kakadu to examine the 'model' first hand.

This examination by the community is an essential first step in acknowledging the community's right to act on the basis of their own observations and perceptions. This acknowledgment is an essential element as it enables community empowerment via knowledge gained through active participation. Adequate consultation procedures for joint management arrangements rely on all parties being fully aware of all options and proposals, and this awareness is greatly advanced by active participation.

During the 1980's government nature conservation agencies were developing initiatives for the greater involvement of

...Aboriginal people wherever appropriate and possible in the management of reserved natural areas, such as national parks. Two objectives of these initiatives [were] to ensure the integrity of Aboriginal culture (including situations where the indigenous peoples do not hold title to the land) and to combine traditional Aboriginal knowledge with modern non-Aboriginal conservation practices (Taylor, 1985:2).

As Indigenous peoples note, the integrity of their culture depends on their continued close association with the land, and fulfilling their responsibilities of looking after their land, according to their law (Bogle, 1988). Indigenous peoples see themselves as 'true custodians' of the land and need recognition of this through involvement in national and marine parks in negotiating decisions regarding research and development, tenure changes, ranger employment and management decisions (Royce, 1992). Their role in management is vital as cultural factors, which may be beyond the understanding of non-Aboriginal staff, can determine what is appropriate in land management and who is to be involved.

At present in Australia there is an alternative approach to indigenous involvement in protected areas. This approach entails indigenous community initiatives that have "...the potential, ultimately, to render both Queensland and Northern Territory co-management innovations obsolete. ...communities themselves are seizing the initiative and declaring their own indigenous tenure-based protected areas, without waiting for official recognition. By presenting government agencies with a 'fait accompli', this strategy shifts the burden and cost of negotiating any challenges or disputes to the State" (Cordell, 1993:9). An example of this is the Kowanyama Aboriginal community on the western Cape York Peninsula, Queensland.

### Kowanyama

Kowanyama is an Aboriginal community situated on the western side of Cape York Peninsula. The community is achieving considerable success in negotiating resource management arrangements and is respected for its innovative approach. Negotiations with commercial fishing interests have led to the voluntary closure of commercial fishing within ancestral fishing grounds, and Aboriginal and non-Aboriginal user groups have been involved in the creation of a catchment management network. Also established is a ranger program that is 'responsive to local cultural and natural resource preservation priorities,' and 'community-oriented interpretive and educational projects designed to integrate traditional environmental knowledge in the schools' (Cordell, 1993:9).

The communities at Kowanyama and at Malanbarra (approx. 200 km away at Cairns) see Aboriginal involvement in resource management as going beyond national parks and marine parks, and point out that "...it would be a sad thing indeed if the only land that was cared for in the future was national parks and other protected areas" (Daphney & Royce, 1991:43).

### Jervis Bay National Park

The Wreck Bay community at Jervis Bay has been negotiating with the Commonwealth Government, since 1992, on the issues of Aboriginal ownership, lease-back and joint management of JBNP. Throughout this period community members have perceived "...significant governmental attitudinal problems with respect to the implementation of joint management, the main one being perhaps conflicting definitions of what a 'real' Aboriginal traditional owner might be." As one Wreck Bay member put it, "...maybe they are thinking we are just not Aboriginal enough to run the national park like the people at Uluru?" (Nutting, 1994:32).

This assertion however is countered by the views of a Wreck Bay inhabitant, George Brown. Brown places himself as a descendent of one of 'the seven tribes of coastal NSW that are all closely linked', and that while he came from Moruya (NSW), he included Jervis Bay as part of his history (Fortescue, 1994). Both the Jerrinja and the Wreck Bay communities claim a long association with the area in their film 'We Come From The Land' (Stevens, 1991), and are pressing for land rights on both State and Commonwealth land, including Beecroft Peninsula. A review of cultural factors for Jervis Bay suggests that prior to European settlement, either the Gurangada or the Dharumba tribes inhabited the area. Complicating this further, a linguistics study of the area shows the boundary line between the Dharawal and the Dhurga dialects cuts the Bay in half (Zakharov, 1987).

Another example of issues encountered in joint management can be seen in the Draft Plan of Management for Taylors Lake Women's Place, near Broken Head on the far north NSW coast. This land is at present predominantly Crown land and is being proposed for gazettal as an Aboriginal Place, under the National Parks and Wildlife Act 1974, which enables the Minister to declare an Aboriginal Place over any area that "is or was of special significance with respect to Aboriginal culture" (s,84) (Appo, 1994). The lake bed and water have special cultural significance to Aboriginal people, and the area was traditionally restricted to visitation by women only. There is currently concern over the misuse of the area with resultant degradation of the lake shore and surrounds, and a deterioration of water quality.

### Creating A Process

Adequate time must be given to Aboriginal groups to comment on particular issues and development proposals,

as the process of consultation with the whole community takes some time. In the negotiations over collaboration at Uluru one of the facilitating features was the allowing of sufficient time to establish good working relations (Reid et al., 1992). There have been instances in Queensland where only two weeks was given for this (Finlayson, n.d.). All interested parties need a chance to comment on the specific meanings and values a location has for their community. This is important as particular marine areas may be included in the traditions of different regional groups.

An Aboriginal academic offered the opinion that the approaches to management of East Coast indigenous peoples would probably differ from the approaches of communities from other regions due to cultural and historical differences (Bloomfield, 14/10/1994). In particular, Bloomfield referred to NSW indigenous peoples bearing the early impact of European settlement and attitudes, and as such there is historical mistrust and animosity. Further differences stem from the scientific studies that underpin natural resource management. These rely on detailed and systematic inventories of environmental data for status assessment and detection of change. In this way the impacts of events and developments on ecosystems can be identified over time. However the underlying assumptions of the people designing this research affect, in a fundamental way, the nature of the goals that are sought and the results that are achieved. Joint management arrangements require that the human element be incorporated into the natural resource management framework, and thus social science methods need to be employed. Like the earth sciences, social sciences need inventories to complete studies, but social science inventories need data on people. 'Community Studies' is an approach eminently suited for application here as it encapsulates a variety of conceptual frameworks for providing such data and analysing a community over time.

A final point on this topic is that traditional ecological knowledge may not be obvious to the western-trained scientist as it may be disguised in the form of cosmology and ritual (Woodley, 1991). The community studies researcher who becomes more familiar with Aboriginal traditional knowledge and meanings will be able to extract an understanding of this ritual for a crosscultural interpretation. In Australia, where indigenous peoples have managed the land and coastal resources as part of their culture and spirituality for over 40,000 years, the joint management process must be based on an understanding of traditional ecological knowledge if arrangements are to be sustainable both environmentally and socially.

Aboriginal Land Rights needs processes in marine parks that will facilitate cross-cultural understanding between the European invaders and the largely dispossessed indigenous peoples. Policy and process are about people, their culture, and the nature of the interaction between them. Perhaps their most direct application to the joint management process is that they can offer an "...opportunity for examining the impacts of externally induced changes on the social structure of localised social systems" (Wild, 1984:8). Thus they may be applied directly to Aboriginal communities negotiating for access and management rights in the conservation estate.

For effective co-operative management mechanisms to be established in marine parks and other conservation areas there needs to be trust and respect between the traditional custodians of the land and the more recently arrived park management agencies. This respect and trust can only come through understanding and goodwill. For this to happen both parties must understand the other's culture in order to come to terms with each other's interpretation and perceptual view of any given situation. This understanding requires facilitation across a significant cultural divide.

The role of culture in interpersonal dealings is more fully explained below:

...cultural learnings influence the perception of other people. Developing crosscultural understanding involves perceiving members of other cultural groups positively. By understanding the basic principles of person perception, and the natural effects of one's own cultural experience and learnings on perceiving other people, unproductive explanations of crosscultural misunderstandings as prejudice or even just differences may be replaced with productive methods of avoiding misunderstandings and stimulating positive perceptions of other people. How we perceive other people affects how we behave towards them and how they, in turn, behave towards us" (Robinson, 1988:49).

To effectively deal with cultural differences within the joint management framework there is thus a need to include social science approaches and methods.

The Commonwealth Government is alone in its efforts to establish joint management arrangements with indigenous peoples for protected areas in Australia. Four national parks in the Northern Territory currently have joint management as a result of commonwealth action, and Jervis Bay, NSW is soon to be added to this list. The State

governments have been openly criticised in the media by Federal Ministers and have not responded to defend their position. This is not surprising given the State's policies and legislative arrangements on the issue. In 1992, Woenne-Green et al. (1992) produced a comprehensive review of Aboriginal participation in the Australian conservation estate, which highlighted the general lack of legislation or policy to effect any change of the current system.

Exceptions to this are Queensland's Aboriginal Land Rights Act 1991 and Torres Strait Islander Land Rights Act 1991, and possibly South Australia's National Parks and Wildlife Act 1972. The Queensland legislation is not likely to promote the joint management situation due to the inclusion of a 'lease in perpetuity' clause which is unacceptable to Aboriginal groups. However, a review of the South Australian Act has the potential to provide a statutory means for negotiations of Uluru-style joint management arrangements, and "...the negotiations for the Witjira National Park illustrate the potential for arriving at a detailed negotiated agreement between Government and Aboriginal people for the joint management of a national park in the absence of supporting legislation, provided there is a positive assertion of the Government's will" (Woenne-Green et al, 1992:23).

New South Wales has proposed legislation which would partly address the current lack of government initiatives but substantial action on this issue has not been seen. Indeed Government policy on coastal issues would seem to indicate that action is very unlikely. The Draft Revised Coastal Policy for NSW (as proposed by the Coastal Committee of NSW) fails to mention Indigenous Peoples' issues in its introductory chapter, accords them almost two lines in the 'Significance of the Coast' chapter, and in the 'Major Issues' chapter Aboriginal interests are only very briefly mentioned as a heritage item within national parks and protected areas, and not mentioned at all in regard to aquatic reserves or tourism. The single remaining reference to Aboriginal interests is as part of a general goal 'to protect and conserve cultural heritage':

The protection of Aboriginal cultural heritage is essential for contemporary Aboriginal people and important for non-Aboriginal people as part of the historic development of the country (NSW CC, 1994:61).

It is interesting to note here, that a requirement of the Coastal Committee's review process was "...that it be undertaken in close consultation with the community" (NSW CC, 1994:1). As proposals for Jervis Bay are mentioned in the policy, and no mention is made of

Aboriginal community involvement, one may well wonder as to the government's commitment in this area. Similarly interesting is the treatment of Aboriginal interests in the 1993 Annual Report for the NSW Department of Planning (NSW DOP). The sole mention here is that Jervis Bay "...is significant to Aboriginal residents in the area and communities along the NSW south coast" (NSW DOP, 1993:40). Apart from the Aboriginal residents in the towns in the Bay region, there are also two distinct, and high profile Aboriginal communities. By neglecting to mention these two communities, and by juxtaposing the lesser term 'residents of the area' with the broader term communities along the NSW coast, the DOP appears to be attempting to decrease the legitimacy of local Aboriginal interests. As mentioned in Section 3.2, language is an important identifier of attitude and the attitude conveyed by the NSW Government's statements here is not a positive one. This lack of acknowledgment of Aboriginal interests contrasts sharply with the Commonwealth Government's perception of the role of Aboriginal and Torres Strait Islander communities. Acknowledging the historical and current associations of Australian indigenous peoples in the coastal zone, the Commonwealth states that:

Present and future management of the coastal zone must therefore incorporate mechanisms that recognise and ensure that the rights, roles and interests of Aboriginal and Torres Strait Islander communities, including community councils and their representative organisations, are incorporated into the management process (DASET, 1992:5).

The current negotiations for joint management arrangements at Jervis Bay look set to provide NSW with its first jointly managed national park—albeit on commonwealth territory—and it is therefore an appropriate time to acknowledge the mechanisms that have been incorporated, and that are achieving positive results. The Muiitjulu experience highlights the success of social sciences approaches to joint management, and the evidence from around Australia indicates the importance of acknowledging differing cultural perspectives which enable a sound basis for joint management arrangements. Further, international studies in the field of participatory action research show the enormous potential for the combining of indigenous community development and natural resource management. The natural resource management agency, the local Aboriginal community, and the joint management process at Jervis Bay all stand to benefit greatly from the recognition of the lessons learnt in other areas.

The European-style legal system that currently operates in Australia is under constant scrutiny, adjustment, and adaptation. In joint management arrangements such as at Uluru-Kata Tjuta, two separate and distinct legal systems are operating side-by-side (Bogle, 1988). The inevitability of conflicting viewpoints requires that there be the resources and expertise to appropriately handle questions of differing legalities. However, the actual situation in the coastal zone is far from adequate in these terms: "Those responsible for managing coastal zone resources 'on the ground' have the greatest need for resources and expertise but in most cases have limited capacity to acquire them" (RAC, 1992: xv). Successful joint management should aim to combine the different levels of expertise and resources from marine park management agencies and Aboriginal communities.

A step towards fuller recognition of Aboriginal and Torres Strait Islander cultural legitimacy was taken recently when Aboriginal Affairs Ministers and Attorneys-General from across Australia prepared to incorporate Aboriginal customary law into the nation's mainstream legal system. This would mean Aboriginal communities may be exposed to dual systems of law (McLean, L., 1994), but would also allow the application of Aboriginal law to many resource management issues. Community consultation procedures and an equitable joint-management negotiation framework are essential in the success of this process.

### The Relevance of Social Sciences to Marine Park Management

Approximately 14% of the Australian coastline and 33% of the NSW coastline is included in conservation areas (HORSCERA, 1991:23), and can thus be subject to Aboriginal land claims. With over 85% of Australians living, working and playing on the coast (RAC, 1992: xxi) conflict over access and management of these conservation resources is inevitable and needs to be anticipated. Accompanying this anticipation there needs to be appropriate, community-focused mechanisms for resolving this conflict. If the issue at the centre of the conflict revolves around something as elementary as a belief system (as is the case with joint management negotiations), then much work needs to be done with the communities/parties involved to negotiate effective compromises. A community studies approach to consultation within the negotiation procedure is appropriate as cultural factors are crucial in determining the nature of any joint management arrangements.

Increasingly the imperative for natural resource managers is to take a holistic approach to joint management of marine parks. To do this they must consider not only the resource(s) for which they are directly responsible, but also those factors which have effects upon their areas of responsibility, as well as the effects that their resource management has on others. The recognition of Aboriginal cultural perspectives and the concentration of their population in coastal areas historically gives them significant rights to be marine park managers and a part of management frameworks. Additionally environmental science studies are essential in identifying and resolving the multitude of environmental problems that stem directly or indirectly from the activities of people. However, many management problems arise from the way people interact, and to adequately address these and Aboriginal perspectives there is a real need to integrate sociological studies into the broader field of coastal and marine resource management.

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# MARINE PARKS MALAYSIA: TOURISM, IMPACTS AND CONSERVATION AWARENESS

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**Abstract** *One of the management goals of Malaysia's marine parks is to encourage tourism and recreational uses which are compatible with the primary goal of conserving natural resources. The recent rapid, unexpected growth of tourism poses new challenges for park management. This may require a reassessment of the present top-down, activity-focused management approaches, overlapping jurisdiction of land and water resources and external threats to ensure effective impact management.*

*This study was aimed at gaining some preliminary understanding into the tourism phenomenon, using Pagar Island Marine Park as a case example. This small case study was a quick analysis into a little studied situation. Respondents were asked to identify tourism/recreational activities in this Park, impacts of tourism and from external threats and types of management and interpretive activities they felt were required for tourists' enjoyment of this Park as well as for conservation of resources. Eight marine park managers, with direct involvement in the planning and management of this Park, answered a questionnaire survey as well as provided additional, environment-related information about the park through personal communication. In addition, face-to-face interviews were conducted with twelve tour operators based in Langkawi Island. Descriptive statistics are given to provide preliminary insights into the two groups' perceptions on tourism and conservation. Both managers and tour operators agreed that it is important for marine parks to be protected in perpetuity. Marine parks should also be promoted as areas for enjoyment, learning and appreciation. However, tour operators felt that information required for instilling awareness about the park is inadequate. Implications of these findings and other perceptions on management and conservation for planning, management and interpretation are presented.*

**Keywords:** *Marine Parks Malaysia, marine tourism, impacts, management, environmental education*

## Introduction

Two highly successful "Visit Malaysia Year" campaigns in 1990 and 1994 incorporating aggressive international marketing of the country's tourism attractions by the Ministry of Culture, Arts and Tourism (MOCAT) has launched Malaysia as a new and promising entrant in international tourism. In 1990, Malaysia welcomed six million visitors to the country, bringing in a total of RM 4.5 million (USD 1.8 million)<sup>1</sup> in travel receipts. These figures reflected a two fold increase in visitor arrivals and a tripling

of total travel receipts when compared with 1985 figures (Government of Malaysia, 1991). In 1994, the number of visitor arrivals remained high at 7.2 million and total tourism revenue doubled to RM 8.3 million (USD 3.3 million) (NSTP, 1996).<sup>2</sup> Today, Malaysia has displaced its neighbours, Singapore, Thailand and Indonesia, as the top ASEAN tourist destination.

## Tourism and the Environment

Many of Malaysia's tourism attractions are nature-based, located in lush and verdant hills, forest reserves and national parks, rivers, waterfalls, sun-soaked golden beaches to idyllic islands. The country's rich natural heritage is being promoted as offering alternative tourism experiences; promising visitors natural, ecotourism experiences and adventure.

At the same time the Government promotes these natural assets aggressively in the tourism market, she also realizes that sustainable nature tourism development requires effective environmental protection and management. Thus, it is within the Federal Government policies to ensure that tourism programmes and projects are implemented with minimal environmental degradation.<sup>3</sup> Most tourism development projects located in natural settings are listed as prescribed activities under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987, conferred by section 34A of the Environmental Quality Act, 1974 and environmental impact assessments are mandatory. In addition, MOCAT has commissioned the World Wide Fund for Nature (WWF, Malaysia) to draft a National Ecotourism Policy to provide a blueprint for the sustainable development of nature and eco-tourism in the country.

## Coastal and Marine Tourism

Although Malaysia has often been placed in the international limelight for being home to the world's oldest tropical rainforests, another part of her natural heritage is her lesser known but equally diverse marine heritage. Although the beaches and islands with surrounding crystal clear waters have been traditional lures for both domestic and foreign visitors, the coastal and marine tourism sector itself is a new and emerging sector. There is a tremendous paucity of statistics (beyond visitor numbers) and information specific to this sector.

In some ways, tourism growth has brought about infrastructure, modern amenities and economic development to many rural coastal areas. At the same time, uncoordinated and poor planning in many cases have led to negative impacts such as coastal erosion, sedimentation, coastal pollution, conflicts of use and rising costs of living for local communities. Presently, the planning,

development and promotion of the coastal and marine tourism sector and its related products come under the general umbrella of the tourism sector. However, the rapid speed at which this sector has been developing in unique coastal and marine environments warrant that it be given special and separate attention in policy formulation, planning and management.

With this background, this paper would like to focus attention on some very special marine environments, that is, the marine parks of Malaysia. Marine parks are among the natural assets being promoted as tourism destinations.

## Marine Parks Malaysia

Malaysia currently has 38 marine parks under Federal jurisdiction. These marine parks, starting from the shoreline (at the low water mark) to two nautical miles offshore, were established under the Establishment of Marine Parks Order, 1994, conferred by the Fisheries Act, 1985. The Payar Island Marine Park is the only one located in the Straits of Malacca, while another 34 islands in the South China Sea, off the states of Terengganu, Pahang and Johore, have been gazetted as parks (Figure 1). Under the IUCN classification of protected areas, the marine parks of Malaysia fall under Category II—National Park. However, these parks come under multiple jurisdiction. The Department of Fisheries, Ministry of Agriculture, has been given the responsibility for the development, administration and management of the waters and resources within these marine parks; but the land or islands adjacent to the parks belong to the respective State governments.

The overall goal of Malaysia's marine parks as stated in the Marine Parks Policy is "...to protect, conserve and manage in perpetuity marine environments of significance and to encourage public understanding, appreciation and enjoyment...by present and future generations" (Ch'ng, 1990, p. 2). Under this goal are four main management objectives. Resource protection is the chief objective. Recreational uses compatible with the marine environment are encouraged making visitor management the second objective. To promote understanding and appreciation of these marine environments, interpretive management is the third objective. The fourth objective is research management. In addition, marine park policies are formulated through a consultative decision-making process by the National Advisory Council for Marine Parks and Marine Reserves, formed in 1987.

## Tourism in Malaysia's Marine Parks

Tourism use of Malaysia's marine parks has been on the rise the last five to six years. Although still considered at an infancy stage, this phenomenon is posing new challenges to

managers of these parks, whose traditional responsibility is natural resource management. Its advent and rapid take-off has left park managers without the adequate "know how" on dealing with tourism-resource use issues. The top-down and activity-focused approaches to planning and management of marine parks have offered little insight into the management of tourism/tourists and resulting impacts. At the same time, tourism in Malaysia's marine parks has yet to be well-documented, monitored and evaluated, leaving park managers with insufficient objective information for decision-making and actions. Park managers faced with this new, daunting challenge, are guided only by broad management objectives and a lot of intuitive, subjective judgments in their management of tourists' behaviour and negative impacts on the reefs and other marine resources. Responses to impacts are often ad hoc and reactive in nature rather than proactive and planned with foresight.

The case study presented in this paper is aimed at developing some preliminary insights into this tourism phenomenon; which up to the present, has not been comprehensively assessed. The Payar Island Marine Park is used as a case example; to illustrate the status quo of tourism at one of Malaysia's marine parks. Popular tourism/recreational activities were identified. Respondents, consisting of park managers and tour operators, were asked to identify the types of management and interpretive activities they felt were necessary for tourists' enjoyment of the Park while simultaneously fulfilling the conservation objective. Their conservation awareness on threats to the Park were gauged. Implications of findings for present management and interpretation strategies are presented in the case study.

## Marine Park Tourism: The Case of Payar Island Marine Park

### Geographic Scope of Study Area

Located approximately 35 km from the mainland coastal town of Kuala Kedah in the north-western state of Kedah, the Payar archipelago comprises four islands: Payar, Kaca, Lembu and Segantang. The Marine Park, gazetted in 1990, is strategically located between the two islands of Langkawi to the north and Penang to the south; the latter two islands are highly developed tourist destinations (refer to Figure 1 for location).

Payar Island, with an area of 31.2 ha., is the largest island in the group. It is also the only island with sandy beaches of significant size, two of which are 100–150 m long. The rest of the island is rocky, made up of steep cliffs, gullies and water-line caves. The other three islands, Kaca, Lembu and Segantang, are rocky outcrops.

# Where are the 38 Marine Parks Located?

P: Pulau (Island)

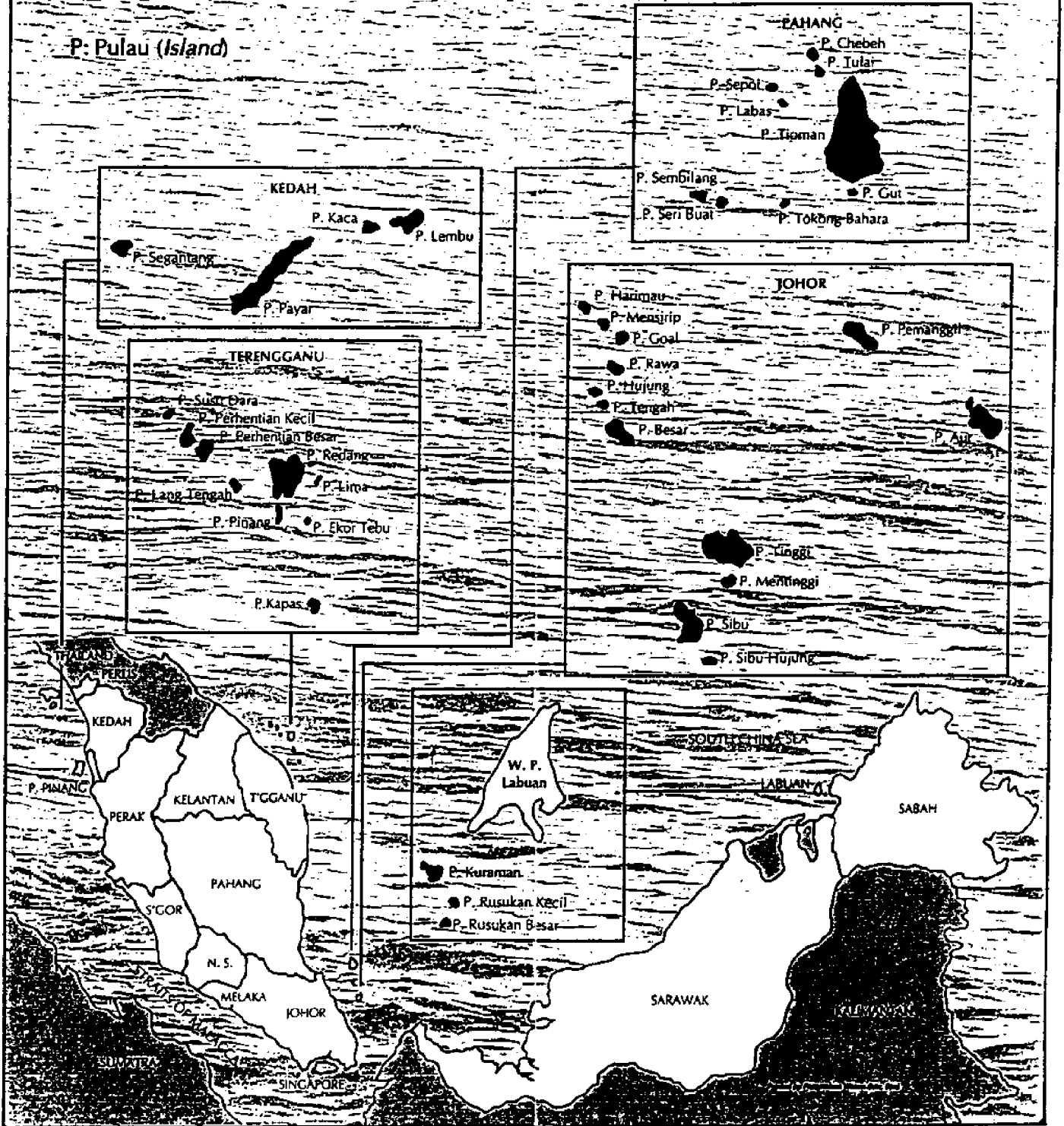


Figure 1. Location of marine parks in Malaysia.

## Ecological Features

This group of islands has been considered ecologically significant because:

- it has the only clear water coral reefs on the west coast of Peninsula Malaysia and one of the few coral reef systems in an Indian ocean environment within Malaysia; and
- diverse habitats can be found within a relatively small area; 35 coral genera, 92 marine invertebrates and
- 45 genera of fish have been recorded (Universiti Pertanian Malaysia Expedition, 1982).

In addition, the south-western tip of Payar Island, known as the "Coral Garden," has a prolific cover of soft and hard coral varieties such as the multi-coloured *Dendronephthya*, gorgonian and *Tubastrea* corals and in deeper waters, *Dendrophyllia* and small colonies of black corals (*Antipathes* sp.). The reef systems around the islands act as important breeding, nursery and feeding grounds for many fish and marine life.

On top of marine life, Payar Island itself has a lowland dipterocarp forest cover. The other islands, being rocky in character, support sparse vegetation and stunted bushes (Aikanathan and Wong, 1994).

## Tourism Attractions and Facilities

Before the advent of tourism, the waters around the islands were fertile fishing grounds for fishermen from the coastal communities in Kedah. The main island, Payar, was used as a sheltering place by fishermen and their vessels. Since the establishment of the waters as a park, fishing is prohibited within the two nautical mile (nm) zone. The lack of fresh water sources on the islands have also deterred human settlements.

The marine park is accessible from at least three main points, Penang (at a distance of 32 nm) and Langkawi (19 nm) as well as from the mainland, from Kuala Kedah (15 nm). Since the establishment of the park and provision of easier and safer access, visitation numbers have increased many fold, from a low 1,373 visitors in 1988 to a staggering 70,419 visitors in 1995. (Figure 2 illustrates this dramatic increase in number of visitors; 1996 figure up to the month of March).

Park authorities have built a jetty on the main island of Payar, where tour operators bringing in visitors by speed boats may moor their boats and allow visitors to disembark. Payar houses a Visitors' Centre where various exhibits on marine life in the islands are displayed. The Park has also provided picnic facilities, tables and benches and a restroom, at the main beach area for day trippers to the island. Overnight camping is allowed with a permit but

is limited to a physical capacity of 30 permits at any one time.

Without doubt, the rich marine life and clear waters, with an average visibility of 10–20 m (30–50 feet), are the main attractions at this marine park. Another major attraction are the 200 or more "baby" (juvenile) black-tipped sharks, which swim up close to the main shoreline at Payar Island. Snorkelling and diving are the main water-based recreation activities in the Park. Mooring buoys have been installed by the Department of Fisheries at several popular dive spots in the Park.

Off Payar is a floating pontoon serviced by a privately operated catamaran (the only one in the country), which is capable of carrying a maximum of 162 passengers daily from Langkawi to the Park. The catamaran operator provides visitors a full range of facilities such as an underwater observatory, glass-bottomed boat rides, snorkelling and diving opportunities.

## Methods

### Sample

The lack of published studies on the tourism phenomenon in Malaysia's marine parks makes it difficult to define problems and issues surrounding this sub-sector. Yet, tourism is developing so rapidly that objective data on it must be quickly obtained and information organized for the formulation of better and more effective policy guidelines and management alternatives.

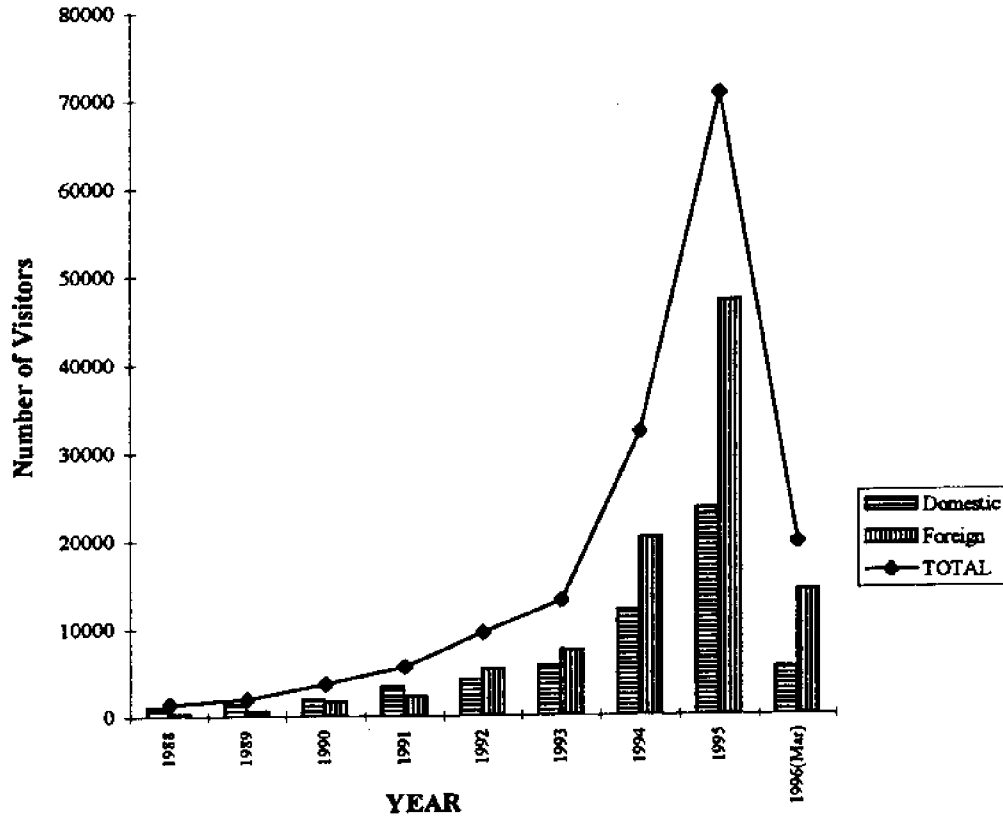
To provide preliminary insight on the tourism situation at Payar, a quick survey was carried out. Respondents to the questionnaire survey were drawn from two groups deemed as being confronted by issues on the subject:

1. Department of Fisheries (DOF) personnel who are directly involved in the administration, planning, policy-making and/or day-to-day management of the Payar Island Marine Park; and
2. tour operators who regularly conduct tours to the marine park.

A total of eight staff from the DOF were requested to fill in the questionnaire. They were from the DOF Headquarters in Kuala Lumpur and the State DOF in Kedah.

### Instrument

The survey questionnaire consisted of seven sections covering topics on perceptions on the role of marine parks in general, identification of recreation/tourism activities, purpose of visit, features of the marine park, park



Source: Department of Fisheries, Malaysia

Figure 2. Number of visitors to Payar Island.

Table 1. Motives rated as important.

By Both Groups	By Managers	By Operators
<ul style="list-style-type: none"> <li>• Learning about nature</li> <li>• Enjoying the sights and sound of nature</li> <li>• Discovering something new</li> <li>• Experiencing the peace and calm</li> <li>• Learning about oneself and personal values</li> <li>• Getting away from crowds for awhile</li> <li>• Releasing/reducing stress</li> <li>• Relaxing physically and/or mentally</li> <li>• Being with others who enjoy doing the same things</li> <li>• Doing something with the family</li> </ul>	<ul style="list-style-type: none"> <li>• Exploring the area (2)</li> <li>• Talking to other people in the area (2)</li> <li>• Meeting other new and different people in the area (3)</li> </ul>	<ul style="list-style-type: none"> <li>• Avoiding everyday responsibility for awhile (3)</li> <li>• Challenging nature with one's skills (3)</li> <li>• Applying one's skills (3)</li> <li>• Developing one skills and abilities (3)</li> <li>• Gaining a sense of accomplishment (3)</li> </ul>

Note: Based on the mode for each motive item. For second column, value in parenthesis is rating by operators and for third column, value in parentheses is rating by managers.

management, facilities and information, conservation awareness, features of the park important for diving and snorkelling and trip satisfaction. This article deals with the first six topics.

The majority of questions required respondents to indicate their response on a 5-point Likert scale. Number of items varied from question to question. Descriptive statistics from the data provide a preliminary overview on tourism at Payar and the perceptions of both managers and tour operators on several management and conservation issues.

## Results

### Recreation/ Tourism Activities at Payar

All the park managers agreed that water-based activities such as swimming, snorkelling, and SCUBA diving, and nature appreciation activities such as photography, underwater photography, learning about the marine environment, nature walks, and bird watching should be encouraged among visitors. These activities, if undertaken within certain codes of practice, can be compatible with the conservation objective of the Park. Most of the managers agreed that other activities, camping, relaxing on the beach and fish feeding, should also be encouraged.

However, only half of them agreed that activities like picnicking, canoeing and sun-bathing should be encouraged. This could be because of concerns over littering by picnickers, damage to corals in shallower water by careless canoers and nude sun-bathing contradicting our cultural values.

The majority of the tour companies interviewed were established over the last three to four years. Most of them started tours to Payar only in 1994, when the number of visitors increased dramatically. Visitors are mainly from Japan, Taiwan, Hong Kong (the first three being the majority), Europe, Australia and New Zealand. Other than the catamaran operator who caters for large groups, average size of group may vary from 10–15 persons/group to as high as 25–30 persons/group.

The tour operators reported that their tour groups normally participated in the following water-based activities: swimming, snorkelling and SCUBA diving; nature appreciation activities: photography, underwater photography, learning about the marine environment (yet there are not many interpretation programmes at the Park); fish feeding, relaxing and sun-bathing. One third of the operators surveyed provided box lunches for their groups. The others preferred to take their tour groups to islands off Langkawi (as part of the island hopping package) where BBQ picnics are allowed.

Nature walks along the trails provided in the island is not a favourite activity among visitors. The operators reported that none of their guests engaged in bird-watching, canoeing and camping, although these activities are allowed and/or encouraged by the management.

### Purpose of Visit

Motive of visit is a seldom studied topic in park management, yet knowing the motives of users for visiting a place or engaging in particular recreation activities is essential for consumer market segmentation and designing strategies for visitor impact management. Both managers and operators were asked to rate the importance of motive items<sup>4</sup> for visitors to the Park.

While both managers and operators agreed on the importance of some motives of tourists to the Park, there also were differences (not statistical) between the two groups in their rating of importance of other motives (Table 1). On the whole, managers tend to have no opinion over many of the motive items. The operators appeared more confident in assessing the motives of their visitors, rating each item as either important or not important, rather than taking a middle stand of "no opinion." In addition to those items noted in the third column of Table 1, managers also had no opinion over other motives such as experiencing solitude, keeping physically fit, getting away and feeling free and being with members of the group. Operators, on the other hand, rated these motives as unimportant. Getting exercise was the only motive item rated as unimportant by both groups.

Tour operators were also asked as to whether the island's protected status influenced their tour group's decision to visit. Seventy-five per cent (75%) of the operators agreed that the island's protected status was an important factor in their group's decision-making and had some influence on their choice of destination. One, a dive operator, reported that the island's protected status was the main reason for their dive groups' decision to visit.

### Features of the Marine Park

Managers and operators were asked their opinions on the features (both physical and social conditions) of Payar which they considered important for adding to the experience of an enjoyable visit. Both groups agreed that bio-physical features such as the fish, present condition of coral reef, other marine life, good water quality and the opportunity for fish feeding were important and strongly added to an enjoyable visit (a median rating of 4–5). Only 50% of the managers felt that the lowland rainforest covering Payar added to an enjoyable experience compared to 75% of operators who rated this item as moderately or strongly adding to the experience.

In terms of encounters, the respondents rated four items:

- Boat traffic. Both groups agreed that the present level of boat traffic at the jetty area moderately lessened enjoyment at the Park (median rating of 2-2.5);
- Present number of visitors at the Park. Seventy-five percent of the managers felt that the present numbers either moderately or strongly added (rating of 4 or 5) to an enjoyable experience, while only one-third of the operators felt likewise. The other one-third perceived the present number of people as moderately or strongly lessening an enjoyable experience (rating of 2 or 1). Others reported that the present number neither added nor lessened visitors' enjoyment;
- Swimming/snorkelling in overcrowded surroundings. Half the managers rated this item as moderately adding to the experience while another third felt it moderately lessened. However, two-thirds of the operators perceived this condition as moderately or strongly lessening enjoyment (rating of 2 or 1);
- Boats coming too close to swimmers/snorkellers. Both groups agreed that boats which move too close to the recreationists strongly lessened enjoyment.

Other conditions which both groups rated as moderately or strongly lessening tourists' enjoyment of the Park were observing visitors not obeying regulations and seeing litter on the beach and in the water (median rating between 2 and 1).

### Crowding

In separate questions concerning crowding on the beach/picnic area, swimming/snorkelling area and in the marine park on the whole, the operators felt that both the beach/picnic area (75%) and the marine park (58%) were moderately to extremely crowded (a median rating of 4). Crowding on Payar was a bigger concern during holiday seasons. The swimming area was perceived as being only slightly crowded (75% of the operators, a median rating of 2).

Almost all the managers, on the other hand, rated the beach/picnic area as the only area being moderately to extremely crowded. They were divided in their opinions on crowding in the other two areas. Half of the managers felt that the swimming area and the Park on the whole were crowded, the other half felt that crowding did not pose a problem.

### Park Management

Managers and operators were asked to rate the importance of various park management activities necessary for ensuring the protection of the Park environment. These management activities were categorized into four categories:

1. Planning and management activities comprising designation of zones for various recreational activities, creation of buffer zones between conflicting activities, provision of mooring buoys, more developed facilities (such as chalets, restrooms), maintain a more undeveloped recreational setting, and stricter controls on development projects in the Park;
2. Enforcement and regulatory activities comprising strict enforcement of regulations, increase in frequency of patrols, number of park rangers for better enforcement and penalties for violation of Park regulations;
3. Visitor management activities comprising restriction of total number of visitors, establishment of visitor quotas on weekends and public holidays only, control of number of dive groups, restriction of large groups to certain areas, and limitation in length of stay in Park; and
4. Provision of park services comprising more signboards on Do's and Don'ts, ensuring the picnic area, trails and swimming/snorkelling area are well maintained and free of litter.

Figures 3a-d present the number of managers and operators rating the individual activities as important to extremely important for ensuring the protection of the environment. There were only two activities, strict enforcement of regulations and stricter controls on development projects in the Park, in which both managers and operators agreed unanimously as important to extremely important for protecting the environment. Most of the respondents (60% of the managers and 80% of the operators) felt that it was important to provide a more undeveloped recreational setting, that is, limiting the number of man-made structures on the Park. The groups were not in favour of more developed facilities such as chalets or a restaurant, with the exception of restrooms.

All the managers rated activities within the enforcement/regulatory and park services categories as important to extremely important for park protection (Figures 3b and 3d). These activities can be described as being structural or institutional in nature, that is, these activities are undertaken, regardless, because they are dictated by regulations or within the work functions of the managers.

Most of the operators, on the other hand, were more likely to rate those activities which did not curb the development of tourism or activities which enhanced the tourism experience on the Park as important to extremely important for protection of the Park as well. For instance, only one-third or less of the operators felt that restriction or control of numbers of visitors or length of stay (Figure 3c) as important or extremely important for park protection. On the other hand, almost all the operators agreed that planning through zonation, provision of buffer



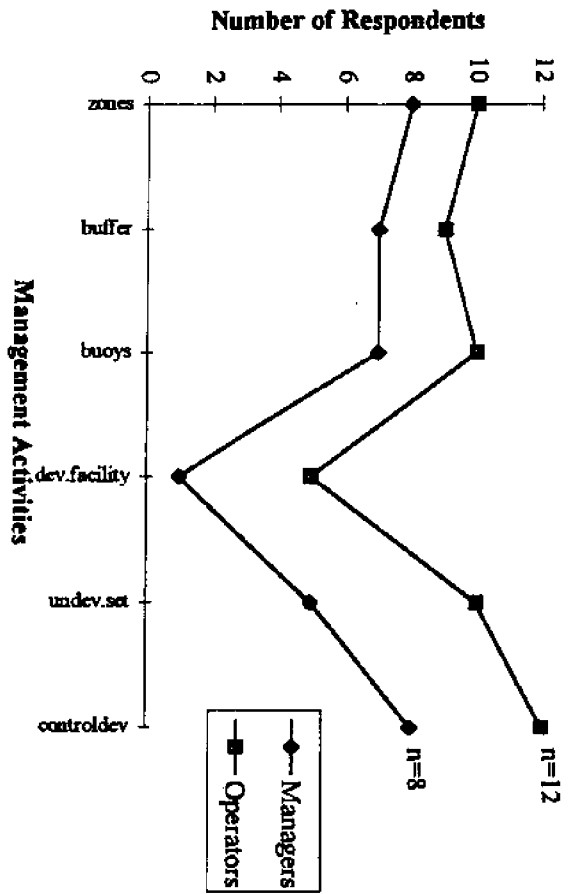


Figure 3a. Planning and management activities rated as important.

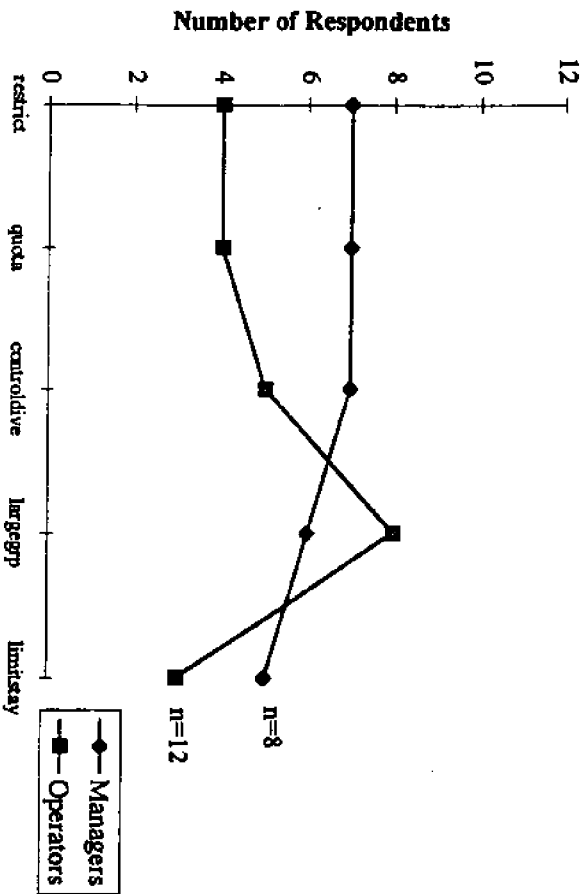


Figure 3c. Visitor management activities rated as important.

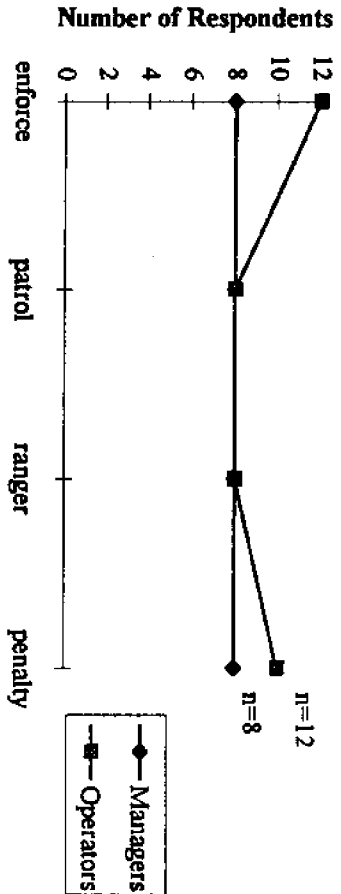


Figure 3b. Enforcement/regulatory activities rated as important.

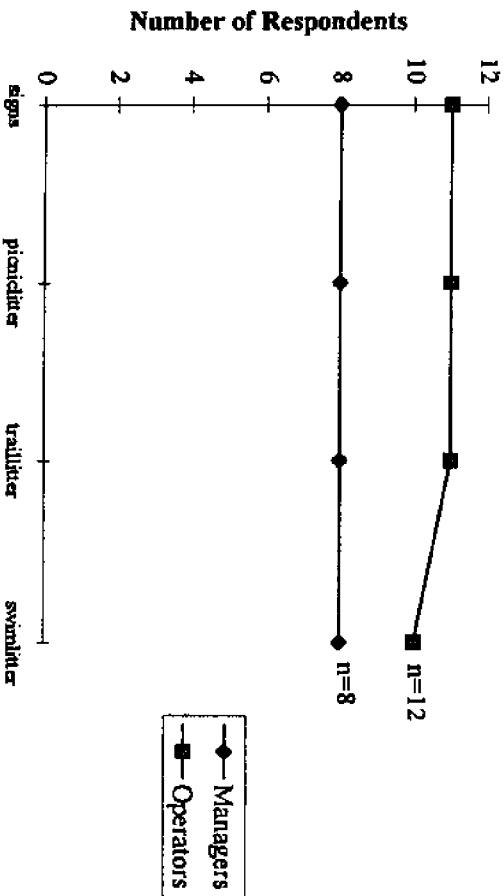


Figure 3d. Types of services rated as important.

zones and mooring buoys (Figure 3a) and the provision of park services (Figure 3d) as important to extremely important toward the protection of the Park, while simultaneously these activities also contribute toward more satisfactory experiences among visitors.

### Park Facilities

With the exception of the catamaran operator (who does not depend on park facilities), the operators rated park facilities such as toilets, wastebins, picnic facilities, shelters and mooring buoys as being inadequate to extremely inadequate (median rating of 2 to 1). On the other hand, the managers felt that the park facilities such as wastebins, picnic facilities and mooring buoys, were sufficient for the Park (median rating of 4). They agreed with the operators that the existing toilet and shelters were insufficient. While most of the managers rated the existing jetty as being inadequate, only half of the operators agreed likewise.

### Park Information

At least two-thirds of the operators who responded to the survey reported that information on the Park and its conservation aims, such as on natural history, terrestrial flora and fauna, marine resources and maps of trails and points of interest, were inadequate to extremely inadequate. A few did not know such information was available. On information regarding regulations of the Park, only half said that it was adequate.

On the whole, managers felt that information on the Park was more or less adequate. They were divided over the adequacy of information on natural history and marine resources; only half of them thought such information were inadequate. At least three-quarters of them agreed that information on park regulations were adequate to extremely adequate. The only exception was the availability of trail and points of interest maps, which 75% of them said that such material was inadequate.

Next, both groups were asked to rate the importance of various types of information (and which should be included in park management or tour objectives) which either party could provide to visitors to enhance their visit while at the same time help conserve nature. Both managers and operators agreed that it was important to extremely important to have the following types of information (based on the mode rating of each):

- on the types of facilities available;
- type of recreation activities allowed/disallowed;
- proper behaviour for tourists;
- on natural history, terrestrial flora and fauna and marine resources;
- on Park regulations; and
- directional signs along trails.

They agreed also that it was important to have special marine education programmes for children and teenagers visiting the Park.

The groups were more divided as to the importance of information on average number of visitors, history and cultural background of the area and the availability of maps on trails and points of interest. While most of the operators (at least 80%) thought maps and information on history and culture were important to enhance the experience of visiting the Park, only half the managers felt likewise.

### Interpretation Methods

All the managers were in agreement that a variety of methods is necessary to communicate the kinds of information (identified as important earlier) to visitors. In interpretation planning, their choice would be to use brochures, signboards, exhibits and audiovisual programmes at the visitors' centre, face-to-face communication and brief talks by park rangers and labelled trails for effective communication with Park visitors and help the latter become aware of and better appreciate the environment.

The majority of operators (at least three-quarters of them in each case) responded that brochures, signboards, exhibits, audio-visuals and labelled trails should be used as means of interpretation or communication with visitors at the Park. However, less than half were in favour of direct communication with park management, that is, face-to-face communication with rangers and talks by the rangers.

### Conservation Awareness

While managers and operators thought it important to leave marine parks (in general) undeveloped and untouched by human's (median rating of 4 by both groups), on the one hand; they agreed that it was more (extremely) important that such areas be improved and developed in ways that prevented damage and destruction and be protected for present and future generations to enjoy (median rating of 5 by both groups). Therefore, it was important to promote activities such as diving, snorkelling and nature walks to help visitors enjoy and appreciate the natural setting of the parks (median ratings of 4 (managers) and 4.5 (operators)).

In addition, both groups felt it equally important to employ effective means of passing on information to people to make them more aware of and better appreciate the country's marine heritage (median ratings of 5 (managers) and 4 (operators)). Marine parks, in general, should not cater as much for commercialized activities such as picnics and barbecues and organized games/sports and facilities like hotel/resorts (median rating of 2.5 (managers) and 1.5

(operators). Finally, marine parks should be important places for and benefit scientific study and research.

### Threats Facing Payar Island Marine Park

Managers and operators were asked to rate their level of agreement on whether certain external and tourism activities posed a threat to the Park (see Appendix 1 for list of activities). Managers were very much divided over whether the nine threats from external activities and ten threats from tourism posed a danger to the Park. Less than half of the managers agreed that the nine external activities were threats to Payar. On tourism impacts, only slightly more than half of the managers agreed that irresponsible acts by tourists and divers, the trampling of corals and litter/garbage presented threats to the Park.

In comparison, as shown in Table 2, operators agreed to a greater number of activities perceived as threats facing Payar. They were divided over three items only, small-scale fishing, the clearing of mangroves and overcrowding from tourism, half of them perceiving these activities as posing a danger to the Park and the other half did not.

### Discussion: Implications of Findings

Several general statements based on the findings of the study can be derived:

- both managers and operators agreed that it was important for marine parks to be protected from degradation and damage and be set aside for visitors (present and future) to enjoy and appreciate the natural environment of the parks;
- on the whole, both groups seemed aware of the conservation objective, needs and issues facing Payar;
- the trend of increasing visitor numbers to Payar is expected to continue, until at least some form of "optimal capacity" is determined for the Park (in addition to physical capacity). Crowding, an issue identified by the tour operators in this study, may pose an additional and greater threat to the long term sustainability of the Park's resources and the tourism industry itself. This study revealed a difference in perceptions on crowding between managers and operators;
- furthermore, this study indicated several differences (although not statistical) between perceptions of managers and operators on several planning and management aspects of tourism and conservation in the Park;
- operators tend to be greater aware of the needs of their clientele (more customer oriented in tourism management), as indicated by their more definitive stand on importance of motives, park management and interpretation activities necessary for ensuring

enjoyable visits. In comparison, managers seemed to be more activity and supply focused in their perceptions of tourism management;

- a greater number of operators agreed that external as well as tourism activities can pose a threat to the well-being of the Park, compared with the managers who were divided in their opinions; and
- the tour operators indicated that there was a serious lack of information on the Park while the managers agreed that park information was more or less adequate. However, both groups agreed that a variety of information ranging from facilities available, regulations to proper behaviour, delivered using a variety of methods, was important to enhance enjoyment and appreciation of the Park's resources.

### Conservation Awareness

Respondents in this case study showed a shared recognition of Marine Parks as areas of protection and conservation. This is a positive finding towards upholding the objectives and values formulated with the establishment of Marine Parks; namely perpetual protection and provision of opportunities for the appreciation of natural environments.

From this study, it is not known why operators took a more collective stand (that is, a larger number in agreement) in their perceptions on activities which present threats to the Marine Park, while managers were more divided in their opinions. Perhaps, the potential threats from certain external and tourism activities were not only to the Park environment itself but to the long term economic sustainability of the tourism industry as well. On the other hand, perhaps managers felt they had some measure of control over the manifestation of certain threats like fishing activities, irresponsible tourists' behaviour and boating in the Park; they being the regulatory and enforcement body.

Nevertheless, there was unanimous agreement for stricter controls on development in the Park. Operators (80%) also showed a preference for the provision of a more undeveloped recreational setting with a minimum number of man-made structures and rated resort building as a threat to the park environment. However, final decisions on land use on the islands rest with the state government. It is hoped that the recent adoption of a national plan for the management of coastal resources by state governments (including the State of Kedah) will provide the foresight in ensuring strict control over development in Payar Island Marine Park.

Control of development within the Park alone is insufficient to ensure protection. Well planned development needs to be extended to adjacent coastal areas to curb erosion and sedimentation that may lead to the

Table 2. Awareness among operators of threats facing the marine park.

Rated as a threat by >80% of operators	Rated as a threat by 75% of operators	Rated as a threat by >50% of operators (but less than 75%)
<ul style="list-style-type: none"> <li>• Oil spill</li> <li>▶ Resort building</li> <li>▶ Litter/garbage</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial fishing</li> <li>• Illegal fishing</li> <li>• Land-based pollutants</li> <li>▶ Boats anchoring over reefs</li> <li>▶ Irresponsible behaviour of tourists</li> <li>▶ Trampling on corals</li> <li>▶ Pilfering of coral, shells and other marine life</li> </ul>	<ul style="list-style-type: none"> <li>• Mining</li> <li>• Illegal dumping of waste from passing ships</li> <li>• Land clearance from the mainland</li> <li>▶ Recreational fishing</li> <li>▶ Boating/yachting</li> <li>▶ Irresponsible SCUBA diving</li> </ul>

## Key:

- external activities
- ▶ tourism activities

destruction of reefs and other marine life in Payar. However, two activities, the clearing of land on the mainland and of mangroves, were rated by less than half of the managers and only half of the operators as potential threats facing the Park. Yet, the proximity of Payar to two highly developed islands, Penang and Langkawi and to the mainland increases its vulnerability to the threats of erosion, sedimentation and pollution. Very often, the openness of marine environments to threats resulting from development in adjacent areas is not realized until too late.

Coordinated and integrated planning and the formulation of complementary policies between both State and Federal governments are urgently needed. The setting up of a National Advisory Council for Marine Parks and State Consultative Committees for coastal planning and marine parks were for the purposes of consensus building and coordinated planning and development between State and Federal authorities. Despite this, the State Governments' environmental consciousness of the values of marine protected areas and their role in the protection of such resources are still fairly new issues on most States' agenda. State governments are beginning to realize that marine protected areas are the "golden eggs," as it is the States that stand to gain most from the economic benefits of tourism and conservation.

## Planning and Management of the Park

### Motives

Managers' lack of opinion over many of the motive items could be because they have less personal contacts with visitors and/ or very little knowledge about the types of people who visit the Park. Yet, knowledge of recreational user motives is useful in the planning of recreational settings and interpretation programmes, minimizing conflicts and controlling inappropriate behaviour for the enhancement of the recreational experience at the Park. Since motives are useful in market segmentation, the incorporation of motives (compatible with park objectives) in the management of settings may be used to displace visitors with contradictory motives (for example, extractive motives) to other areas.

### Crowding

Managers and tour operators were divided as to whether the Marine Park on the whole was crowded but both agreed the beach/picnic area as having a crowding problem. In contrast to operators' opinion, three quarters of the managers perceived the present number of visitors as adding to the enjoyment of the Park. These two groups were also divided in their agreement over whether overcrowding as a result of tourism was a problem for the Park.

While an increasing number of visitors does not necessarily equate with greater impacts from increasing use of the Park, the rising numbers do give rise to management concerns. From the mixed responses on perceptions of crowding in this study, there is a need to refine measurement of the concept, establish social and physical indicators associated with crowding and to establish if crowding is indeed an issue before appropriate management strategies can be formulated. Owing to the facts that multi-nationals visiting the Park may have differing perceptions on crowding, as influenced by their individual socio-cultural backgrounds, and that tourism in the Park is still largely popular (mass) nature tourism, the scope of research on crowding is very wide but yet untapped.

Management is still based on limitations imposed by physical carrying capacity. At present, researchers from the World Wide Fund for Nature (WWF Malaysia) are working with the Department of Fisheries (DOF) to establish some form of carrying capacity for the Marine Park. To take this one step further, the Maritime Institute of Malaysia, in collaboration with the DOF, will be organizing a workshop on impact management (in August 1996) in which the "Limits of Acceptable Change" framework will be assessed for use in Marine Parks, Payar included. Crowding will be among the issues to be discussed in one of the workshops on social impacts.

### Management Activities

Both managers and operators rated the activity, strict enforcement of regulations, highly necessary for the protection of the environment. In addition, both groups agreed that visitors' who do not obey park rules moderately to strongly lessened other tourists' enjoyment of the Park. Operators also felt strongly against irresponsible behaviour among visitors such as irresponsible SCUBA diving, trampling on or pilfering of corals and littering. Yet, it is insufficient to rely strictly on regulatory control of activities and behaviour. Effective management calls for a variety of resource and visitor management strategies.

In this study, all managers were in favour of activities categorized as enforcement/regulation and park services. It appears that these preferences are in line with the top-down and activity focused approach used in park management. While the majority of operators also agreed that activities under these two categories are important, they were not as much in favour of actions which restricted or limited visitor numbers or access in the Park (in comparison with managers who thought visitor management activities were almost as important). This result seems to indicate that tour operators perceived park management as the responsibility of the Authority and management, and if possible, should not hinder their tour activities. Such perceptions would be in line with tour

companies' objectives of providing satisfactory services in a highly competitive tourism market.

Both groups rated planning activities such as zoning, the creation of buffers and the placement of mooring buoys as important. These activities require a specific zoning/management plan for the Park, which none is in existence. Under the Marine Parks Policy, several types of zones were identified for the planning and management of the Parks but at present, zoning remains only on paper. The Parks are being managed under one general management system with little consideration for the differences in marine and geo-physical characteristics, tourism use and level of development, socio-cultural and demographic make-up and management philosophies of state and local administrations of individual parks. While it is within the legal capacity of the Minister of Agriculture to make regulations specifically or generally for zoning and management (Part IX, Marine Parks and Marine Reserves, of the Fisheries Act, 1985); zoning, if done at all, is still largely a physical planning exercise. Yet the benefits of zoning (whether the basis is temporal, spatial or type of use) are multiple, especially in view of the potential conflicts from increasing visitor numbers and use. It not only minimizes conflicts but stipulates the setting of clear and specific management objectives/targets for each zone to ensure systematic management.

Whatever the choice of management strategies considered most appropriate by the Authority to manage both resources and visitors, the cooperation of users is essential in ensuring effectiveness. This takes more than enforcing a rule, it takes education of and communication with users.

Based on the findings of this study, two areas of present management are of concern. First, the majority of operators rated park facilities, in particular, toilets, wastebins, picnic facilities, shelters and mooring buoys, as inadequate to extremely inadequate. On the other hand, managers in their supply oriented approach perceived these facilities as being adequate. As part of tourism management, managers should look seriously into these complaints by the operators. In view of the lack of land at the main beach area and further addition of facilities might lead to more congestion, managers might want to look at the alternative of adding such facilities at the other three beaches (but shorter strips) and diverting some of the smaller groups there. Of course, this alternative has to be weighed against the impacts that might result through the dispersal of users.

The second area of concern is fish feeding noted as one of the main attractions at Park. Presently, fishing feeding, at the beach or from the pontoon, is not a controlled activity. Both quantity and quality of food fed to the fish and juvenile sharks are not monitored. Impacts on fish health, natural aggregations, natural predatory behaviour and prey

have never been studied at the Park. Yet, if one of the objectives of the Park is to protect nursery and breeding grounds for fish and other marine life, then the potential impacts of such an activity in light of increasing visitor numbers should be of concern and considered for future research.

### **Park Interpretation**

Nature interpretation should be among the highlights of any visit to a Marine Park. Unfortunately, interpretive activities at the Park are very limited consisting of exhibits and displays at the Visitors' Centre. In addition, tour guides who accompany groups to the island are not trained to give nature interpretation other than to inform tourists the list of do's and don'ts at the Park. Although marine park tourism as been touted as offering ecotourism experiences, the results of this study showed that one of the essential elements of this type of tourism, the education/interpretation element, is missing. Operators indicated that Park information was still largely inadequate and at times, unavailable.

On-site environmental education and interpretation provide the competitive edge in the marketing of park and tourism services. Interpretation should not only comprise information on marine life found at the Park but should be used also to communicate park policies and management objectives to visitors. Better informed visitors who appreciate and understand the park environment facilitate the implementation of various management activities needed for conservation. In order for interpretation to be meaningful for the various nationalities who visit the Park, it has to be more than mere brochures prepared in multiple languages. A variety of methods to deliver education, in particular audio-visual and illustrative aids for easy comprehension, should be used. Interpretation also needs to cater for the various age groups at the Park and both managers and operators in the survey had indicated the importance of special marine education programmes for children and teenagers. In addition, by putting directional signs along trails and making available simple trail maps (sources of information rated as important but not available/inadequate) might encourage more visitors to participate in nature walks, an activity which operators reported as not among the favourites of visitors to the Park. This diversification of the recreation base might help alleviate some of the crowd pressure on the beach and in the water. In order to discourage improper behaviour such as the breaking, trampling or pilfering of corals/shells and the harassment of marine life, separate code of practice for activities like swimming, snorkelling, diving and fish feeding need to be formulated and communicated to visitors.

Nevertheless, with the increasing numbers of visitors to the Park (many of whom probably has never visited a

protected tropical marine environment) and the perception of operators that irresponsible behaviour among tourists as a threat to the Park environment, it is timely to introduce more effective and meaningful interpretation programmes at the Park. In view of limited funds for such programmes, environmental education should not be the sole responsibility of the Park Authority, the private tourism sector should take on a more active role in the provision of interpretive services. There should be collaborative and on-going efforts in the raising of awareness among visitors to the Park to gain their willing cooperation in protecting park resources.

## Conclusion

This case study was a preliminary assessment of issues pertaining to tourism at and particular to Payar. In addition to national policies on coastal planning, ecotourism and conceptual plans which provide guidelines for the management of marine parks as one national system; case studies provide specific information and systematically address issues particular to each park. Results from this study stress an urgent need for a specific management plan for Payar, one which spells out clear management objectives to better address issues at the Park.

The Maritime Institute of Malaysia (MIMA) intends to forward these findings to the Department of Fisheries. It is hoped that these preliminary findings will help managers in decision-making and in setting priorities toward a more integrated approach in tourism and resource management. In addition, study findings are aimed at helping managers become more aware of (as well as realize the importance of) user preferences and needs, which thus far have never been incorporated into park management.

Effective management of marine parks require more than just an administrative-legal framework and the management of activities. It comprises consensus between managers and users of the resource, education of users and a variety of resource management strategies which consider the user-activity-environment link (a moving away from the traditional activity focused, top-down approach). Also, awareness of the need for conservation alone is not enough. There needs to be a common commitment from all stakeholders (Federal, State Authorities and users) through various forms of partnerships to protect this valuable resource. Finally, MIMA hopes that the findings of this study will stimulate more detailed research to keep track of the dynamics of the phenomenon and the environment and contribute to sound management decisions.

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## ENDNOTES

<sup>1</sup> Exchange rate used: USD 1.00 = RM 2.50 (RM = Malaysian ringgit).

<sup>2</sup> Aside from generating foreign exchange earnings, the tourism sector also generated employment for approximately 120,339 people and attracted total investments of RM 1.62 billion (USD 0.65 billion) in 1993 (Cheah, 1995).

<sup>3</sup> In the Sixth Malaysian Plan (1991-1995), the Government allocated RM 41.1 million (USD 16.4 million) for programmes on preservation of national/historical heritage and RM 43.6 million (USD 17.4 million) for beautification/cleanliness programmes and environmental protection, out of a total RM 534 million (USD 213.6 million) allocated for tourism development (Government of Malaysia, 1991; p. 247).

<sup>4</sup> The list of motive items were adapted from previous research on recreation motives such as by Beard and Ragheb, 1983 and Kuentzel, 1990.

**APPENDIX 1: Activities considered as threats to Payar.**

Threat	Managers (No of responses) n=8	Operators (No of responses) n=12
<b><u>External Threats:</u></b>		
• Commercial fishing	2	9
• Illegal fishing	3	9
• Small-scale fishing	2	6
• Mining	2	7
• Oil spill	3	10
• Illegal dumping of waste from passing ships	3	8
• Land clearance on the mainland	3	7
• Clearing of mangroves	3	6
• Land-based pollutants, eg. pesticides, sewage	4	9
<b><u>Threats from Tourism/Tourists:</u></b>		
• Recreational fishing	3	8
• Boats anchoring over reefs	3	9
• Boating/Yachting	2	8
• Resort building	3	10
• Overcrowding from tourism	3	6
• Irresponsible behaviour of tourists	5	9
• Irresponsible SCUBA diving	5	8
• Trampling on corals	5	9
• Pilfering of coral, shells and other marine life	3	9
• Litter/garbage	5	10

Note: Number of responses above indicate the number of managers and operators who agreed that the activities listed were threats facing the Park.



# MANAGING MARINE TOURISM RESOURCES AND EXPERIENCES: WHALE SHARKS (*RHINCODON TYPOS*) IN NINGALOO MARINE PARK, WESTERN AUSTRALIA

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**Abstract:** *The whale shark (*Rhincodon typus*), the largest fish in the ocean, is a docile animal with which snorkellers and divers can interact at close quarters when the opportunity arises. Since 1993 Ningaloo Marine Park, on the coast of Western Australia, has become world famous as the only known, readily accessible place where whale sharks congregate in significant numbers. This congregation occurs for only about eight weeks from March to May each year. Concomitantly, a tourism industry, based on the 'whale shark experience,' has developed. The management of this industry is evolving as tourism operators and the park managers gain experience in managing tourists, the park, and the animal. The development of the industry is outlined in the paper, while aspects of the management of the industry, the whale sharks, and the experience of those who dive with the sharks, are addressed. The place of whale sharks in marine tourism in the Ningaloo Marine Park area is also briefly described. Because Ningaloo Marine Park is in an isolated location, because of the seasonality of the industry, and because the industry is confined to a marine protected area that is managed by a government agency, the opportunity exists to manage on a sustainable basis and to avoid adverse impacts on the sharks. Issues such as separation distances between divers and sharks, congestion amongst divers, and the potential of management strategies based on a combination of regulation and economic instruments are addressed in the paper. The extension of lessons learned in the management of the industry to other areas is also considered.*

**Keywords:** *marine tourism, management, economic instruments, sustainable tourism, crowding*

## Introduction

There is a high and increasing level of interest in marine tourism and recreation. Davis and Tisdell (1995) noted the increasing use of marine areas such as Australia's Great Barrier Reef, near-shore areas in the Caribbean and Florida and, increasingly, in locations like the Pacific island nation, the Republic of Palau. Davis and Tisdell, along with Dixon (1993) also discussed the growth in recreational SCUBA diving and the use by this recreational industry of important marine protected areas (MPAs).

In this paper a unique marine recreation experience is described—that of swimming with whale sharks in Ningaloo Marine Park, Western Australia. The history and features of Ningaloo Marine Park are outlined and placed within a geographic context. Other features of marine tourism in the area are discussed also, as well as other nearby nature-based attractions of the region in which the park is located. Various management issues are discussed, and selected results of recent surveys of users presented. These results relate to economic and experiential aspects of 'the whale shark experience.'

The underlying theme in this paper is the importance of managing the whale shark resource in Ningaloo Marine Park. Such management is important to ensure that the resource is used in a sustainable fashion, that visitor experiences are not adversely impacted by overuse or inappropriate visitor behaviour, and that negative externalities, such as impacts on the health and behaviour of the sharks, are avoided. Additionally, and as a component of sustainability, the viability of commercial charter operations must be considered in management approaches.

## North West Cape

North West Cape is situated some 1,200 km north of Perth, the capital of Western Australia (Figure 1). There are only two townships in the region, Exmouth and the settlement of Coral Bay. Exmouth Shire<sup>1</sup> is totally within the region, while a portion of Carnarvon Shire is included in the southerly parts of the Cape. The relative isolation of the area is reflected in the fact that Exmouth Shire covers 5,764km<sup>2</sup>, has a population of 3,823 (1991 census figures), less than 700 dwellings, around 470 ratepayers, and only 70 km of sealed roads (information provided by Exmouth Shire, 1993). Exmouth is 1,270 km by road from Perth. Coral Bay comprises two caravan parks, a hotel, a small shopping centre and a small number of houses. The region is serviced by Learmonth Airport, 35 km south of Exmouth. Because of the provision for military use the runway is able to cater for aircraft up to 747 size.

Reference to Figure 2 shows that much of the Cape is managed under pastoral leases, with sheep grazing in an arid or semi-arid zone being the predominant agricultural industry. Additionally, the Cape Range National Park, established in 1964, adjoins the coastline for 55 km, includes a narrow coastal plain and a large portion of the Cape Range which forms the spine of the Cape Range Peninsula (CALM, 1989). Other areas are reserved as defence land due to the presence of a Naval Defence facility in the area, while smaller areas are reserved as town site areas at Coral Bay and Mauds Landing in the south of the Cape. Two recreation reserves and various special leases also exist in the Cape region.

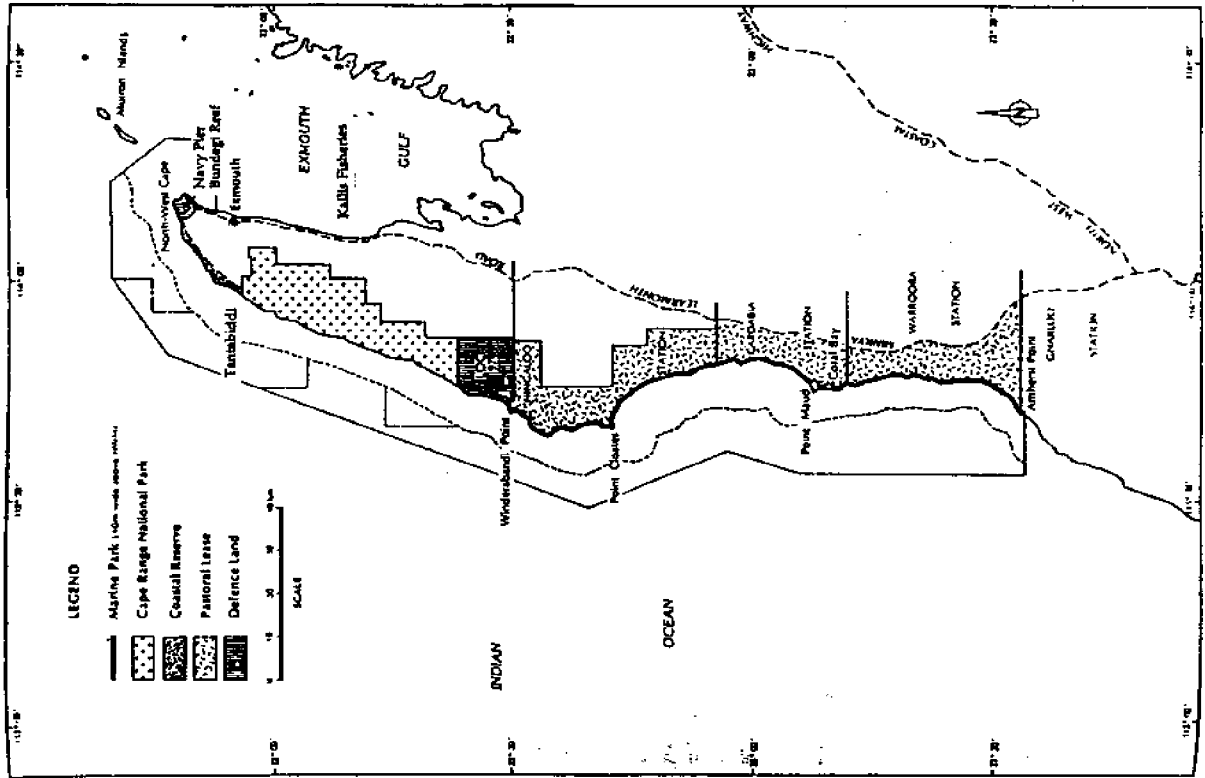


Figure 2. North-West Cape.

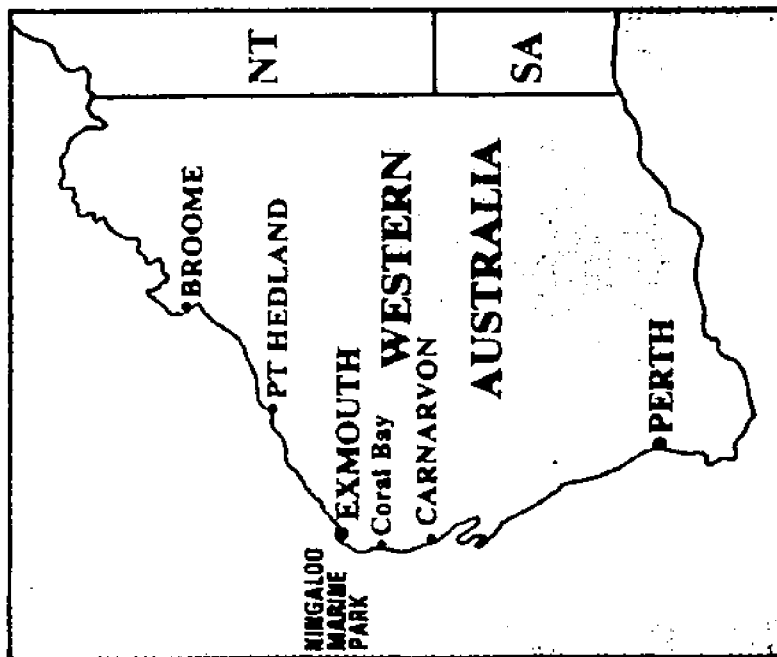


Figure 1. Location map.

Ningaloo Marine Park adjoins the Cape for 260 km, and extends from the high water mark (except for an area of defence land at the head of the Cape where it extends from the low water mark) to geographical co-ordinates approximately 10 nautical miles offshore (CALM, 1989). Ningaloo Marine Park was declared in 1987 with a principal aim "to provide for conservation of the marine environment with recreational use [allowed] to the extent that it is compatible with conservation of its natural environment" (CALM, 1989, p. 1).

### Tourism in the Economy of the North West Cape Region

The economy of the North West Cape region is based on pastoralism, fishing, defence and tourism. Pastoralism is, as previously noted, based mainly on the extensive grazing of sheep.

Defence activities previously related principally to the operations of the U.S. Naval Communications Station where staff numbers have since been significantly reduced (Exmouth was founded in 1967 as a support town for the naval station). Commercial fishing is based on prawn trawling from Kailis Fisheries, just to the south of Exmouth in the Gulf. This industry operates exclusively in the waters of Exmouth Gulf. During the season approximately 800,000–1,000,000 kgs of prawns are harvested by Kailis Fisheries.

Tourism is the growth industry of the North West Cape region. Data on tourism specifically to the Cape are not available, although an indication of visitation can be obtained by a review of certain other data. The Western Australian Tourism Commission collects data on a regional basis, with North West Cape included in the Gascoyne Region which extends from the Cape to Camarvon, some 374 kms south of Exmouth. The region also extends around 700 kms inland. The Gascoyne Region includes the attractions of Shark Bay and Monkey Mia, the latter known for the bottlenose dolphins that enter the shallows of the bay to take fish from humans (CALM, 1993). This interaction between humans and dolphins is undoubtedly the Gascoyne Region's best-known attraction. According to the Tourism Commission, around 222,000 visitors travelled to the Gascoyne in 1994–95, with 76% of these visitors being from Western Australia, 15% interstate, and 10% overseas (Western Australian Tourism Commission, 1995). Approximately 84% of visitors listed "pleasure/holiday" as their reason for travelling to the region.

An indication of the number of visitors to Exmouth is shown in Table 1. Two aspects of the data presented are notable. First, there was a noticeable increase in numbers in 1992 and 1993, although numbers then declined slightly in 1994 and 1995 (even taking account of the December

figures for 1995 not being available). The reasons for the recent declines are not clear. Second, and more importantly, the seasonality of visitation is shown in Table 1. This seasonality occurs because of the climate of the area, with winter days typically being in the mid-20°C, while the summer period is typified by very hot days and, periodically, cyclonic conditions. Jones Lang Wootton (1993) noted that the period November to April has low visitation rates "mainly due to climatic conditions." The Exmouth office of the Department of Conservation and Land Management (CALM) estimate that more than half of all visitors to Exmouth visit the Cape Range National Park and/or Ningaloo Marine Park (Jones et al., 1993). While data are not available, it appears that many visitors to the North West Cape region are "meanderers" on long-term trips, with many of these escaping the cooler winter months of more southerly locations. The peak in visitation in July coincides with mid-winter, and with school holidays. Many visitors are caravanners and campers, as indicated by the fact that, in Exmouth Shire, there are approximately 500 hotel/motel bed spaces, but more than 600 chalets and on-site vans, along with 1,400 caravan and camping sites. Furthermore, 77% of travel to the region is by private vehicle, and the most frequently used form of accommodation is caravan parks (28%) (Jones et al., 1993).

Reference to Table 1 shows also that visitor numbers increased significantly in April and May from 1993. This was the first year of dedicated whale shark charters, and the increases may be related to the development of this tourism attraction.

### Marine Tourism

Marine tourism is a focus of activities at many times through the year in the North West Cape area. Recreational fishing has long been popular in the area and that popularity continues today. The Western Australian Department of Fisheries estimated in 1992 that recreational anglers took more than 100,000 kgs of fish from Ningaloo Marine Park and its nearby waters. In survey work undertaken by the Department of Fisheries in 1989 it was found that close to 80% of all visitors to the North West Cape region participated in recreational fishing (O'Donoghue, pers. comm.). The Department has expressed some concern about the sustainability of recreational fishing and now has a range of size and bag limits in place.

The waters around North West Cape are the only place in the world where all three species of marlin—the black, blue and striped marlin—are found. Consequently, big game fishing is popular, and seven Exmouth-based charter vessels cater for both recreational angling and big game fishing.

Table 1: Exmouth Visitor numbers

Month	1990	1991	1992	1993	1994	1995
January	3937	3692	4482	6397	5164	5517
February	2884	2716	2605	4264	3640	3633
March	3255	3615	2908	5686	4822	5307
April	6140	6226	7567	9659	8534	9805
May	5512	7082	9638	7817	7526	8043
June	9600	8672	9294	9554	9349	9929
July	15940	18122	18513	19884	18020	18495
August	15989	12330	14689	15856	15421	13682
September	9900	9563	12633	10011	11399	9813
October	9318	9373	12492	10358	10508	9390
November	3842	4393	6232	5768	5614	5064
December	3878	4155	6843	5928	6094	n.a.
Totals	90195	89939	107896	111177	106091	(98678)

Source: Exmouth Tourist Bureau Inc.

Notes: (a) the total for 1995 is for 11 months. (b) The figures shown are visitor numbers through the door of the Exmouth Tourist Bureau. The Bureau's manager suggested that 25 percent should be subtracted from the figures to obtain "a more accurate reflection of actual visitor numbers" (because of double counting).

Table 2: Incomes of Survey Respondents (\$AUD, 1995)

	Mean	Standard Deviation	Min.	Max.	Sum	n	Median
Personal Annual Income (single)	51,888	75,252	3,800	1,000,000	13,906,098	268	38,000
Family Annual Income	127,088	137,242	7,000	1,000,000	15,504,745	122	90,000
Australian Mean Single Income <sup>1</sup>	28,288	n.a.	n.a.	n.a.	n.a.	n.a.	12,000 - 16,000
Australian Mean Family Income <sup>1</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25,000 - 30,000

Notes: 1. Australian Bureau of Statistics figures, February 1995.

Recreational fishing has become a focus of tourism activities in the Exmouth region, with three fishing competitions featured in the area's list of annual events. In April, the "Billfish Bonanza"—a tag-and-release sailfish and marlin competition—occurs, with up to 30 local and visiting deep sea fishing vessels being involved. The "Ultra Light Tackle Game Fishing Tournament" is held in August, while in late October or early November the "Gamex" fishing tournament for all classes of fish, occurs.

Humpback whales (*Megaptera novaeangliae*) are a regular sight in the waters of the region in the July to November period as they migrate north. The whales are found on both sides of the Cape, often resting in the shallower gulf waters before commencing their migratory trip to the southern oceans. Additionally, large pods of manta rays (*Manta birostris*) are regularly sighted nearby to Ningaloo Reef in the June to November period. While both these attractions are listed by the Exmouth Tourist Bureau as "Events in Exmouth," there has been little development of whale watching or swimming with manta rays specifically as commercial tourism ventures. These activities tend to be on an opportunistic basis, although there is some apparent interest in developing charter operations for whale watching (Myers, pers. comm.).

Finally, Exmouth is advertised as "the diving capital of the west," mainly because of the access to Ningaloo Marine Park which includes the largest fringing barrier coral reef (Ningaloo Reef) in the world (CALM, 1989). Bundegi Reef and the Navy Pier, both within the Gulf, along with the Muiron Islands to the north-east of the Cape, are also attractive and popular diving locations which may be accessed from Exmouth. It is estimated that Ningaloo Marine Park contains 220 species of hard and soft corals and up to 500 species of fish (CALM, 1988). As noted above, pods of giant manta rays are common during the winter months, while species popular with divers, such as giant potato cod (*Epinephelus tukula*), are also found at various dive sites. Consequently, Ningaloo Marine Park has much to offer recreational SCUBA divers. While diver numbers are not available, the manager of the Exmouth Dive Centre noted that there are very few divers in the summer months, that numbers increase dramatically in the whale shark season (described below), and that a second peak occurs in the July school holiday period. Prior to 1996 one specialist dive centre operated in Exmouth, and one also operated in Coral Bay. In 1996 three specialist operators were advertising in Exmouth, a second operation had been opened in Coral Bay and a third is planned. Additionally, five other charter operators run periodic dive trips to the reef, while coral viewing via a semi-submersible vessel is provided by an Exmouth based operator.

Reference to the data in Table 1 does not show exactly how important marine-based tourism is to the Exmouth and North-West Cape region, but clearly it is very important.

Consequently, the sustainability of tourism in the area relies to a large extent on sustaining the marine resources on which it is based.

## Whale Sharks in Ningaloo Marine Park

It is clear that marine-based tourism is important in the North West Cape region. However, Exmouth has become internationally famous amongst the recreational diving fraternity in recent years because of the discovery of large numbers of whale sharks in the waters of Ningaloo Marine Park.

The whale shark is a docile animal with which snorkellers and divers can interact at close quarters when the opportunity arises. Since 1993 Ningaloo Marine Park has become world famous as the only known, readily accessible place where whale sharks congregate in significant numbers. This congregation occurs for only about seven or eight weeks from March to May each year. Concomitantly, a tourism industry, based on the 'whale shark experience,' where divers may swim (usually on snorkel rather than SCUBA) with the sharks, has developed. The management of this industry is evolving as tourism operators and the park managers gain experience in managing tourists, the park, and the animal. An important characteristic of the industry is that it is confined to the marine park because that is where the animals are known to gather, and also where they are most accessible.

The whale shark is the largest fish in the ocean, most commonly being four to 12 m in length, and thought to grow to a length of 18 m (Karniewicz, unpub.). While a true shark, the whale shark is a plankton feeder which, consequently, spends lengthy periods of time close to the surface of the water. It is also a docile animal and one with which divers and snorkellers can interact at close quarters, sometimes for quite long periods of time.

Very little scientific information is available on whale sharks. For example, there is almost no information on their migratory patterns and breeding behaviour (Taylor, 1990). However, since the early 1980s whale sharks have been known to congregate in the waters of Ningaloo Marine Park (Taylor, 1990). Lent (1995) noted that Ningaloo Marine Park is the only readily accessible place known where whale sharks can be counted on to appear annually in large numbers. It is thought that between 200 and 400 whale sharks, mostly juvenile males, spend time in the park, principally from mid-March to mid-June.

Some attention has been paid to the biological aspects of the management of whale sharks in Ningaloo Marine Park. For example, shark sighting data and information on contacts with sharks have been collected by CALM and

other researchers. Following one such study, Osborne and Williams (1994) observed:

Although estimates of the proportion of fish in contact provide a guide for managers, difficulties in determining appropriate licence numbers remain until there is a clear understanding of a) the levels of harassment associated with different fish contact rates, b) the occurrence of peak and shoulder periods, and c) the relationship between vessel numbers and fish contact rates during both peak and shoulder periods.

These are valid points. However, in a recent report recommending a representative marine reserve system for Western Australia (Marine Parks and Reserves Selection Working Group, 1994), it was stated that marine protected areas are intended to contribute not only to the maintenance of biological diversity (and other conservation values) but also to a sustainable and enjoyable environment. That is, recreational values are considered as being important, although they should be compatible with the ongoing protection of natural values. Consequently, management considerations need to take account of human values as well as the biological values emphasised by Osborne and Williams. This, of course, may present a potential dilemma to management agencies such as CALM as they seek to balance alternative uses of a natural resource. But it does drive home the point that these other values need to be considered when questions such as limiting the number of licences in activities such as whale shark viewing are being considered. Interestingly, in other work Davis and Tisdell (1995) suggested that, in many cases, it will be human and recreational values which impose a greater constraint on the use of marine resources than will biological considerations.

In summary, biological data are critical to decisions about the management of the whale shark industry, but so too are data and information on the recreational aspects of the industry, particularly the expectations and experiences of users and their willingness to pay for a quality experience. Furthermore, the ability of the operators to provide that experience within the confines of the present management system, infrastructure, and financial constraints, must also be considered in decisions about management of the resource. At present, however, these types of information are not generally available to either charter boat operators or CALM.

### Commercial Activity in the Industry

While occasional voyages to interact with whale sharks had been run by an Exmouth dive charter operator in the early 1990s, the whale shark tourism industry only began in earnest in 1993. During that season approximately 1,000

charter boat passengers interacted with the sharks, with up to 14 charter boats and five spotter planes catering for those visitors (Jones Lang Wooton, 1993). The number of divers increased to nearly 1,800 in 1994, and exceeded 2,000 in 1995, while the number of charter operators remained stable. While whale shark divers constitute less than two percent of total visitors to Exmouth, they extend the "tourism season" into March, thereby adding to economic activity, particularly in the accommodation and boat charter sectors. Furthermore, these tourists tend to be at the "top end" of the tourist market in Exmouth, generally staying in hotel style accommodation, and usually spending substantial amounts of money on the whale shark experience. Reference to the data collected in the 1995 survey indicates that these visitors spent, on average, close to A\$3,100 on their visit to Exmouth. Around one-third of this expenditure related to food, accommodation and snorkeling/diving in the region. Close to half of the total expenditure was, however, devoted to air travel and package costs, suggesting considerable income leakages from the whale shark industry.

In addition to swimming with whale sharks, close to 99% of the visitors who responded to the survey in 1995 went diving at other sites in the North-West Cape region. Similarly, most participated in other recreational activities such as four wheel drive tours and other visits to national parks. Consequently, while the whale shark icon was the main attraction, most visitors took the opportunity to take part in other activities. The flow-on effects from the whale shark industry to general tourism in the area are, therefore, important.

The majority of commercial vessels operate through Tantabiddi Passage at the northern end of Ningaloo Reef (Figure 2). Spotter planes are used to locate a whale shark and the mother ship is guided towards it by radio until the skipper is in visual contact. Swimmers enter the water in front of the animal (license regulations stipulate that swimmers enter the water a minimum of 30 m from the shark) either directly from the mother ship or from its inflatable tender. Most of the animals at Ningaloo are observed cruising along the reef front, at or near the surface. The interactions between whale sharks and visitors are, therefore, subject to Indian Ocean swells and although the reef slope is occasionally visible to swimmers, encounters are often in deeper water.

The season is very short, with the first charter voyages in 1995 commencing on 26 March and the last occurring on May 24 (although occasional "one-off" charters occurred outside these dates). While the peak of activity occurs during April, the season is effectively only about seven weeks in duration. Coupled with a maximum of 15 operating licences and strict controls over the number of divers allowed in the water at any one time, this means that the experience is available only to limited numbers of

divers. It is also an expensive experience because of the isolation of the area and the costs of travelling to it, and because of the high costs of servicing demand (e.g., spotter planes are used by charter operators to find sharks). This results in the daily charter cost of the experience being around A\$300 for most of the season.

## Management of the Industry

The management of the whale shark industry is the responsibility of the Western Australian Department of Conservation and Land Management (CALM). Whale sharks are fully protected under the Wildlife Conservation Act with additional specific regulation under the Fisheries Act. Additionally, the CALM Act addresses licensing and conditions for commercial operations.

The system for and approach to licensing has evolved since the industry began to develop in earnest in 1993. In 1993 licensing was under the Wildlife Conservation Act, requiring an "Animal Interaction License." Licensing was of vessels rather than individual operators, and no fees, other than a small application fee, were payable. These licences were for one year only and were granted to any and all applicants with the capability to run commercial charters.

In 1994 licenses were issued under the Conservation and Land Management Act, with licensing again being of vessels and, again, being for only one year's duration. In early 1994 CALM announced the imposition of a A\$15 per diver per day cost, with that fee payable by four operators in the industry. The fee was designed to allow CALM to meet the costs of bringing their own vessel, crewed by Wildlife Officers, to Ningaloo Marine Park to monitor the industry. This was an important point in the evolving relationship between CALM and the operators. The operators argued two points. First, the announcement of such a fee only two months from the beginning of the season imposed an extra and unexpected cost burden on commercial operations because their promotion had been completed and many tours pre-sold. Second, they argued that the operators themselves had a vested interest in the sustainable development of the industry and, therefore, that self-monitoring was both possible and desirable. The resulting negotiations led to the imposition of a A\$7 per diver per day fee in 1994, a cost that was absorbed by the operators. This also provided the impetus for the operators to develop an industry steering committee to represent their interests when management proposals were to be discussed.

A question which also came under greater scrutiny in 1994 was that of one-year licensing, with operators arguing that this limited tenure did not allow for adequate planning of promotional and other activities, nor did it encourage

investment in the industry. Subsequently, beginning in 1995 licences were issued for a three-year period to 13 operators operating through Tantabiddi Passage in the north, and for a one year period for two operators on a trial basis at Coral Bay, towards the southern end of the marine park (Figure 2). Licence holders were required to pay a deposit of A\$750 each year, while a charge of A\$15 per adult and A\$7.50 per child (under 16) came into force in 1995. The deposit is deducted from the total user fees payable in a season, and represents the minimum annual charge payable by operators. Importantly, while the A\$15 represents a charge on operators, it is made clear to consumers through the provision to them of a souvenir quality "validation pass" for swimming with whale sharks. Consequently, the charge, which operators presumably try to pass on to users, is made transparent to those users. Furthermore, it is made clear that the money collected via the charge is spent directly in the industry, being committed to management, research and consumer education.

The question of how many operators should be allowed into the industry remains to be resolved. A code of practice, developed in conjunction with the industry, was incorporated into both the Wildlife Conservation (Closed Season for Whale Sharks) Notice 1995 (which carried provision for fines up to A\$10,000) and the License Conditions. These regulate the operation of vessels in the vicinity of whale sharks, specifying that when a vessel is in contact with a shark other vessels must stand off a distance of at least 250 m. A vessel may stay in contact with a shark for up to 90 minutes. Other vessels may, however, queue and take over contact with an animal beyond the 90 minute time limit. The license conditions also limit the number of swimmers in the water with a whale shark to a maximum of 10 at any one time, and prohibit touching, or attempts to touch the animals. In 1995 swimmers were required to maintain a minimum distance of at least one metre from the head or body of a shark and four metres from its tail. They were not allowed to block a shark from its chosen direction of movement, use flash photography, or employ any form of motorised propulsion aid. Following survey work by the authors and colleagues from James Cook University in 1995 (discussed further below), it was recommended that separation distances be changed to a uniform three metres from a shark. Subsequently, in 1996 CALM rules changed the separation distances to three metres from the head and body, but retained the four metre separation—for safety reasons—from the tail.

## Data Collection

A pilot survey on certain economic, demographic and managerial aspects of the whale shark industry was undertaken in 1994. At the time of undertaking this survey it was discovered that researchers from James Cook

University, North Queensland, were also planning a pilot study on experiential aspects of the industry. Consequently, it was decided to undertake joint survey work in 1995 and 1996 in order to reduce the questionnaire load on both operators and consumers.

Japanese visitors were identified in 1994 as comprising a large proportion of the visitors. The significant number of Japanese divers relates both to the growth in Japanese tourist visitation to Australia, and to the fact that a major whale shark charter operator specifically targets this market. To cater for these visitors, 400 questionnaires were distributed in Japanese and 1000 in English. Questionnaires were completed either on the boat during the return journey from the whale shark trip, on the bus journey back to Exmouth, or at the dive shop. During the 1995 season this resulted in the return of 464 visitor surveys, an overall response rate of around 23%. The sample included 188 responses from Japanese consumers. Some demographic and economic data are presented below, although the focus in this paper is on particular aspects of management and, therefore, most attention is paid to items of data of most relevance to those aspects. Additionally, the experiential data "belong" to the researchers from James Cook University and are not reported here.

#### Demographic Data

Reference to the data collected showed that, in 1995, 41% of survey respondents were from Japan, 33% from Australia, 13% from European countries and the remainder from the U.S. (2%) and other countries, mainly in South-East Asia. More than half the survey respondents were in the age bracket between 20 and 30 years, although the mean age was 33 years. The breakdown of the sample was 243 females (53%) and 218 males (47%) (n= 461). This result is at odds with other surveys of participants in recreational diving, with males usually comprising between 65% to 75% of participants (Davis, Banks and Davey, 1996; *Skin Diver Magazine*, 1993).

A significant number of participants are employed in professional (25%), managerial (7%) and para-professional occupations (12%) (e.g., nurses, fire officers, ambulance personnel, etc.). These three categories account for 181 (44%) of the total of 413 people who responded to the question. More than half of the respondents were employed in occupations requiring some level of post-high school education. The level of formal education was, concomitantly, found to be high, with 262 (72.6%) of the 361 respondents to the education question having a university degree, either at Bachelors or postgraduate level. Even if the 103 non-respondents are assumed to have no formal qualifications, then 56% of the total sample have university qualifications (compared to 27.3% of all Australians between the ages of 15 and 65). A further 90

of the 361 respondents were found to have trade or technical qualifications.

The incomes of this sample of divers are reported in Table 2, where it is shown that the mean single income is almost A\$52,000 per annum, while the mean of the combined incomes reported exceeds A\$127,000 annually. The existence of a small number of very high or low figures can bias averages upwards or downwards. The range and standard deviations of the incomes reported are shown in Table 2 and, with individual and combined incomes of up to A\$1,000,000 being stated, it is almost certain that the average income will be biased in an upward direction. Consequently, median incomes are reported and, as shown, these are also well above Australian average levels. Additionally, as previously discussed, these visitors expend considerable sums of money in a short period of time to swim with whale sharks. Consequently, it might be argued that those who participate in the whale shark experience are both willing and able to pay quite high costs to do so. They might also be generally willing to contribute to the management of the industry and the animals.<sup>2</sup>

#### Separation Distances and Crowding

In 1995 CALM regulations specified that swimmers must not touch whale sharks, that they must remain a metre from the head and body and four metres from the tail, and that no more than 10 swimmers may be in the water at any one time. Responses to the experiential questions in the 1995 survey clearly indicated that the best aspects of visitor's experiences related to the ability to interact with the sharks. Of the respondents, 34 reported physical contact with a shark, despite the potential of a A\$10,000 fine. Most, however, indicated that the shark moved towards them (e.g., by turning its head), or that the touch was entirely accidental.

Concomitantly, participants listed crowding as a major area of concern, suggesting that there were too many people in the water, that people in the water interfered with one another, that photography was impeded by the numbers, and that their view of the animal was impeded by other people and by bubbles from their fins.

Because of the potential for crowding problems, respondents were also asked how many people they thought should be in the water at one time. A total of 308 (71%) indicated six or less, with less than 13% considering that 10 participants was acceptable. Some operators avoided crowding by rotating groups of about four people in the water at any one time with a strictly enforced time limit for each. Other operators were reluctant to reduce their group size below 10 due to commercial considerations.



It is apparent that crowding is an issue and that the social carrying capacity was being exceeded under the rules in place in 1995. Consequently, it was recommended to CALM that separation distances be increased to three metres from the sharks' head and body in 1996, a recommendation which was adopted. Even though 10 people are still allowed in the water, keeping those people further from the animal means that the perimeter of the area from which they are excluded is considerably enlarged, and this might have the desirable affect of improving the view of all swimmers and, therefore, of reducing the perception of crowding. It is also likely to reduce the incidence of physical diver contact with sharks. These matters are being investigated again in 1996 in an effort to ascertain the outcomes of the new rules for separation distances.

### Managing the Industry

There are at least three management aspects which are of importance in terms of managing the whale shark industry within the context of tourism which is socially, ecologically and economically sustainable. First, the question of the impacts on the sharks themselves is of concern to the management agency and the wider community. These impacts are unclear, but are the subject of monitoring by CALM. Only with the experience of a number of years will such impacts become evident if, indeed, they are important. Examples of possible indicators of impact might include declines in whale shark numbers over a period of a decade or more, health problems in the population, or if the behaviour of the animals begins to change—they become more aggressive or dive as soon as swimmers enter the contact zone.

Second, management needs to balance continued high quality visitor experiences against potential impacts. The analysis of crowding, of the distance between swimmers and whale sharks, and of the effects on visitor experiences in the 1995 season, led to recommendations about swimmer/shark separation distances which have since been adopted by the management agency for 1996. This is a good example of how research can be used constructively to improve regulatory guidelines and maintain the quality of visitor experiences. It is essential that the effects of these changes on both sharks and people are now monitored.

Third, there are questions which relate to the management of the operations of the industry. These include considerations of how many vessels should be allowed to operate, what the licensing arrangements should be, and who should appropriate the economic rent from the use of a natural resource which is a public good. This last issue relates closely to questions about who should pay and who should benefit from the availability of the natural resource

in question and has been the subject of considerable discussion (Turner et al., 1994). Many of the generalised problems associated with managing open access goods, which might occur at some dive sites, are unlikely to be experienced in the case of Ningaloo's whale sharks. The figures reported in earlier sections of the discussion indicate that the whale shark experience constitutes a seasonal niche market, and that the isolation of Exmouth drives costs up and keeps visitor numbers down. The industry and the sharks, therefore, have a degree of 'protection,' and there is unlikely to be any pressure for mass tourism activities centred on whale sharks.

Licensing of operators has moved from one year to three year licenses, with the present three year licenses due to expire at the end of the 1997 season. The question of allocating still greater property rights to operators through, for example, selling licenses with no time restriction, might usefully be appraised at that time. Such a system would require that the licenses be transferable, but include provisions that prevent speculative buying of licenses by, for example, forfeiture of unused licenses, along with provisions preventing monopoly holdings of licenses. Such a move would be an extension of the property rights presently afforded to licensees in the whale shark industry.

It is apparent also that there exists a high level of ability and willingness to pay for the experience. Costs such as the A\$15 user fee paid by the participants—a fee which is made transparent through the issuing to divers of a souvenir quality validation pass—are unlikely to affect demand at their present level. Furthermore, the fact that the industry is totally centred in a marine protected area means that regulations are relatively easy to enforce and that open access and boundary problems, typical in many natural environments, may be reduced to some degree. For example, even though private vessels are not prevented from placing divers in the water near whale sharks, they must still adhere to the rules for standing off when another vessel is in contact, and to regulations governing such matters as contact time with individual sharks. Private operators, without the support of spotter planes, will also find it difficult to locate and access sharks.

Reference to the foregoing discussion indicates a belief that reliance entirely on regulation is not the best strategy for managing this particular resource. The argument is advanced here that a judicious blend of the use of regulation, self-regulation and economic instruments is a more efficient and effective management approach. It also provides an opportunity for direct contributions by users—both charter operators and consumers—to the management and protection of the natural environment they enjoy. There is an extensive literature on the use of so-called economic instruments in the management of natural resources (e.g., James, 1993; ABARE, 1993; Turner et al., 1994), with the user-pays approach being the most

widely used. The A\$15 charge on those who dive with whale sharks constitutes such a user-pays fee. Economic instruments such as user fees appear to have been little used so far in the management of outdoor recreation resources in Australia and it is difficult to find examples of their use in marine recreation around the world. ABARE (1993) and James (1993) identified beach parking charges at some locations, filming permits and beach bookings, beach site licences, and performance bonds in the Great Barrier Reef Marine Park as management instruments relating to marine recreation. Additionally, Australia's Great Barrier Reef Marine Park Authority charges a levy of A\$1 per person for all visitors on commercial vessels in the park (i.e., private users do not pay the levy), consumers of the whale shark experience in Ningaloo Marine Park pay a A\$15 user fee, divers in the Julian Rocks Aquatic Reserve near Byron Bay, eastern Australia, are asked to pay a voluntary levy of A\$1 per dive, and divers in Bonaire Marine Park in the Netherlands Antilles pay a levy of US\$10 per dive (Dixon, Scura and van't Hof, 1993).

James (1993) noted that such fees, where they are used, are not imposed to reduce demand, facilitate rationing of resource use, reduce congestion, or to minimise resource degradation—reasons for which fees might be imposed. Furthermore, user fees have typically not been based on the recovery of resource rents from the marine sites being accessed for recreation (Geen and Lal, 1991). In Australia such fees generally represent an administrative charge designed to help cover management costs and, in the case of the Great Barrier Reef, to partially fund research related to the management and protection of the reef.

## Conclusion

Whale sharks are a rare and unique tourism attraction of some economic significance to Exmouth and the North-West Cape area. Careful management of this attraction, to ensure its sustainable use, is paramount. The addition of whale sharks to North-West Cape's attractions has extended the tourism season and brought to the region additional visitors willing to spend considerable amounts of money to interact with the animals. These visitors also take the opportunity to visit other attractions in the region.

Socio-economic research, such as that being undertaken on the whale shark industry of Ningaloo Marine Park, has a clear role to play in both defining and refining management approaches that ensure the sustainable use of attractive natural resources. The process of management has been enhanced by such work, whereas reliance on scientific research is likely to provide a slower (although still important) route to improved management guidelines and structures.

Experience in the whale shark industry shows that the aims of management need to be clearly formulated and transparent to all stakeholders. The provision of high quality validation passes, including an explanation of the costs involved and of the use of the funds collected, are initiatives adopted by CALM that appear to be well received by visitors to the area. The fact that the money collected is specifically earmarked for the industry in question is a likely strength. These are lessons that could be applied in other marine tourism pursuits both in other areas of Australia, including the Great Barrier Reef Marine Park, as well as other parts of the world.

The nature of the industry in Ningaloo Marine Park opens up the possibility of imaginative approaches to management, approaches that might enhance the evolution of the management of the whale shark experience. Limited regulation will always be required because of the public good nature of the resource, while increased self-regulation and management by the industry—actions which are already being pursued by industry participants—is both desirable and necessary if the industry is to provide a model for marine tourism management. One feature of the operators at Ningaloo is a very strong willingness to provide their knowledge and experience to the development of a high quality management environment. Continuing recognition of this by CALM will help achieve compliance with the regulations and the development of further innovative approaches to management. These approaches could include incorporation of monitoring tasks by operators, along with provision of greater property rights to those operators.

Finally, the survey work presently underway will lead to the availability of data on a range of matters such as the willingness of divers to pay for the experience and to meet the user-pays cost inherent in validation passes. Further information will be collected on crowding and separation distances to gauge the reaction to the new management guidelines, while a range of factors that affect the quality of the experience will also be analysed.

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## ENDNOTES

<sup>1</sup> "Shires" are the rural local government management areas in regional Australia.

<sup>2</sup> One focus of the survey work in 1996 is to ascertain the willingness of participants to contribute to management costs.

# THE EFFECTIVENESS OF AN EDUCATION PROGRAM IN MANAGING MARINE TOURISM

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**Abstract:** Education has long been touted as an answer to managing tourists' impacts on natural ecosystems. However, very little empirical research has tested this assumption. Research in the educational psychology field shows that the link between knowledge acquisition, attitude formulation and behavior is weak. Furthermore, changing human behavior through education is a difficult and complex task. It is therefore apparent that creating environmental education programs which effectively manage tourists' behavior and which result in longer term attitude and behavior change is particularly difficult.

*A number of cognitive psychology techniques such as the use of cognitive dissonance and the affective domain are applicable in the marine tourism situation. Through incorporating these into an education program which is specifically designed to prompt environmentally responsible behavior, the ambitious objectives of such programs may be attainable. This paper reports on the testing of this model at Tangalooma, Australia. At this resort tourists regularly feed a group of wild dolphins.*

*The testing of the model revealed that an increase in acceptance of and compliance with management regulations resulted. Furthermore, it was shown that tourists enjoyment was enhanced, their knowledge increased and a number of longer term behavior changes prompted by the education program. This finding is important for it is one of only few studies which quantify the benefits of education programs in a marine tourism situation.*

**Keywords:** education, marine, tourism, wildlife, dolphins, Tangalooma, management

## Introduction

As the rapid growth of coastal and marine tourism has continued an increasing number of cases have shown that there are significant negative impacts on host communities (both natural and human). Many commentators are now critical of tourism development and argue for a cautious approach when managing tourism enterprises associated with the coastal zone (Espeseth, 1993; Miller and Kaae, 1993).

Questions regarding how coastal and marine tourism should best be managed abound and controversy exists in almost every situation where significant tourism development has occurred (for example, Brown, 1991, Johnston, 1990; Mellor, 1990; Ward, 1990). Amongst many different solutions being advocated, educating

tourists so that their behavior is both respectful of and appropriate to the host community remains one of the most popular (Orams, 1994; Forestell, 1993; Kerr, 1991; Beckmann, 1989). Advocates argue that negative impacts can be minimized only if the tourists have the right attitude and behave correctly. The argument continues to propose that the way to ensure these correct attitudes and behavior is through education. However, research in the educational psychology fields reveals that prompting attitude and behavior change is extremely difficult, even when an educational exercise is designed to do this (Gudgion and Thomas, 1991).

The reality is that few tourism operators or management agencies actively use education as a management technique (Beckmann, 1988). Furthermore, of those that do, virtually none have programs which are deliberately designed to prompt behavior change. Consequently, there are some who are suspicious of claims that educating tourists is "the answer." For example, Wheeler (1994, p. 9) states: "Education is seen by many as the way forward for nurturing a 'better' tourism. Dream on."

There has been very little empirical research which has set out to establish what educational techniques are effective. As a result there is little evidence to counter Wheeler's cynicism. However, the argument for education continues to be put forward. There is a need, therefore, to assess how effective education actually is. This paper reports on a study which attempts to do that.

## Impacts of Coastal and Marine Tourism

Coastal and marine tourism mirrors the rapid growth of the wider tourism sector (Miller, 1990). An example which is indicative of this trend is the increasing popularity of whale watching (Coughran, 1993; Jeffrey, 1993; Forestell and Kaufman, 1990). Tourism which is based upon the coastal zone and marine environs has impacted host communities and controversy over the negative impacts has ensued. Numerous examples illustrate these concerns and these can be grouped at regional, site specific, species specific and activity specific levels.

At a regional level, locations like the coral reef ecosystems of the Florida Keys in the United States show major negative impacts as a result of increasing tourism. In a dramatic and emotional piece in National Geographic, Ward (1990: 123) is critical of marine tourists:

Their boats pollute the water and everything in it with petroleum products and sewage. Incompetent operators crash into the reefs. They litter the sea with plastic foam cups, aluminium cans, glass, plastic bags, bottles, and miles of tangled fishing line ... Thousands of swimmers

routinely bump, scrape, and step on coral ... the cumulative devastation is enormous.

On the other side of the world similar concerns are being expressed about Australia's Great Barrier Reef where reports with titles like "Loving the Reef to Death" (Mellor, 1990) and "How Can Increased Tourism and the Great Barrier Reef Coexist?" (Digance, 1993) have become commonplace.

At a local level, smaller locations which have been subject to significant increases in tourism have resulted in similar responses. For example, in writing about Hawaii's Hanalei Bay, Burgett (1990, p. 100-101) refers to "Traditional use to modern abuse" and "a reef on the rocks." In the United States Virgin Islands a significant cultural "backlash" against the negative impacts of tourism development has occurred (Johnston, 1990). Hundreds of similar examples from geographically diverse locations exist.

Specific animals which are attractive to tourists have come under pressure as well. For example, Forestell and Kaufman (1990, p. 401) detail the growth of the Humpback whale watching industry in Hawaii and state:

Concern has grown in every quarter that the cumulative effect of this activity may threaten the recovery and survival of this endangered species.

Shackley (1990: 316) is less subtle when discussing the plight of the West Indian Manatee which is subject to growing tourist interest. She argues:

The final nail in the manatee's coffin has probably been provided by the large numbers of tourists now coming to visit them, increasing their levels of environmental stress and decreasing reproduction rates. Anyone who wants to ensure the survival of the species would be well advised to avoid visiting them.

Specific tourist activities are also causing concern. For example, the use of personal watercraft ("jetskis" and "wetbikes") are controversial in many coastal areas (National Oceanic and Atmospheric Administration, 1995; Cuthbert and Suman, 1995). Tourists feeding fish (Stevens, 1986), sharks (d'Oliveira, 1995; Cocking, 1995; Crews, 1995), dolphins (Orams, 1995), stingrays (Anonymous, 1994) and other marine wildlife is also widely debated.

In summary, where ever there has been significant growth in coastal and marine tourism there has been a corresponding concern over the negative impacts. A volume of literature now exists which details these negative impacts and it is now widely accepted that tourism must be carefully managed to minimize these negative effects. In

contrast to the many reported cases of problems associated with marine tourism, there are few cases which detail successful management responses. There is, therefore, a need to now focus upon developing and empirically testing management solutions.

## Management Solutions

Solutions to the problems of tourism impacts have been advocated by a number of authors (Orams, 1994; Boo, 1990; Beckmann, 1988). These management responses can be grouped into four main categories: physical; regulatory; economic; and educational. Physical responses refer to those structures that seek to control tourists' behavior by physically separating them or restricting their movement within the natural environment. Regulatory responses refer to those rules and regulations which seek to control tourists' behavior through threat of punishment for non-compliance. Economic approaches are those which utilize variable pricing techniques to influence behavior. Educational strategies are those that seek to inform tourists and encourage them to voluntarily control their behavior so that it is appropriate to the environment.

Education has received much attention in the ecotourism field and is viewed by some as a critical component of ecotourism experiences (Kerr, 1991; Forestell, 1990). Despite the widespread advocacy for education as a "solution" to minimising tourists' impacts on the natural environment, there have been very few empirical tests of the effectiveness of education programs in controlling tourists' behavior (Beckmann, 1988).

### The Potential of Education

Many authors are optimistic about the potential of education programs for tourists (for example, Field and Wagar, 1982; Forestell, 1990; Alcock, 1991; Ham, 1992; Bramwell and Lane, 1993). There is much anecdotal evidence that direct interaction with nature often results in profoundly important experiences where tourists do develop new attitudes and adopt new behavior—in other words—significant learning does occur. The issue arises therefore, in what circumstances is 'environmental learning' likely to occur and what type of educational programme is best suited to maximising learning?

A model originally proposed by Forestell (1993) and further developed by Orams (1996) incorporates a number of strategies which have been identified as powerful tools in the learning process (see Orams, 1996 for a more thorough discussion of these cognitive techniques). This model is shown in Figure 1.

The model identifies five main techniques which can be effective in prompting behavior change in an ecotourism

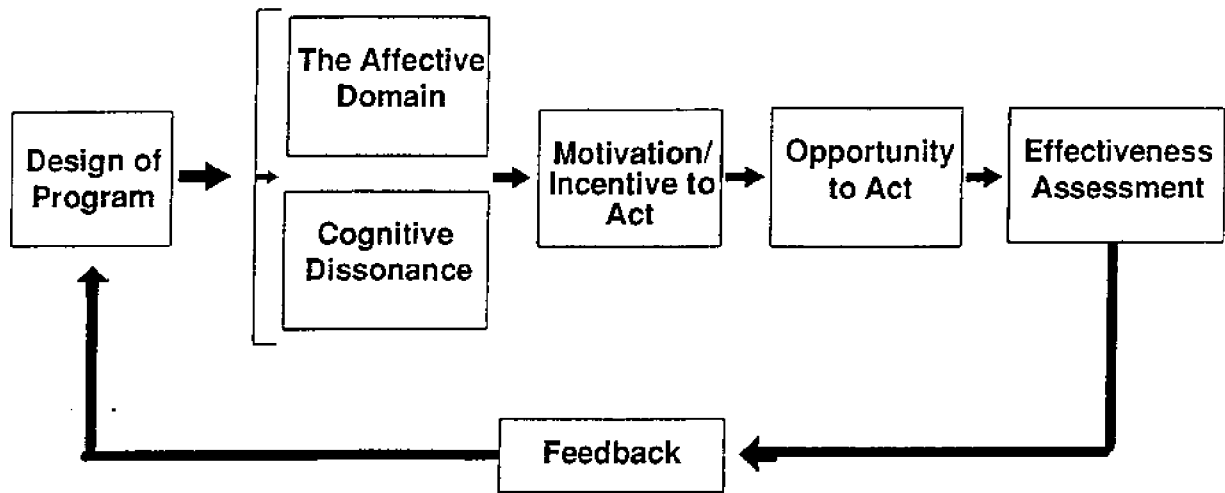


Figure 1. Components of an education program for tourists (Orams, 1996).

	Touches /100 feed events	Staff Cautions /100 feed events	Other Inappropriate Behaviour /100 feed events
Control Group	6.73 (n = 3,567)	2.62 (n = 3,134)	3.22 (n = 3,102)
Education Group (n = 5,111)	1.17	1.23	1.10
	z = 13.75	z = 4.65	z = 6.85

Figure 2. Impact of the education program on inappropriate behavior.

setting. These techniques (represented in Figure 1) can be summarised as follows:

- Cognitive dissonance—creating questions in peoples' minds. The education program should attempt to arouse participants' curiosity, to get them thinking by offering interesting questions. For example, in the case presented later in this paper questions such as how do dolphins sleep, or what is the biggest enemy that dolphins have are appropriate.
- The affective domain—using techniques and stories to involve participants' emotions. Emotional involvement in the subject matter is an effective "short cut" in the learning process. Topics such as birth, death, caring, "life's challenges" all evoke peoples' emotions. It is suggested that by invoking the "affective domain," program messages are more effectively "internalized" and are more likely to be acted upon.
- Creating motivation to act—the program should outline the specific environmental problems/issues or themes that are relevant to the tourism experience. Simple solutions and actions that can be taken to reduce these problems should then be outlined. Specifically, the program should "personalize" the message; "here's what you should do to make a difference."
- Giving opportunities to act—finally, the program should actually provide opportunities for people to take action, then and there. Petitions to sign, environmental organizations to join, environmentally friendly products to buy and activities to undertake allow tourists to act on the motivation created by the program. This stage is extremely important; most participants in nature oriented tourism programs have good intentions. However, after they leave, those intentions may not result in changed behavior. By providing opportunities for participants to take action effective behavior change can be prompted "on the spot."
- Evaluation and feedback—an important component of any program is an assessment of its effectiveness and a feedback of the results of this assessment into the planning for the program.

## Methods

An education program which was based upon the above model was developed and tested at Tangalooma Moreton Island Resort in Southeastern Queensland, Australia. This resort has developed a program where tourists are able to hand-feed a group of bottlenose dolphins which regularly

visit the waters adjacent to the resort (Orams, 1995). This marine tourism attraction presented an ideal case to test the effectiveness of the education model presented above.

The effectiveness of the program was assessed by comparing the data gathered during the program's operation (the experiment group) with data gathered when the program was not in operation (the control group). Characteristics of the tourists who were not exposed to the program were compared with the tourists who were, in order to assess the validity of attributing data changes to the education. This control experiment design formed the basis of this study.

A jetty adjacent to where the dolphins were fed provided an elevated viewpoint from which the dolphin-tourist interaction could be clearly viewed. An observer was stationed up on this jetty and recorded information on a standardized log throughout feeding sessions. In addition, a video camera was mounted on a tripod on the jetty and each feeding was video taped. This allowed for subsequent review and checking of the data gathered by the observer.

The first part of this study focused upon quantifying "inappropriate tourist behavior," defined as any tourist behavior which did not comply with the management regulations established by the resort to control the interaction between tourists and the dolphins.

Pilot studies resulted in three main indicators being selected for measurement. Patting and deliberately touching the dolphins was assessed to be the most common inappropriate behavior and this was selected as an indicator to be quantified. The number of cautions, given by a staff member to a tourist, for inappropriate behavior during a feeding session was also selected as a suitable indicator of compliance. Finally, because in the pilot studies no other single inappropriate behavior was common, a general category of "all other inappropriate behaviors" was selected to group data.

Immediately following each feeding session's completion, staff members were interviewed to gather data on perceived problems with the feeding and the "number of cautions" which they made to tourists with regard to inappropriate behavior.

Video records of each of the feedings were reviewed and data on the number of "feed events" (the number of times a person entered the water to feed dolphins), the number of pats or "deliberate touches" and the number of "other inappropriate behavior" was counted and recorded on the log sheet.

An analysis of data gathered from 53 feeding sessions without the formal education component (control) and the data gathered from 118 sessions with the education

component (experiment) was conducted to allow a comparison between compliance under these two different management regimes. The three indicators selected, "deliberate touches," "staff cautions given" and "other inappropriate behavior" were recorded for each feeding session in both the control and experiment groups. These data were then calculated as a percentage of feed events; that is, the indicators were transformed into a number per 100 feed events. This permitted the comparison of a standardized measure between control and experiment data.

The second part of this study concentrated on assessing the impact of the education program on the degree of agreement with the management regime, and also the enjoyment, knowledge, attitudes and intentions of participants. In order to assess this a self reply questionnaire was administered to a random sample of tourists in both the experiment ( $n=317$ ) and control groups ( $n=308$ ).

The third part of the study assessed the longer term impact of the education program. Respondents from the self reply questionnaire who agreed, were contacted by telephone within two to three months of their visit to Tangalooma and a short telephone interview was conducted ( $n=110$  for control and 104 for experiment groups).

Responses between the control and experiment groups over the six indicators; agreement with management controls, enjoyment, knowledge, attitudes, intentions and behavior were then compared, primarily using Chi-square analysis.

## Results and Discussion

### Increase Compliance with Management Regulations

The results of the observations for both the control and experiment groups over the three indicators which were used to test for compliance with the management strategy are presented in Figure 2.

This table shows that there was a significant reduction in the number of touches per hundred feeding events from the control to the experiment group. Similarly, there was a significant reduction in the number of cautions which staff gave for non-compliance from control to experiment groups and the same pattern of reduction occurred for "all other inappropriate behavior."

The assumption implicit in these tests is that the subjects in both the control and experiment groups do not differ from one another in terms of their predisposition to comply with management policies. Given the large sample sizes in this study this assumption seems reasonable. The pattern of

success in increasing compliance with management regulations during this study is clear. The introduction of a structured education program resulted in a significant reduction of non-compliance behavior across each of the three indicators measured.

### Increase Acceptance of Management Regulations

Figure 3 shows that, in all cases, the experiment group had increased levels of agreement, and corresponding lower levels of disagreement, across all four indicators measured. However, these differences were significant in only two of the four indicators. Specifically, agreement with the no touching of the dolphins regulation ( $c^2 = 7.026$ ,  $df = 1$ ,  $p = 0.008$ ) and the requirement to disinfect hands before handling the dolphin's fish ( $c^2 = 9.147$ ,  $df = 1$ ,  $p = 0.003$ ), significantly increased with the experiment group. However, even though the agreement with the regulation prohibiting swimming with the dolphins ( $c^2 = 3.625$ ,  $df = 1$ ,  $p = 0.057$ ) and the banning of entering the feeding area without supervision ( $c^2 = 2.957$ ,  $df = 1$ ,  $p = 0.086$ ) did increase, statistical significance, at the  $\alpha = 0.05$  level was not attained.

These results show that the education program produced increased acceptance of the management regulations at Tangalooma. Although statistical significance was achieved in only two of the four indicators, the pattern of increased acceptance is clear and consistent. In this case, an education program increased the level of acceptance of management regulations.

### Increase Enjoyment

The questionnaire produced a series of responses which indicated the level of enjoyment of tourists at the dolphin feeding. Chi-square tests revealed that there were few significant differences between the control and experiment groups with regard to questions which assessed enjoyment levels. The general pattern of results showed a strong positive skew, with very few respondents selecting categories that can be classified as negative. A high percentage of respondents indicated that the experience was very enjoyable or one of their most enjoyable experiences ever (see Figure 4).

Enjoyment of the "dolphin experience" was ranked extremely highly by almost all respondents. There was no significant difference detected between control and experiment groups with regard to enjoyment levels as measured by most questions. However, the desire for more information did drop significantly between the control and experiment samples. Additionally, compliments significantly increased, and concern over negative impacts of feeding dolphins and suggestions for changes decreased significantly, between control and experiment groups.



**Figure 3 : Statements indicating level of enjoyment of experience**

<u>Statement</u>	<u>Percentage of Control who selected</u>	<u>Percentage of Experiment who selected</u>
(Note: respondents could select multiple statements)		
It was good but I enjoyed other parts of my stay on Moreton Island more	9.5	9.2
It was okay	7.0	5.8
I enjoyed it a lot	58.8	58.0
I was a little bit disappointed	1.4	2.0
It was one of my most enjoyable experiences ever	29.2	28.7
It wasn't as good as I thought it would be	1.8	1.7
It was good, but I would like to have learned more	32.4	11.6
I haven't really decided what I think about it	0.7	2.6

**Figure 4 : Results of knowledge test**

<u>Topic</u>	<u>Percentage of Control who answered correctly</u>	<u>Percentage of Experiment who answered correctly</u>
Echolocation	89.5	91.2
Aggression	28.2	49.8
Species type	75.5	87.2
Groups/solitary	12.4	42.0
Predators	59.8	66.2
Vision	21.9	47.0
Protection	55.9	66.9

**Figure 5 : Results of attitude test**

<u>Topic</u>	<u>Percentage of Control who answered correctly</u>	<u>Percentage of Experiment who answered correctly</u>
Shark control	39.4	49.8
Effect on the sea	70.1	71.6
Responsibility for pollution	91.2	93.1

Collectively, these results are suggestive that the education program did enhance the enjoyment of tourists at the Tangalooma dolphin feeding, although high levels of enjoyment exist irrespective of the education program. With this fact in mind, it can be concluded that an education program can increase tourists' levels of enjoyment.

It is not surprising that the research at Tangalooma identified that interacting with wildlife is viewed in extremely positive terms. The rapid growth of wildlife based ecotourism (Ratnapaia, 1992; MacDonald, 1992; Miller and Kaae, 1993; Neil et al., 1996a) suggests that interacting with wildlife is very enjoyable for tourists.

### Increase Knowledge

The questionnaire asked respondents to rank their own degree of knowledge on dolphins before visiting Tangalooma. There was no significant difference in this self assessment between control and experiment groups ( $\chi^2 = 0.947$ ,  $df = 2$ ,  $p = 0.954$ ). However, a further question which actually tested the knowledge of respondents towards the end of a dolphin feeding session, showed an increase in correct responses across all seven indicators from the control group to the experiment group. Chi-square tests reveal that these increases are significant across five of the seven indicators (Figure 5).

The pattern of increased knowledge, as a result of the education program, is clear. This finding is encouraging. As a result of this research, it can be concluded that an education program, despite the limitations of a brief tourism encounter, can increase tourists' knowledge regarding the attraction they visit. Evidence that this is the case has been lacking in the past. This finding is consistent with recent research by Neil et al. (1996b) who suggest that repeat whale watchers show greater levels of knowledge than those who are whale watching for the first time.

### Improve Attitudes

The questionnaire tested respondents level of agreement/disagreement with three environmental statements. Results are summarised in Figure 6. For each statement, a correct response was that which strongly indicated an attitude which was "environmentally sound."

Responses to a statement pertaining to controlling shark levels in Moreton Bay resulted in 39.4% of the control group responding correctly. This response rate increased in the experiment group to 49.8%. This increase is significant ( $\chi^2 = 7.271$ ,  $df = 2$ ,  $p = 0.026$ ). However, statements regarding actions affecting the sea ( $\chi^2 = 0.178$ ,  $df = 2$ ,  $p = 0.915$ ), and regarding pollution responsibility ( $\chi^2 = 0.069$ ,  $df = 2$ ,  $p = 0.355$ ), did not show any significant change from control to experiment.

Measuring respondents' attitudes toward the natural environment proved extremely difficult. Most respondents, in both control and experiment groups, showed a strongly positive environmental attitude. This is not surprising because, over the past decade, environmental issues have been widely discussed and are understood by many. As a result, most respondents know the "desirable" answer to a question about environmental attitudes. Therefore, it is difficult to determine whether a response to a question on environmental attitudes actually reflects true attitudes or is simply given as the socially/politically correct answer (Ryan, 1995). This "social desirability" influence may have been significant in this study.

Despite the failure to detect changed attitudes from the questionnaire there were indications that the education program did have an influence in this area. The responses to the follow-up telephone interview showed that 8.3% of respondents in the control group gave an unsolicited comment that they had become more environmentally aware as a result of their experience with the dolphins. This response rate increased significantly to 20.4% in the experiment group. It appears, therefore, that the participants themselves felt that the education program improved their environmental attitude (at least as expressed by the "greater environmental awareness" comments). The failure of the questionnaire to detect changes in environmental attitudes may be related to the question used in the questionnaire. It is likely that improved environmental attitudes did result from the education program but the questionnaire failed to detect this.

### Create Desirable Intentions

The questionnaire solicited responses to five statements which indicated the degree of commitment respondents had to changing their behavior as a result of their experience with the dolphins. This question showed a clear and consistent pattern from control to experiment groups (see Figure 7). Intentions to change behavior were high for both groups and no significant differences between groups were present.

The majority of respondents indicated that they intended to tell their friends about the dolphins. However, these data were not significantly different from control to experiment ( $\chi^2 = 2.428$ ,  $df = 2$ ,  $p = 0.297$ ). Many thought they would try and get more information about dolphins, but again, the groups were not significantly different ( $\chi^2 = 1.805$ ,  $df = 2$ ,  $p = 0.406$ ). Similarly, most respondents indicated that they would pick up beach litter which could harm dolphins, but control and experiment groups were not significantly different ( $\chi^2 = 2.742$ ,  $df = 2$ ,  $p = 0.254$ ). Becoming more involved with environmental issues as a result of their experience with the dolphins received strong support from both groups, but the groups did not

**Figure 6 : Intentions to change behavior as a result of experience with the dolphins**

<u>Statement</u>	<u>Percentage of Control</u>		<u>Percentage of Experiment</u>	
	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>	<u>Definite</u>
Tell friends about the dolphins	3.4	22.4	2.0	74.2
Try and get more information about dolphins	19.8	58.7	22.9	21.5
Remove beach litter that could harm dolphins	6.6	36.7	4.3	56.7
Become more involved in environmental issues	22.8	51.9	25.5	25.3
Make a donation to an environmental organisation	29.8	54.4	26.6	15.8
			51.3	22.1
			46.5	28.0
			33.1	62.6
			27.1	70.9
			53.1	24.0

Figure 7 : Actual behavior change as a result of experience with the dolphins (follow up interview)

<u>Action</u>	<u>Percentage of Control</u>				<u>Percentage of Experiment</u>			
	<u>No</u>	<u>Yes</u>	<u>No, but more aware</u>	<u>Already involved</u>	<u>No</u>	<u>Yes</u>	<u>No, but more aware</u>	<u>Already involved</u>
Told friends about the dolphins	1.8	98.2			1.0	99.0		
Got more information about dolphins	86.4	13.6			58.3	41.7		
Removed beach litter	50.0	44.9	5.1		13.0	65.3	21.7	
Became more involved in environmental issues	72.5	6.4	8.3	12.8	40.8	32.0	20.4	6.8
Made a donation to an environmental organisation	76.9	11.1	3.7	8.3	49.5	23.3	19.4	7.8

significantly differ ( $c^2 = 1.624$ ,  $df = 2$ ,  $p = 0.444$ ). Finally, many tourists indicated that they intended to make a donation to an environmental organisation, but the control and experiment data were not significantly different ( $c^2 = 3.740$ ,  $df = 2$ ,  $p = 0.154$ ).

The intentions to change behavior, of both the control and experiment groups, were extremely positive. Once again, this positive skew of the data contributed to the lack of statistical significance between the groups. The influence of "social desirability" when responding to this question is also likely to be high, so that respondents are likely to state they intend to do good things as a result of their experience with the dolphins. Consequently, no significant differences were detected between the groups. The education program cannot be shown to have increased tourists' intentions to conduct themselves in a more environmentally responsible manner. However, this does not mean that such a change did not occur. The results of the follow-up interview suggest that the education program did influence tourists' intentions because significant increases in actual behavior change were detected (see next section).

The marked positive skew in data resulting from a number of attitude, intentions to change behavior and enjoyment questions in the questionnaire has been noted with other tourism research.

One problem that can occur frequently in attitudinal research relating to holidays is that because people enjoy themselves, scores on a Likert-type scale or semantic differential are not normally distributed. They tend to be skewed towards the top end (Ryan, 1995: 168).

This problem was recognised before the study was undertaken and, as a result, categories and statements were selected which attempted to distribute these positive attitudes over a series of options which reflected the positive nature of the responses. Nevertheless, positive skewing did result. When such an influence occurs it is difficult to determine the significance of changes between the control and experiment groups.

### **Prompt Environmentally Responsible Behavior**

The follow up interview assessed whether actual behavior change had occurred subsequent to the experience with the dolphins. Questions asked in the interview followed the same format as for the questionnaire, except respondents were asked whether they had actually carried out their stated intentions. With the exception of the question pertaining to telling friends about the dolphins, a clear and consistent difference existed between the control and experiment groups for these data (Figure 8).

In the control, 98.2% and 99.0% in the experiment had told friends about the dolphins. These results are not significantly different from one another ( $c^2 = 0.284$ ,  $df = 1$ ,  $p = 0.594$ ). However, only 13.6% of respondents in the control group had attempted to get more information on dolphins, compared with 41.7% of the experiment group. This difference is significant ( $c^2 = 21.213$ ,  $df = 21$ ,  $p < 0.001$ ). Of those respondents who had visited a beach since visiting Tangalooma, 44.9% of the control group had picked up rubbish that they had seen. Within the experiment group 65.2% had done so. This increase is also significant ( $c^2 = 25.915$ ,  $df = 2$ ,  $p < 0.001$ ). Only 6.4% of respondents in the control group stated that they had become more involved in environmental issues as a result of their experience with the Tangalooma dolphins, however, in the experiment group, 32.0% stated they had done so. Additionally, within the control, 8.3% stated that they were more environmentally aware, whereas 20.4% said so within the experiment. These differences are significant ( $c^2 = 35.206$ ,  $df = 3$ ,  $p < 0.001$ ).

Finally, the same pattern exists for the numbers of respondents who stated that they had donated to an environmental organisation as a result of their experience with the Tangalooma dolphins, 11.1% for the control and 23.3% for the experiment. Furthermore, of those who stated they had not donated, an unsolicited response that they still intended to donate, rose from 3.7% in the control to 19.4% in the experiment. These differences are, once again, significant ( $c^2 = 22.26$ ,  $df = 3$ ,  $p < 0.001$ ).

The results of the follow-up interview are particularly important in the context of this study. The results of the follow-up interviews show that the education program was particularly effective in prompting tourists who visited the Tangalooma dolphin feeding to carry out their stated intentions to take action.

Predictably, both control and experiment respondents carried out their intentions to tell friends about the dolphins after their trip, and there was no significant influence of the education program on this indicator. However, the education program prompted a significantly higher level of action across all the other indicators measured. Thus, it is concluded that an education program caused tourists to change aspects of their behavior and become more environmentally responsible. These results are extremely important because the ultimate objective of the education program was to produce long term behavior change which benefited the environment upon which the tourism was based. Although the type of behavior change prompted in this study did not directly benefit the Tangalooma dolphins, indirectly, these changes benefit the marine environment and, through this, the animals that live in it.

## Conclusions

This research has shown that, despite many authors' cynicism (Hammit, 1984; Burgess, 1992; Wheeler, 1994), long-term behavior change can be prompted by a carefully structured education program. Empirical evidence of this fact has long been lacking (Olson et al., 1984; Beckmann, 1988, 1989; Uzzell, 1989; McArthur and Hall, 1993). The findings of this study provide evidence that the optimism expressed by many (Field and Wagar, 1982; Forestell, 1990; Alcock, 1991; Ham, 1992; Bramwell and Lane, 1993) regarding the potential of education as a management strategy in tourism situations is justified.

Given the considerable problems being experienced by host communities due to the effects of coastal and marine tourism activities it is important that solutions be sought. Educational programs are but one of many different approaches to managing this kind of tourism. For this kind of approach to be effective programs must be designed with the lessons of educational psychology in mind. The model, tested in the study reported in this paper, is a good starting point to improve the effectiveness of education in managing marine tourism.

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# CULTURAL PERSPECTIVES OF DOLPHINS BY ECOTOURISTS IN A "SWIM WITH WILD DOLPHINS" PROGRAM

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**Abstract:** *The current trend towards environmental awareness is accompanied by people seeking ways to change their relationship with nature. However, most individuals will perceive and interpret their relationship with animals in light of their culture. This study explored the relationships among beliefs, knowledge, demographic characteristics and personal values of ecotourists using a questionnaire distributed on shore after boat excursions. Principal Component Analysis revealed attributions of spirituality, altruism, interspecies sociability and the presence of societal structure in dolphins. Females, residents of Asia, New Zealand and Australia, non-Christians were most likely to make positive spiritual attributions, while middle-aged people were more likely to agree with altruistic attributions than were younger or older people. Personal religiousness and adherence to cultural norms were positively correlated with attributions of dolphin spirituality. As the importance of honoring elders and loyalty to friends increased, the more likely the respondents were to believe that dolphins seek and enjoy human interaction (interspecies sociability). Most respondents ascribed human qualities to the dolphins. They also perceived dolphins as being dependent on one another and as having a tightly knit social structure. The ecotourists who formed this sample were unacquainted with scientific knowledge related to dolphins as well as the philosophical, educational, economic or ecological values of wildlife. The results indicate that social scientific analysis of wildlife recreational programs is sensible and can be used to establish more precise management of and educational programs for ecotourism.*

**Keywords:** *culture, beliefs, knowledge, questionnaire, principal component analysis*

Tourism can be a good medium for raising environmental awareness (Hughes, 1991; Ross, 1991). One reason often given for promoting wildlife and nature ecotourism is that the participants' experiences will increase awareness of the need to protect the environment. Previous research concerning the relationship between humans and nature includes investigation of public attitudes, knowledge and behavior towards wildlife and natural habitats; factors related to satisfaction in wildlife recreational programs; and the economic value of wildlife (reviewed in Amante-

Helweg, 1995). However, no work has been done on the influence of cultural factors on peoples' perceptions and interactions with animals in ecotourist environments, and the contribution of cultural factors to the development of wildlife ecotourism.

Culture is defined as a social system in which individuals incorporate the behavioral patterns of their group through social interactions and diverse relationships (Geertz, 1973; Rohner, 1984). Every individual's attitude and behavior is shaped by their group's belief about the nature of the universe and how it affects their social environment (Geertz, 1973; Hofstede, 1980; Taifel, 1981; Vaughan & Hogg, 1995).

Ecotourist programs provide for personal experience as well as reinforce the knowledge and beliefs individuals have about nature and animals. The emotional fulfillment of being near the animals may serve to strengthen the participants' commitment to various environmental issues (Duffus & Dearden, 1993; Kellert, 1984; Lien & Graham, 1985; Whelan, 1988). In addition, anthropomorphic sympathy influenced by observations of animal social behavior probably may have the strongest effect on future conservation and protection (Vicchio, 1986).

In general terms, people's attitudes, values and behavior are shaped by the groups to which they belong (Vaughan & Hogg, 1995). More specifically, individuals may perceive their relationship with animals, and interpret the behavior of animals, in the light of their culture.

## Methods

### Description of Ecotourist Excursion

Data were collected from participants in "Swim with Wild Dolphins" excursions with the cooperation of *Dolphin Discoveries*, an ecotourist company operating out of the town of Pahia on the Bay of Islands, New Zealand, in 1994. *Dolphin Discoveries* ran two boats and made two trips per day (approximately 3.5 hours per trip). The first cruise began at sunrise and the second cruise began in late morning or midday. The skippers met the ecotourists at the dock, provided them with life jackets and then assigned 12 passengers to each boat.

When all the passengers were on board the boats, the skippers went over rules and safety procedures, the Marine Mammals Act, and their obligations with respect to governmental management regulations. They also discussed the swimming gear (wet suits and goggles) and the weather and sea conditions.

After the skippers had gone over these details, they drove out into open water and began their search for dolphins.

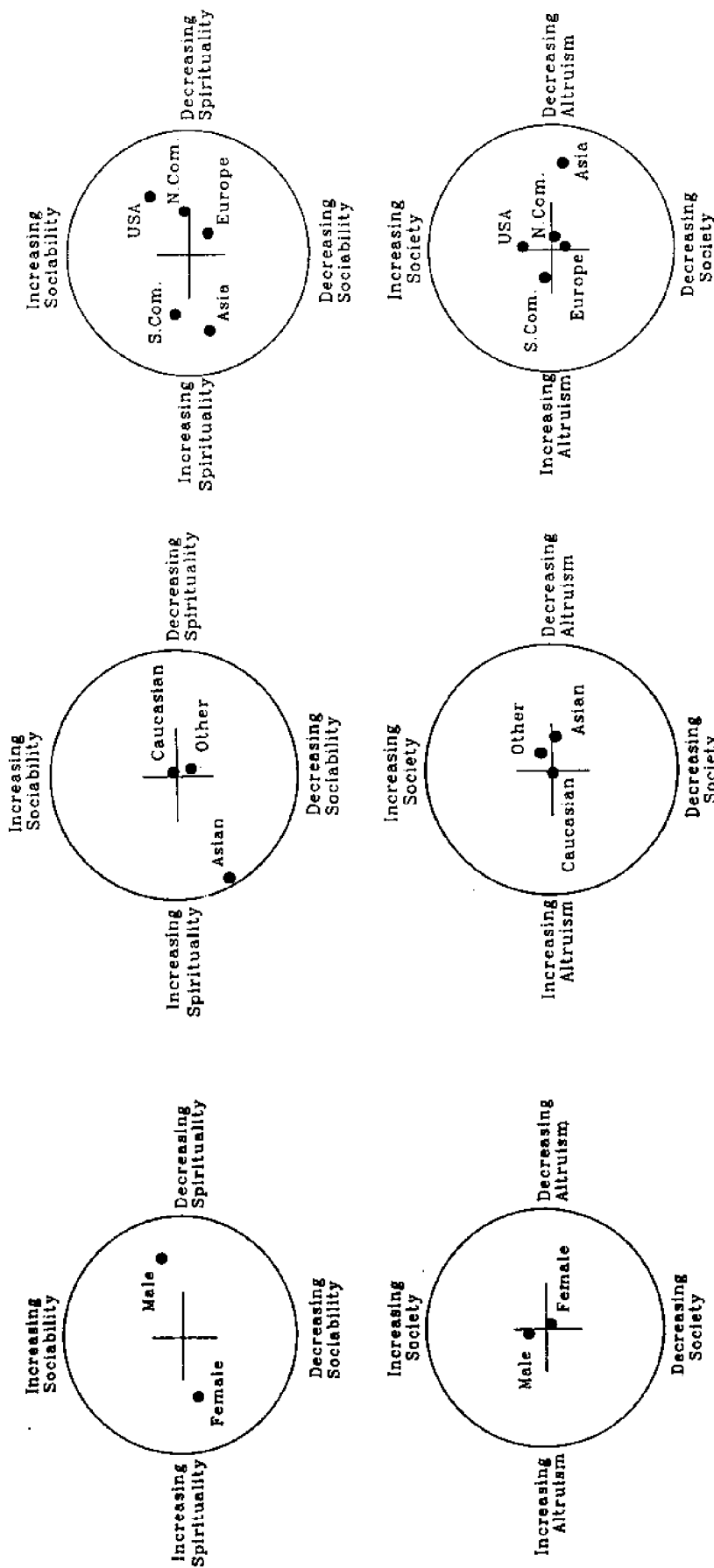


Figure 1. Biplots of the relationships among the average principal component scores for gender groups. The top panel shows the separation of gender scores along the spiritual and sociability dimensions (PC1 and PC3). The bottom panel shows the separation of gender scores along the altruistic and society dimensions (PC2 and PC4).

Figure 2. Biplots of the relationship among the average principal component scores for ethnic groups. The top panel shows the separation of ethnic group scores along the spiritual and sociability dimensions (PC1 and PC3). The bottom panel shows the separation of ethnic group scores along the altruistic and society dimensions (PC2 and PC4).

Figure 3. Biplots of the relationship among the average principal component scores for regional groups. The top panel shows the separation of regional group scores along the spiritual and sociability dimensions (PC1 and PC3). The bottom panel shows the separation of regional group scores along the altruistic and society dimensions (PC2 and PC4).

The encounter success for bottlenose (*Tursiops truncatus*) and common (*Delphinus delphis*) dolphins was 90% and it usually took less than an hour to locate them. Bottlenose dolphins were typically found in groups of 10-20 individuals, in coastal waters less than 10 meters deep (inside the bay). Common dolphins were most likely to be found in groups of several hundred individuals, in offshore waters. In many instances, both the bottlenose and common dolphins would approach the boats and ride on the bow wave. Dolphin behavior included jumping, head slaps, tail slaps and chasing, and were often accompanied by vocalizations such as whistling. At times, however, the dolphins appeared to be resting or sleeping.

After spending some time observing the dolphins, the skippers decided whether to allow a swim. Up to 24 swimmers were put in the water with the dolphins (12 from each boat), usually lasting 10-15 minutes. At the end of each excursion, just prior to docking, the skippers informed the ecotourists of this research and invited them to participate.

### Questionnaire Design

Data were collected at the end of each excursion. The questionnaire was designed (Amante-Helweg, 1995) and distributed in accordance with the University of Auckland Human Subjects Ethics Committee guidelines. Questionnaires were distributed after the ecotourists gathered in a nearby cafe for coffee. The questionnaire was available in English, German and Japanese. A cover letter accompanied the questionnaire explaining the purpose of the study, that participation was voluntary and that responses were anonymous. Instructions on completion of the questionnaire were also provided. The respondents were allowed as much time as needed. However, it usually took them about 15 minutes to complete the survey. Following completion, the researcher answered any questions.

The questionnaire had a set of demographic items (about age, gender, place of birth, ethnicity, etc.) and a set of questions about the excursion and motivations for participating in the excursion. There was a set of questions that appealed to the beliefs and knowledge (BK variables) the respondents had about the dolphin's behavior, abilities, social structure and cognitive state. BK variables consisted of a statement that required the respondents to express the degree to which they agreed on a 7-point Likert response scale that extended from "strongly agree" to "strongly disagree" and a "don't know" response (Oppenheim, 1973). Finally, there were a set of questions related to personal values (PV variables) that required the respondents to self-rate their attitudes or personal traits; and, rank the importance of various matters in life (i.e., religion, cultural roles, etc.). PV variables consisted of statements that employed a 7-point Likert response scale as

well as an Osgood semantic differential scales that required respondents to choose between two adjectives with opposing valences (e.g., "tame" vs "wild") (Oppenheim, 1973).

### Statistical Analysis

Principal Component Analysis was used to help reveal broad psychological factors related to the respondents' perceptions of the dolphins in the beliefs and knowledge (BK variables). Principal Components (PCs) were determined from the correlations among the BK variables using PROC FACTOR (SAS Institute, Inc. 1989), with orthogonal VARIMAX rotation. Each component was associated with a cluster of highly correlated observed variables. The pattern of loadings (correlations of BK variables with a PC) was used to formulate or construct an interpretation of each component. If the pattern of loadings were not interpretable, the PC was discarded.

The four Principal Components were used as criterion variables in tests of the relationship between the respondents' beliefs and knowledge about cetaceans and their Personal Values (PV) using multiple linear regression (PROC GLM; SAS Institute, Inc. 1989). Multiple Linear Regression a statistical procedure that uses more than one variable to predict the criterion variable (e.g., predicting weight using age and height).

### Results

A total of 306 respondents completed the questionnaire, 57% females and 43% males. The respondents identified 29 countries of residence which were then categorized into regions (Table 1). These regions were identified as Asia, Europe, North Commonwealth, South Commonwealth, USA and Other.

When passengers were offered the opportunity to swim with the dolphins, 44% entered the water while 56% preferred to view the dolphins from the boat. Of those who did swim, 4% reported they were able to touch the animals. However, 100% of the swimmers reported enjoying the excursion regardless of the outcome of their swim. Of those who did not swim, 96% reported that they had enjoyed the excursion. Lack of enjoyment (five of 306 respondents) was closely linked to seasickness or lack of proximity to dolphins.

### Level of Knowledge

The respondents' knowledge of cetacean natural history was tested using fifteen factual questions related to taxonomy (e.g., "dolphins are a type of fish"), biological characteristics (e.g., "dolphins have very sensitive

Table 1. Country of Residence Grouped in Regional Categories.

Region	Country of Residence	Female	Male	Total per region
Asia	Southeast Asia	0	1	11
	Hong Kong		1	
	Indonesia	0	1	
	Japan	1	2	
	Singapore	1	0	
	Taiwan	0	1	
	Thailand	1	0	
Europe	Austria		4	94
	Belgium	1	1	
	Denmark	7	4	
	France	0	1	
	Germany	15	13	
	Holland	7	6	
	Italy	0	1	
	Norway	2	1	
	Spain	1	2	
	Sweden	6	3	
	Switzerland	8	9	
North Commonwealth	Canada	7	4	77
	England	35	24	
	Ireland		0	
	Scotland	0	2	
	Wales	1	2	
South Commonwealth	Australia	19	12	94
	New Zealand	40	23	
USA	United States	15	10	25
Other	Global	0	1	5
	South Africa	2	1	
	Zimbabwe	0	1	
<b>GRAND TOTAL</b>		<b>175</b>	<b>131</b>	<b>306</b>

hearing”), and social structure (e.g., “dolphins babysit each other’s babies”). Interestingly, the respondents’ self-reported confidence in their knowledge of animals did not correlate with the knowledge they demonstrated on the factual questions. When the respondents were asked to rate their knowledge of animals, the majority of the respondents (58%) rated themselves as having great deal of knowledge about animals. The modal number of correct responses was eight out of 15, yet less than 5% made replies suggestive of expert knowledge (12 or more correct).

### Principal Components

The Principal Component Analysis revealed four categories of attributions about dolphins. A sample of the pattern of loadings is found in Table 2. The variables that loaded on to PC1 were related to spiritual attributions. PC2 was composed of variables related to attributions of dolphins having altruistic characteristics. The variables that loaded on to PC3 were related to dolphin and human interactions. The variables that loaded on to PC4 related to perceptions of dolphin society. An interpretive description on each of these components is presented in Table 2.

### Cultural Differences in Principal Components of Beliefs and Knowledge

Principal Components (PC) revealed four categories of attributions of dolphins. Differences according to gender were most visible along the Spirituality dimension (PC1). As can be seen in Figure 1, the average PC scores for males and females were most widely separated along the Spirituality dimension, and females tended to make more positive spiritual attributions than males.

In the relationships between ethnic groups and Spirituality, Figure 2 shows that Asians tended to agree with Spiritual attributions (PC1) more than Caucasians or Other respondents. There was no clear separation between the ethnic groups along attributions of Altruism, Interspecies Sociability and Dolphin Society.

In the relationships between regions and Spirituality (PC1), Figure 3 shows that there was a wide separation between the Asian and South Commonwealth regions; and, the European, North Commonwealth and United States regions. Respondents living in the Asian and Southern Commonwealth regions were, on average, more likely to believe in spiritual attributions than those who come from Europe, North Commonwealth and the United States. Also, residents of Asian countries tended to make more negative attributions of Altruism (PC3) than did others. However, there were no clear separations between the regions along Interspecies Sociability and Dolphin Society.

### Correlation of Principal Components of Beliefs and Knowledge and Personal Values

There were no significant relationships between Altruistic attributions (PC2) or attributions of Dolphin Society (PC4) and Personal Value variables. However, Spiritual Attributions (PC1) was significantly related to the combination of “Religiousness,” “Accepting my role in my culture,” and “Preserving my group’s image.” The more religious the respondent, the more willing they were to accept their role in culture, and the more important the role of preserving the group’s image, the more likely he/she would agree with statements that make attributions of dolphin spirituality. Interspecies Sociability (PC3) was significantly related to two personal values, “Honoring of parents and elders” and “Loyalty to friends.” As the importance of honoring parents and elders and loyalty to friends increased, the respondents’ were more likely to agree with attributions that dolphins enjoy social contact with humans. Thus, subjects who rated honoring of parents and elder and loyalty to friends as very important would be predicted to make the most positive attributions about interspecies sociability.

### Anthropomorphism, Anthropocentrism, and Social Structure

Eleven percent of the respondents had an anthropocentric view of animals (“Dolphins are here for my enjoyment”). However, most respondents perceived the dolphins as having human-like emotional or psychological traits (anthropomorphism; Vicchio, 1986). The majority of the respondents (99%) strongly agreed that “dolphins are intelligent.” There was more than 80% consensus among respondents on questions related to dolphins’ tolerance and fondness of humans (“dolphins like the company of people”), and eagerness to approach boats. Moreover, the fact that Interspecies Sociability emerged as a Principal Component, suggests the certainty that most participants have in human and dolphins interaction.

Interestingly, the majority of the respondents perceived the dolphins’ social structure as being collectivistic (“every dolphin wants to belong to a group”) and structured (“every dolphin group has a leader”), regardless of the type of society the respondents grew up in.

## Discussion

### Conservation and Management

Increased knowledge of the ecotourists’ beliefs, expectations, and motivation may help managers to ascertain the value of the wildlife programs being offered; the amount of management intervention required in whale watching and dolphin swim programs; the types of

Table 2. Sample of Principal Components Loadings

BK Question	Principal Component			
	PC1	PC2	PC3	PC4
Dolphins can help humans find inner peace.	.61	.10	.02	-.01
Dolphins have healing powers	.77	.09	-.003	.08
Dolphins protect each other from sharks.	.01	.65	.05	-.02
Dolphins protect people from sharks.	.44	.64	.11	.01
Dolphins like to play near boats.	.10	.02	.65	.11
Dolphins like to swim with people.	.21	.08	.78	-.03
Every dolphin group has its own territory.	.18	-.04	-.04	.61
Dolphin mothers are very strict.	.08	.01	.10	.60
PC Labels	Spirituality	Altruism	Sociability	Society

Table 3. Interpretive Description of the Principal Components related to the Respondents Beliefs and Knowledge

Component	Labels	Description
Principle Component 1	Spiritual Attributions	People with this view either perceive marine mammals as having extraordinary abilities (e.g., ESP) or perceive them as being at an equal or higher "spiritual plane" than humans
Principal Component 2	Altruistic Attributions	People with this view believe that marine mammals have sentimental feelings and concern about each other and humans.
Principal Component 3	Interspecies Sociability	People with this view perceive dolphins as being sociable and interested in interacting with species other than dolphins (e.g., humans).
Principal Component 4	Attributions of Dolphin Society	A view in which people use the social norms of human cultures to interpret whale and dolphin social structure.

campaigns needed to enhance animal conservation and welfare; and to use information gathered as a guide for policy development.

### Education

The general public do not easily recognize or understand most of the philosophical, educational, economic, or ecological values of wildlife. The study I have described can provide information on ecotourist knowledge that can be used to guide educational programs. On-going research will help determine the effectiveness of educational and management programs that are established.

### Social Science

It is absurd to treat customers as if they were identical clones. We have to recognize that men and women view things differently, people of different ages view things differently, and people of different cultures view things differently. By carrying out similar types of studies, we may reveal patterns of behavior and thought among ecotourists from various cultures. One future direction could include human ecology factors in our understanding of ecotourists attitudes and motivations.

### Ecotourist Operators

Smith (1977) noted that the types of visitors in an ecotourist program can sequentially change from wildlife specialists to wildlife generalists (general public). As an ecotourism programs becomes popular, the type of participants change from mainly wildlife specialists, to a mixed group of specialists and general public, to wildlife generalists (general public). Learning what type of knowledge your customers have can help you determine what stage of development your operation is. For at example, because less than 5% demonstrated expert knowledge of animals, it would appear that this Swim Program is entering the final stage of development.

By knowing your customers, you may able improve upon the services you provide to your customers; be better able to effectively deal with the "experience" or "lack of experience" that your customers have of or with wildlife; learn about the kinds of expectations your customers bring with them to your program; and, increase the probability of achieving customer satisfaction. In conclusion, by knowing your customers, you can increase their enjoyment therefore your operation's success.

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# THE WHALE-BASED TOURISM INDUSTRY IN AUSTRALIA: A NATIONAL OVERVIEW

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**Abstract:** *The migratory path of the humpback and southern Right whales from Antarctica to their breeding grounds in the warmer Northern waters envelopes the south, east and west coastlines of the Australian island continent. Attracting over 600,000 whale/dolphin watchers per annum, issues arising from the need for conservation of the resource, for legislation/licensing, for education/interpretation and for a comprehensive code of practice are accelerated by the industry's rapid growth and commercial impact. The whale/dolphin watching industry in Australia is seen to be at a crucial point of development, when serious thought is given to constructive co-operation between all stakeholders and pro-active planning. A national perspective of the whale-based tourism industry in Australia will be given—its state of development, problems, and proposed solutions.*

**Keywords:** *whale watching, Australia, conservation, tourism*

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## Natural and Cultural Setting

The migratory path of the humpback and southern right whales from Antarctica to their breeding grounds in the warmer northern waters envelopes this island continent, which has been isolated from major land masses for millions years. The mythological connections between whales and the aborigines of Australia have been strong and persistent through the ages, as their rock engravings and bark paintings illustrate. Walking along the foreshores and through the national parks of Sydney, the many engravings on the flat surfaces of cliffs and headlands portraying whales, amongst totemic representations of kangaroos and emus, bear witness to the importance these marine mammals held for the Aborigines.

Many a story of cooperation between man and the smaller toothed whales, the dolphins, are told by the original owners of the land down under, the aborigines. Like the one about a pod of dolphins which used to drive mullet into a bay towards the waiting aboriginal tribe, for the benefit of all—ull bellies for dolphin and man.

By contrast, the whaling industry decimated whale stocks from the early 1800s until 1978. Whaling stations mushroomed around the shorelines, concentrating

especially on the Tasmanian east coast and the region around Albany in Western Australia, which is close to the prime calving grounds for southern rights along the Great Australian Bight.

## The Resource

Today, Australia and her neighbour New Zealand are well on the way to develop a strong tourism industry based on observing cetaceans in the wild—primarily humpback whales, southern rights and inshore bottle-nose dolphins.

### Humpback Migratory Routes

Humpbacks leave their Antarctic feeding grounds at the onset of the antipodean winter on their annual trek to their breeding grounds in the warmer tropical waters of Australia. Their numbers are increasing at a healthy 8 to 10% per year, but because of the severe depletion of stocks, humpbacks are still considered vulnerable under the Endangered Species Protection Act. The latest estimate of the two humpback populations is between 1,500 and 2,500 animals on the east coast, and approximately 3,000–4,500 in the west (Anderson et al., 1995).

### Southern Right Migratory Routes

Total numbers of southern right whales have still not recovered sufficiently to be taken off the endangered list under the Endangered Species Protection Act, 1992. Their populations came to be at such dangerously low levels because whalers regarded southern rights the 'right' whale to kill—they do not sink and provide plenty of blubber for oil production. They were hunted nearly to extinction and their numbers have been slow to recover. Southern rights give birth to their young in the sheltered bays of Australia's southern coastline, the most famous stretch being the Great Australian Bight with its spectacular land-based whale watching spots.

Marine mammals are not only under pressure from an increase in whale watchers, they are vulnerable to pollution of waterways and inshore developments which impact upon the coastal zone. The last five years have seen an intensification of boat traffic on the water. How many collisions already occur between boats and whales or dolphins we will never know; it is usually not until these occurrences are highlighted in the news, as they did when several boats had to be pulled out of the annual 'Sydney to Hobart' yachting race because they had collided with whales.



## Legislation & Management

State conservation agencies are responsible for the resource in Australian waters three nautical miles from agreed shore baselines. Marine parks come under a different jurisdiction. Seaward beyond the state and regional waters, whales are protected by the Commonwealth Whale Protection Act 1980 by the Australian Nature Conservation Agency (ANCA) within the limits of the 200 nautical miles of the EEZ (Exclusive Economic Zone). As the federal body for conservation, ANCA is seeking to promote pro-active strategies to resource management and protection. These considerations have contributed to attempts to improve relationships between the Australian tourism industry, government conservation and management agencies, non-governmental organisations, communities and the industry. What events have led to the interest of the Australian national government to take an interest in the whale/dolphin tourism industry?

In July 1995, ANCA co-sponsored with the Federal Department of Tourism the *Encounters With Whales '95* conference/workshop at Hervey Bay. Papers and workshops were linked to the broader issues of conservation and management, legislation, research and education, and the sustainable development of the whale based tourism industry. One of the major recommendations of the Tourism Specialist Working Group, endorsed by the conference as a whole, was the establishment of a national representative whale watching body to be formed by industry. It was recognised that a consultative and voluntary approach is more likely to promote a long-term commitment towards effective resource management and environmental improvements. There is increasing awareness at federal and state government level that emphasis needs to be placed on the forging of partnerships between all stakeholders and on the initiation of informed dialogue.

As a result of that recommendation, I have recently completed a consultancy for ANCA investigating the feasibility of such a national whale and dolphin watching industry association.

I will now provide you with a quick overview of the geographical spread of whale based tourism centres in Australia and briefly touch on the results of the study. How large is the current industry and how rapidly is it growing?

## Australian Whale-Based Tourism Centres

### Queensland

The whale watching operations at Hervey Bay in Queensland are the most mature sector of this industry. The waters of the Hervey Bay Marine Park offer a reliable stop-over and resting place for humpback whales migrating from their more northern breeding grounds. From the beginning of August to late October, mothers and calves and other members of the migrating groups frequent the bay. The fleet comprises of 20 vessels of varying boat sizes and capacities; all whale watching activities are licensed under the Nature Conservation Act 1992 and managed by the Queensland Department of Environment & Heritage at Hervey Bay.

Further north, in the Whitsundays, several whale watching vessels operate mainly in the open sea by intercepting migrating whales. Conservation issues include control of opportunistic whale watching from the increasing number of pleasure craft in the Whitsunday Passage. In addition to the high-speed-large passenger vessels, radio contact can quickly bring many boats to where whales are present. Harassment of whales has been of growing concern to the conservation agencies.

### New South Wales

Boat-based whale watching centres in NSW have started to develop from small charter boat and fishing vessels at Coffs Harbour, Eden and Narooma. Byron Bay in the north of the state offers a land-based vantage point and a whale information centre. Southern rights are lately found frolicking in full view of Sydney's beaches. Last year the whales created a boom in smash repairs on the Northern beaches as drivers, totally absorbed in the excitement of whale spotting, bumped into the cars in front of them, whose attention was doubtless equally diverted. In all other areas of NSW the industry focuses on bottlenose dolphins. There is Jervis Bay, a marine park 2 1/2 hours drive south of Sydney, and Port Stephens, approximately 3 hours drive north of Sydney. Only recently, Port Stephens has declared its intention to become the "Dolphin Capital of NSW."

### Tasmania and Victoria

Whale watching in Tasmania started, as in so many other places, through sightseeing and fishing/diving trips. There are regular appearances of humpback and southern rights, and a semi-resident and friendly dolphin pod in southern Tasmania that actively seeks out kids on surf boards,

playing with them. As the local ranger describes it, "The 'play' included tipping the kids off their board. The locals involved kept it quiet and would not even tell me initially where the dolphins were when they rang me to seek advice on feeding. They [the locals] readily accepted a no-feeding rule." Humpbacks tend to enter Great Oyster Bay, where they spend a day and then move on northwards. Southern rights tend to hang around for a few days, sometimes a few weeks.

### Victoria

The heart of the whale watching industry in the state of Victoria is Warrnambool, and it is mainly land-based whale watching. There is a strong dolphin-centred industry close to Melbourne, at Port Philip Bay, which has a small fleet of dolphin cruises, some of which specialise in swims with wild bottlenose dolphins. A voluntary code of conduct has been established by operators in collaboration with the conservation agencies. However, it proved somewhat inadequate. Competitiveness between operators has been known to overrule environmental sensitivities, and as with any other human endeavour, the grade of sensitivity varies amongst operators. As a result, an amendment to the Wildlife Act is presently tabled in parliament to provide legislative support to the voluntary code of conduct.

### South Australia

The sheltered bays of the Great Australian Bight are the southern rights' calving and breeding grounds, and these large frolicsome whales with their curious calluses can be watched from vantage points along the spectacular cliffs of the Bight. Victor Harbour has a well-designed Whale Centre, which provides visitors to the Bight with educational material and information. Only last month the South Australian government has proclaimed the Great Australian Bight Marine Park to protect one of Australia's most important habitat areas for southern right whales and Australian sea lions.

### Western Australia

Whale watching around Perth has grown since 1989 from existing tourist operations. The average trip to find the migrating humpback whales is only approximately one hour's boat drive out of Perth. But ocean conditions influenced by the warm southward-flowing Leeuwin current are very variable and can, at times, make outings for whale watching unpredictable. Further away from a major city and port of entry are two developing whale based tourism centres, one is around Albany on the south coast of the state and the other in the north around Port Headland.

The most famous site for interactions with bottle nose dolphins is still Monkey Mia in Western Australia, ever since interactions between dolphins and humans changed into a commercial enterprise in the late 1960s. Bunbury, a small town south of Perth, has deliberately developed a tourism industry based on dolphins. The town fathers employed a dolphin trainer to attract a pod of dolphins, which for years had been fed and befriended by an elderly female resident. Bunbury now has Dolphin Beach, where wild dolphins come and interact with people. Further north, on the same stretch of coast towards Perth, at Rockingham, a sole operator offers swims with the resident pod dolphins pulled along by an underwater scooter.

## Impact on Communities

One of the issues that will arise from the intensity of the industry's rapid growth and commercial viability is its potential to substantially transform communities. You are aware of the impact here in Hawaii and in other whale-based centres in the U.S. There are international examples, such as Puerto Piramides in Patagonia, Argentina, Hermanus in South Africa, Dingle in Ireland, and closer to home, Kaik-oura in New Zealand. Thriving marine mammal destinations such as Monkey Mia and Hervey Bay are prime examples of two communities in Australia. It is essential to integrate and plan for community consultation and continuous conflict management during the development processes of whale-based tourism. Social and economic impacts need to be understood and synthesised, or backlash reactions can be expected to occur. Port Stephens, for example, is presently facing some opposition to its development as the "Dolphin Capital of NSW" from its many elderly residents who see the expansion of tourism in their quiet retirement retreat as a reduction in their quality of life.

## World and Australian Whale Watching Figures

In Hawaii, commercial and recreational whale and dolphin watching has continued to grow rapidly. It is one tourism sector which is largely demand driven, and in 1994 alone over five million whale watchers provided world-wide direct revenues of over US\$120 million (Hoyt, 1995).

In the three years between 1991 and 1994, the number of whale watchers in Australia and the direct revenue from whale watching has more than doubled—from an estimated US\$3.1 million in 1991 to US\$7 million in 1994 (Anderson et al., 1995).

The whale watching industry is characteristically of a varied nature, and Australia is no exception: Management challenges are created by the highly seasonal nature of the whale watching and by the different priorities in the dolphin and whale watching segments. Different stages of industry development co-exist within states and on the eastern and western coast in Australia. The size of the operations varies from 'mum & dad' family businesses to "super cats" capable of carrying hundreds of whale watchers. In addition, the degree of dedication ranges from incidental engagement in opportunistic whale watching to dedicated whale/dolphin watching.

There can be no question that long term viability and profitability are directly related to maintaining the integrity of the resource base. It means that in a national context mechanisms for the protection of cetacea need to be found that transcend established jurisdictional boundaries. In preference to increasingly stringent legislative requirements, emphasis is to be placed upon adoption of voluntary management procedures like the use of environmental guidelines and codes of practice.

I believe that whale-based tourism in Australia is at that crucial stage when the largely untapped tourism potential can be directed in a synchronistic way with strong conservation measures to ensure protection of the resource.

### Findings Survey of Australian Operators

This was recognised by ANCA when the government agency funded the survey of all whale and dolphin watching operators in Australia to canvass their views on the establishment of a national industry body.

We found that the majority of respondents who supported the formation of the national body belonged to the core group of the boat-based whale and dolphin watching industry. This core group is characterised by a high degree of dedication to whale watching and a high estimated direct income.

The operators determined that the functions required of the national body are:

- to serve as a forum for discussion and for coordination of cooperative strategies within the industry;
- to act as a lobbying body for representations to government conservation and tourism agencies;
- to coordinate product development, such as marketing and event organisation, and

- to provide coordination for funding for research and education.

Respondents were primarily concerned that issues of accreditation, codes of practice and standards are addressed at a national forum, as well as their concerns with management of licenses and research priorities. The national body is seen to take a role in the coordination of marketing, product development, maximising state and regional tourism opportunities and the monitoring of tourist expectations. Provided government funds are available, we will be moving into a stage of industry consultation around the country, to collectively finalise the form and structure of the national association and to choose a representative from each region as the spokesperson. A national meeting between regional representatives is scheduled to take place at the end of this year to finalise the charter and incorporation of the association.

Will the projected growth rate stabilise or continue growing? With an estimated global annual growth rate of 16.7% in direct and indirect revenue from whale and dolphin watching, there are no signs that the public demand for whale watching will abate. At present, Australia has not been marketed as a whale and dolphin watching destination in the international tourism market. The industry is relying almost exclusively on the national market, which provides only a small base of 18 million people. We will need to look in a coherent fashion in Australia at how we market the industry and define tourist expectations—and how such activities are integrated into regional development of nature based tourism. Whale and dolphin watching in Australia is still contained in early stages of growth. This also means, of course, the advantage that the industry can still be guided in its development. One other great advantage is that in some states a licensing system is already in place, which can serve as a platform for the development of codes of conduct and conservation principles. In particular, long-term monitoring programs are essential if the human impact on the environment is to be effectively identified and distinguished from natural influences and fluctuations.

The conflicting objectives of resource utilisation and resource protection are best served by a national strategy which supports strong cooperation and mutual benefit and understanding between government and industry. The development of management plans in consultation with the stakeholders is to ensure inbuilt mechanisms are put into place for ongoing evaluation and review of the system.

Australia has a very real chance of establishing a national whale and dolphin watching industry firmly built upon a framework of voluntary cooperation with industry taking the initiative in the co-ordination and implementation of a national strategy for whale-based tourism.

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# ECOSTAR: A PROGRAM FOR IDENTIFYING ECOTOURISM ACTIVITIES THAT SUPPORT SUSTAINABLE DEVELOPMENT IN COASTAL REGIONS

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**Abstract:** ECOSTAR is a proposed program which recognizes organizations, corporations or activities that adhere to a standard of development or operation that causes minimal adverse environmental impact.

*Increases in tourism have brought many coastal regions to a threshold at which the experiential satisfaction of the tourist and economic satisfaction of the investors begin to decline due to degradation of the environment. Ecotourism combines ecology and tourism in an educational experience together with preservation of the visited environment. To achieve successful ecotourism and establish sustainable development within coastal regions it is necessary that ecotourism planning becomes the leading tool for promoting environmental protection. The ECOSTAR program can identify successes in this area. The criteria for ECOSTAR must be based on national and international standards for physical, chemical and biological indicators of an ecosystem's air, land and water condition. Qualitative and quantitative parameters will include such parameters as: biological oxygen demand (BOD), chemical oxygen demand (COD), CO<sub>2</sub>, rainfall, hydrography, biodiversity, etc. To earn an ECOSTAR, the activity should have no or little adverse impact on the environment. The evaluation of this impact involves scientific assessment of each area affected by the tourism activity. Hotels and other tourism-related infrastructure will benefit economically and ecologically by supporting long-term resource management solutions. Competition within tourism will now be based on the quality of the environment and preservation of the environment as well as stars for human creature comforts. With the implementation of ECOSTAR, ecotourism can become a legitimate force for preserving biological diversity, socio-cultural heritage, and promoting sustainable development upon which coastal development depends.*

**Keywords:** ecotourism, coastal management, ECOSTAR, sustainable development

## Introduction

Ecotourism has captured a special niche in the overall tourism industry because many people care about and are

concerned with the natural world. What exactly is ecotourism and what are its implications to an area or region that has to potential to develop an ecotourism industry? The Ecotourism Society defines ecotourism as:

- purposeful travel to natural areas to understand the culture and natural history of the environment;
- taking care not to alter the integrity of the ecosystem(s); and
- producing economic opportunities that make the conservation of natural resources beneficial to local people.

Ecotourism proponents claim to offer a source of financing for development or maintenance of natural/cultural sites; to serve as a catalyst for local economic development and provide foreign exchange and national benefits; and to create an awareness of conservation issues and actions. However, these claims are more often rhetoric than practice. Why?

"The way to hell is paved with good intentions." <sup>2</sup> Ecotourism was established with good intentions and in the main tries to be environmentally sensitive, but the "good" feeling or experience gained by people engaged in ecotourism does not necessarily mean that nature also experiences a "good." In many instances ecotourism can have the same negative results and adverse impacts on the environment as tourism in general: environmental degradation, ecological damage, negative impacts on local culture (Table 1).

Ecotourism is primarily concerned with exploitation of ecological/cultural systems to attract customers. Few, if any, presently used resource management models incorporate ecotourism. As a result, ecotourism enterprises have little hard scientifically based criteria against which potential positive, neutral or negative impact on the resources upon which they depend can be measured. If ecotourism is to succeed in a long term sustainable manner, analysis of ecotourism business decisions must be based not only on current, realistic estimates of costs and benefits to the entrepreneur, but also must be constrained by achieving desired outcomes within ecological limitations. The philosophical and conceptual models of social and economic dynamics that form the basis of most current decision making fail to account for the spatial, temporal and cultural heterogeneity that characterizes the real world of natural resource management.

Ecosystems, although frequently described as "fragile" have remarkable powers of resiliency. As long as basic processes are not irretrievably damaged, ecosystems will continue to recycle and distribute energy, sustaining the resources upon which we rely. A healthy functioning ecosystem not only sustains itself, it can also sustain local human communities, economies and industry. The term "sustainable development" implies the informed,

Table 1. Examples of negative environmental impacts of tourist activities to protected natural areas.

(Adapted and modified from Bahamas National Trust, 1994)

FACTOR INVOLVED	IMPACT ON ENVIRONMENT	CONSEQUENCE	WHERE OCCURRING
Overcrowding	Environmental stress, changes in animal behavior	Reduction in quality, trail erosion, disruption of breeding	Amboseli (Kenya) Contoy (Mexico) Galapagos (Ecuador)
Noise	Disturbance of natural sounds	Irritation to wildlife (and visitors),	Poas (Costa Rica)
Powerboats	Disturbance of wildlife, noise pollution,  Discharge of oil/grease	Interference with nesting  Contribution to contamination	Rio Dulce(Guatamala)
Litter	Impairment of natural scene	Aesthetics, hazards to animals	Everywhere
Careless use of fire Firewood collection	Forest fires  Habitat destruction	Scarring of landscape, wildlife mortality, deforestation	Sumidero (Mexico)
Feeding of animals	Behavioral changes of animals	Disruption of the food webb, dependence of animals on artificial food sources	Galapagos (Ecuador) Cayman, (Bahamas)
Souvenir collection	Removal of natural attraction, disruption of natural processes	Depletion, death of reef	Great Barrier Reef (Australia)
Untreated sewage discharge	Change in water quality, ground water pollution	Eutrophication, decreased oxygen levels	Bojorquez Lagoon, Poas (Costa Rica)
Roads and trails	Habitat loss, landscape scars	Aesthetic degradation, increased erosion	Monteverde (Costa Rica
Drainage	Water table lowering	Mangrove destruction	Bojorquez Lagoon (Costa Rica)

conscientious management of the natural resources that are exploited or utilized by humans so that these resources may be capable of exploitation over time.

Ecotourism strategies should be established and supported within the context of natural resources limitations and socio-cultural constraints. A region's cultural heritage and natural resources should define the tourist carrying capacity of the region. The carrying capacity refers to the size of the population, human and other species that a given environment can support. If done appropriately, ecotourism can become an important educator of environmental awareness and a positive force in maintaining a region's natural and cultures attractiveness.

### The ECOSTAR program

The ECOSTAR program being proposed here attempts to account for both the ecological and cultural complexities of the environment supporting ecotourism, but with the results of complex interactions expressed in a form simple enough to be understood by people of varied backgrounds and inclinations. It is an attempt to integrate ecological principles into programs for quality ecotourism promotion. It identifies environmental constraints and impacts for each potential use (e.g., hotel, marina, scuba diving, whale watching, etc.). It is designed to improve information on environmental change in response to specific activities and provide guidance on policies on the use, conservation and restoration of living resources to among other things sustain the resource base for ecotourism. As technical advisors to resource managers, we hope planning for ecotourism will guide the formulation of rational and integrated long-term social and economic policies for our area of interest, the coastal zone. ECOSTAR can play an important role in this planning process.

Tourists use many personal decision "models" to select their vacation experiences. These models incorporate factors ranging from individual financial constraints to personal desires for a given experience. Often the "data" used in the model are coded in symbolic language (\$ signs for cost with the number of \$s indicating the degree of expense; eating utensils or stars indicating some organization's evaluation of the quality of meals, accommodations, etc.). Some attempt to incorporate such symbolic data into the ecotourism field has been attempted by applying labels such as "green" to certain establishments that attempt to avoid environmentally damaging practices and/or agree to adhere to certain "environmental ethics."

This ECOSTAR proposal is designed to apply the most rigorous scientific and technical analysis available both to the ecotourism activity and to the region in which the activity is located or conducted. The result of this analysis

will be an evaluation of a given activities impact on the environment or resources upon which that activity depends. If the activity is benign or positive towards the resource or cultural attribute of concern, then the activity could be awarded an ECOSTAR .

If the motivation for ecotourism is not just a passing fad, what establishments do you think the committed ecotourist would opt to support? Those that only advertise about the natural beauty or experiences they provide, or those that have been independently rated and commended for their environmental and cultural concern while providing the experience desired by the potential visitor. In addition to assisting the prospective tourist in selecting from a range of options, ECOSTAR also provides education through which the tourist becomes an active part of the implementation of sustainable development, an emerging global concern. Sustainable development stops being a vague academic or political term, and becomes part of the personal decision-making model of the committed ecotourist.

ECOSTAR in essence is a proposed program that would allow organizations in the ecotourism field to be recognized for activities which are conducted with minimal adverse impact on the environment or cultural base which they showcase. The evaluation of impact would be based on sound environmental, ecological and social science principals. The ultimate goal of the program is to provide a readily understood, simple means of indicating the results of sophisticated and scientifically sound analysis of an activity on the environmental and cultural resources of a region.

It is not possible in this brief paper to completely develop all of the possible criteria that would have to be incorporated in ECOSTAR in order to make the program effective in the way that other "star" rating programs for hotels or restaurants have become. The criteria would be different for each activity. A SCUBA diving operation for example might be rated on such factors as: use of mooring buoys as opposed to anchors in coral areas, stressing ecologically sound diving in pre-dive briefings, limiting the numbers of persons in sensitive areas, use of holding tanks for boats wastes, etc. A hotel, for example, might be rated on use of native flora in landscaping, siting to minimize disturbance of native flora (and fauna), waste disposal plans that do not adversely impact environmentally sensitive areas, etc.

If successful, the ECOSTAR should be a positive factor in the success of those businesses that conduct their operations in a sustainable fashion and be a factor in the failure of those few businesses which operate in selfish, "all for today don't be concerned with tomorrow attitude."

Do we know enough about the environment to establish an objective, defensible evaluation system? In most cases, probably Yes! There exist today well documented and well understood criteria in a number of areas important both to ecotourism and the natural resource base upon which tourism depends. Scientists, planners, and engineers can provide effluent guidelines or criteria for aquatic and air waste discharges. Ecological models and resource use impact models can be coupled to look at an individual activities impact. Many nations have enacted waste discharge limitations into law or regulation. These guidelines or criteria can serve as the starting point from which the ECOSTAR evaluation can begin. Those criteria or regulations are, however, usually based on a stated goal to protect human health. ECOSTAR must extrapolate the effect of human health based regulations on the environment and recognize the need to do more than the minimum to protect just people.

#### **How can ECOSTAR be administered?**

To maintain the credibility of the ECOSTAR award, the issuing organization must not be subject to undue influence by any individual tourism organization or any group of organizations. Probably the ideal ECOSTAR administering agency would be a not-for-profit organization supported by individuals who believe in the concept of ecotourism and want to be assured that the establishment they patronize are truly engaged in practices that are not detrimental to the environment or cultures they showcase.

Could an international organization develop the specific schema to be used for ECOSTAR evaluation? Yes and no. The most appropriate level to develop the scientific criteria to be used for the ECOSTAR program in a region is the region itself. The program would probably be most efficiently run on a regional basis. To be truly acceptable, there should be a central or international oversight. What would constitute a region? This would depend upon a number of factors ranging from the ecological integrity to the amount of ecotourism activity. From the ecological integrity prospective, an appropriate region would be one in which the significant impacts of activities could be internalized within the region. This would allow such factors as "carrying capacity" effects to be fully evaluated.

The amount of ecotourism activity in a region could come into play if a region were particularly large and ecotourism extensive. The logistics of thoroughly evaluating a large number of activities over a vast area might indicate the need to subdivide a large region into smaller more manageable areas. Regions that might be appropriate could be the Eastern/Western Mediterranean, the Baltic, the Caribbean, etc.

#### **How would ECOSTAR be funded?**

Ideally ECOSTAR would best be funded by individuals committed to the principles of ecotourism through such mechanisms as membership dues, the payment of which provides the member with the results of the ECOSTAR evaluations as part of their membership. Non-members could obtain the information through purchase of the reports at substantially higher price. Unfortunately, this is probably not realistic until the value of the program is widely recognized. The cost of initiating a program such as ECOSTAR on any significant basis would probably need infusion of start-up capital. Such capital might be solicited from private foundations, or such organizations as the World Bank (Global Environmental Facilities) or UNEP (United Nations Environment Program) that are attempting to encourage sustainable development. Perhaps those segments of the ecotourism industry or national resource management agencies that believe a program such as ECOSTAR would benefit the industry and a nations resources would provide the funds through a third party organization such as the Ecotourism Society.

#### **Who should evaluate firms for the ECOSTAR award?**

Evaluating and rating could be done either by a paid staff (very expensive) or a combination of paid and volunteer staff. A paid staff could be retained to maintain records, schedule reviews and handle all of the other administrative necessity required of any responsible activity. The volunteers, once appropriately trained, could conduct the actual information gathering related to the rating and submit recommendations to the paid staff who will complete the process. If ECOSTAR was integrated into a nation's resource management, perhaps government employees could fill the role envisioned for volunteers. The staff that evaluates and assigns ratings must be appropriately trained to use the schema developed for the particular tourism activity in that region. Specific training should be conducted on a regional basis. The International "headquarters staff" would have the very critical function of ensuring that the regional organizations operated in compatible ways and that the integrity of ECOSTAR, although awarded on the basis of regional criteria, was maintained at a high and comparable level from region to region.

#### **Discussion**

We all may agree about the presence of certain environmental problems, we may even come to agreement on the relative importance of these. What often is the case, however, is disagreement on the way to resolve these problems. As the level of environmental awareness among the general public grows, so does its concern with broader global resource management issues. There is often a sense



that resolution of these problems is beyond the ability of any one or small group of persons. This pessimism need not be.

Technical solutions to most problems in the environment do exist. Unfortunately science and technology are often pushed aside for short term social or economic considerations. Ecotourism is an area in which there is a commonality of social, economic, scientific and technical considerations. Through implementation of ECOSTAR, ecotourism can become a model of the application of science to further both economic and environmental goals.

ECOSTAR can be a working example of the oft quoted slogan "Think globally, act locally." Ecotourism enterprises and resource problems can be evaluated in a specific local or regional framework in a globally compatible context.

#### **What are some of the global issues that can be addressed locally or regionally?**

Biodiversity. Coastal regions are considered among the most biodiverse regions on earth (Ray, 1995). Does feeding of wild animals (sharks, sting-rays), threaten an ecosystem's biodiversity? How does feeding a species interfere with interspecies dependence and interactions within a food-chain(s)? Questions like this could be addressed in evaluating an enterprise that brings ecotourists into close proximity to free roaming animals. Wouldn't a description of a regions biodiversity, including the status of threatened or endangered species in the region along with the measures being taken by a specific ecotourism activity attract positive attention?

Water quality. Ecotourism (and tourism in general) requires some level of infrastructure (hotels, marinas, roads). What technology for sewage system treatment is most appropriate for a given environment? Can sewage be treated in a region at all? Or should it not be treated but be removed to an entirely separate area? Are BMPs (Best Management Practices) used in the development and maintenance of ecotourism infrastructure?

There are national and international standards for physical and biological parameters as indicators for water-quality control. Why don't we measure or at least report on them through a monitoring project established under the ECOSTAR program, and present the results of the monitoring to potential tourists? Imagine the educational (and marketing) impact of tourist brochures with beautiful pictures of beaches, lakes, forests, along with current information on the condition of the pictured ecosystem (using parameters such as coliforms, BOD, COD, pH, salinity, transparency, heavy metals) and descriptions of the measures taken by the ecotourism activity to show that they are not degrading the environment.

Air quality. Reporting on quality and quantity of precipitation (acid rain, CO<sub>2</sub>, airborne pollution, etc.) and the practices used by the ecotourism activity to prevent atmospheric degradation could have the same impact on the marketing of those activities with a recognized potential for air pollution.

Regular reporting of problems with air or water quality that are clearly not caused by ecotourism activities could result in a an increased public pressure on the polluting industries to clean up their activities. The possibility of this latter effect should appeal to environmental and resource managers who are always in need of public support for environmental regulations. Many areas have the potential for ecotourism that may not exist at this time. A program like ECOSTAR may be able to turn degraded or damaged environments around so as to create even more opportunities for ecotourism.

In the Mediterranean region, tourism is the largest industry. Yet uncontrolled development and thoughtless use of nature has taken a toll of this regions resources and resource base (Godfrey, 1995). In this same area the degraded coastal zone is the focus of many international conventions and organizations trying to find solutions to the problems created by mass tourism. The disenchanted tourist is moving toward pristine islands to capture what use to be on the mainland. How soon will tourism ruin the pristine islands? Are we going to learn from our mistakes or repeat them?

A good example of the combination of pristine and degraded coastal regions in close proximity is the Adriatic Sea. The Croatian coast for example has 1,233 islands of which only 66 are presently inhabited and 650 have the potential for habitation. How should tourism on these islands be developed? The senior author is presently engaged in an exercise to develop and apply an integrated model for coastal zone management to this region. Ecotourism, along with other sustainable activities (e.g., agriculture, aquaculture and alternative energy generation) are being highlighted in this integrated model.

UNEP (United Nations Environment Project) has done several projects on Mediterranean islands (Rhodes, Greece, for example, PAP, 1993), and the Intergovernmental Oceanographic Commission of UNESCO has organized several workshops for Small Island Developing States (IOC, 1992; IOC, 1994). Those workshops have produced technologies and new scientific approaches that might be useful in ecotourism development strategies such as integration of satellite imagery analysis with Geographical Information Systems (GIS). Despite much theorizing there has, however, been very little empirical study of how sustainable development can be realized in a specific region.

Considering increasing human population pressure, changing socio-economic structures, fluctuating environmental conditions and on-going exploitation of natural resources, coastal areas need an integrated, interdisciplinary management strategy founded on principles that will enable long-term sustainable development. Coastal zone management must be scaled to regional attributes and processes with special attention given to land sea interactions.

Within the limits of sustainable development, however, many options for environmental/social development exist. Successful resource management requires knowledge of the consequences of each particular use and the awareness that each decision reduces the remaining options. The present level of physical disturbance (coastal engineering, dredging), chemical disturbance (nutrient and toxic pollution) and biological disturbance (fishing, eutrophication), represents an unsustainable use of coastal ecosystems reducing their capability to adapt to natural or anthropogenic variations in environmental conditions.

With the implementation of ECOSTAR, ecotourism can become a legitimate force for preserving biological diversity, socio-cultural heritage, and promoting sustainable development upon which coastal development depends.

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Management and Policy at the Virginia Institute of Marine Science/School of Marine Science (VIMS/SMS), College of William & Mary. She is presently the holder of an international fellowship from the American Association of University Women. Before enrolling in the College of William & Mary she was an Ecologist-Limnologist at Plitvice Lakes National Park in Croatia. Dr. Lynch is a Professor of Marine Science with VIMS/SMS and the manager of the Chesapeake Bay National Estuarine Research in Virginia. ECOSTAR was first conceived by the senior author, Ms Frankic in October 1988 during a UNEP workshop in Athens, Greece. Since that time she has discussed this with many colleagues who have encouraged her to develop it fuller. We are particularly grateful for the encouragement of Ms. Joan Martin-Brown, Environmentally Sustainable Development Section, World Bank, Mr. Helmut Schreiber, Environmental Department, World Bank, Dr. G. Carleton Ray, Environmental Science Department, University of Virginia, and Ms. Elizabeth Boo, author and ecotourism champion. This paper is Contribution No. 2012 from the Virginia School of Marine Science, College of William & Mary.

<sup>2</sup> English proverb, 17th Century.

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## ENDNOTES

- <sup>1</sup> Ms. Frankic is pursuing a doctoral degree in Marine Science with an emphasis on Resource

# HOTEL ENVIRONMENTALISM: A LUCRATIVE PROPOSITION

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**Abstract:** *It is time for the lodging and hospitality industry to heed the call of today's consumers who seek environmental responsibility from their goods and services. With cooperative effort and foresight, a comprehensive hotel environmental program can be easily implemented and result in remarkable cost savings and increased revenues. To create a successful, profitable environmental program a property must focus on the following:*

**Solid Waste Management**—*Solid waste reduction, reuse, and recycling strategies must be developed, and waste disposal service selected, in order to reduce waste hauling costs. Eco-sensitive purchasing guidelines need to be established.*

**Energy Efficiency**—*All energy consuming equipment and facility-related components of the property need to be evaluated. Operational guidelines need to be developed to ensure maximum efficiency and conservation.*

**Water Conservation**—*Consumption patterns and rates; related equipment; and conservation and preservation efforts must be analyzed.*

**Legislative Review**—*All governmental environmental regulations must be reviewed to ensure that the property satisfies legislative compliance.*

**Employee Education**—*An internal marketing campaign must be developed to increase employee motivation and understanding, and guest awareness of the hotel's environmental initiatives.*

**Community Involvement**—*The fostering of cooperative relationships with local government, charities, businesses, and conservation and citizens groups will enable the hotel to more easily attain its goals.*

*A hotel must consider these categories in the context of its own particular circumstances in order to maximize operating cost reduction and marketing revenue. Each hotel will have a unique set of variables. At the Hyatt Regency Scottsdale, for example, a comprehensive environmental program was implemented in August 1995. In just a few months, hotel operations and employee mindset had changed: over 8.5 tons of leftover food was donated to Waste Not in 1995; broken china from restaurants was donated to a local college art department to make mosaic tiles, and the hotel began participating in clean air and composting programs. The hotel realized substantial cost savings through its environmental endeavors. HVS Eco Services has been established to help hoteliers develop property-specific, lucrative environmental programs. The consultation consists of a property inspection to evaluate the hotel's environmental performance in the above-outlined areas. Furthermore, hotels that are able to demonstrate a heightened level of environmental sensitivity are awarded the ECOTEL Certification, a 5-Globe award by which lodging facilities can measure their environmental performance and on which environmentally conscious travelers can base their lodging decisions.*

**Keywords:** *hospitality, industry, waste management, efficiency, conservation, education, community involvement*

## Introduction

It is time for the lodging and hospitality industry to heed the call of today's consumers who seek environmental responsibility from their goods and services. With cooperative effort and foresight, a comprehensive hotel environmental program can be easily implemented and result in remarkable cost savings and increased revenues.

HVS Eco Services has been established to help hoteliers develop property-specific, lucrative environmental programs. Furthermore, hotels that are able to demonstrate a heightened level of environmental sensitivity are awarded the ECOTEL Certification, a 5-Globe seal by which lodging facilities can measure their environmental performance and on which environmentally conscious travelers can base their lodging decisions.

We have found that there are a number of steps a hotel or resort can take to modify its behavior and facility to directly reduce operating costs while concurrently practicing environmental sensitivity. Moreover, by implementing the recommended strategies and promoting them to the traveling public, the hotel will acquire a competitive advantage over rival properties vying for a greater market share of the burgeoning ecotourism market.

To create a successful, profitable environmental program a property must focus on the following: solid waste management, energy efficiency, water conservation, legislative compliance, employee education, and community partnership. Where appropriate, aspects from the environmental programs of two resorts—Little Dix Bay on Virgin Gorda in the British Virgin Islands and Tumberry Isle Resort & Club on the Atlantic Coast of Florida—have been cited to illustrate these five considerations.

## Solid Waste Management

A solid waste management program is effective when it incorporates the reduce, reuse, recycle loop. Therefore, strategies to accomplish these three tasks must be developed in order to reduce waste hauling costs. Additionally, waste disposal service must be selected or current waste contracts must be evaluated, and, if necessary, renegotiated to take advantage of the competitive market for waste hauling and recycling.

## Benefits of Solid Waste Management

**Avoid Costs.** Reducing the volume of discarded waste often decreases the number of waste pickups; therefore, the hotel's waste hauling costs can decrease. Furthermore, the cost to implement a solid waste management program

is preferable to and considerably less expensive than the rise in hauling costs resulting from closure of a nearby landfill and increased transporting distances.

**Offset Costs.** By implementing an effective solid waste program, expenditures on replacement items can be reduced. First, purchasing durable products reduce the turnover rate for equipment. Secondly, a preventative maintenance program, that incorporates regular cleaning and service checkups, prolongs the life of the facility's equipment. Finally, monitoring the trash flow recovers items not meant for disposal—silverware, linens, and china, for example; therefore, replacement costs are avoided.

**Public Relations.** An increasing number of consumers are demanding that businesses practice environmental responsibility. According to the Travel Industry Association of America, within the United States alone, 43 million individuals are self-proclaimed "eco-tourists" who are willing to pay 8.5% more for environmentally friendly travel suppliers. Environmental sensitivity, therefore, provides the hotel with an additional marketing tool.

**Employee Benefits.** An efficient solid waste management program values the recommendations provided by all employees, incorporates a thorough preventative maintenance program for all the equipment, and instills an attention to detail in every employee to consider methods to reduce and reuse waste. Among other things, employees experience a sense of ownership in the property, which heightens morale, and improved safety conditions by the increased efficiency of the equipment.

**Environmental Laws.** An increasing number and variety of environmental laws and regulations are being passed by governments all over the world. Therefore, the implementation of environmentally sound practices designed for a specific hotel *before* government regulations are enacted will reduce the government's influence upon the operations of a facility.

**Environmental Benefits.** Solid waste management is not just a money saving practice; it also saves virgin forests, decreases the need for continued strip mining, and saves energy, since less energy is required to create products from recycled materials than from raw materials.

**Example:** Little Dix Bay diverts a large volume of organic wastes from the landfill through two programs: Large wooden wastes are chipped and used as mulch around the property, and buffet leftovers are given to a local pig farmer to be used as feed. These are environmentally sound ways of dealing with waste that will reduce hauling costs.

## Recycling Program Design

Having knowledge of the national recycling and garbage hauling market, as well as hotel operation expertise, has enabled HVS Eco Services to develop highly cost effective recycling programs. These programs have been found to pay for themselves within two to five months, and become revenue generators thereafter. Recycling program design typically includes the following:

- Researching available recycling options and meeting with the necessary waste removal parties to discuss the most cost effective waste collection.
- Designing a program that includes bin type/size specification, bin placement throughout the property, waste disposal specification, and waste removal responsibility.
- Negotiating a recycling contract: types of materials that the recycler will accept and the necessary condition for removal, selling price of marketable materials, and additional services that the haulers/recyclers should provide (i.e., material tracking).

### Example: Cumulative Savings Derived From Recycling Program

This is a recycling contract that HVS Eco Services was able to re-negotiate for an actual hotel.

#### Material/Total Tons

Paper	180.88 tons
Metal	63.59 tons
Plastic	36.94 tons
Glass	41.29 tons
Organic	131.99 tons
Cardboard	95.00 tons

- Total amount of waste diverted per year: 549.69 tons
- Total tons of waste disposed of before recycling program: 1,086.39 tons
- Total tons of waste disposed of after implementing a recycling program: 536.70 tons

SAVINGS RESULTING FROM DIVERTING 545.18 TONS OF WASTE:

#### Total Tonnage:

Savings—Garbage	(549.69 tons x \$26)	\$14,291.94
Savings—Landscape	(119.37 tons x \$11)	\$1,306.69

#### Total Pulling Fees:

Savings (124 x 30% fewer pulls x \$89)	\$3,310.80
Savings on Spotting Fees (Landscaping)	\$400.00

Savings resulting from Re-negotiated Rental Fees for Recycling Containers:

Old Program (\$412/mo.)	\$5,283.43
New Program (\$187/mo.)	\$2,244.00
Savings	\$3,039.43

**Approximate Total Annual Savings: \$22,348.86**

### Purchasing

Purchasing guidelines need to be established to ensure ecosensitivity—both to limit ecotoxins at the property and to reduce product packaging waste. Products are a key component of a hotel operation's foundation. Purchasing decisions will affect a property's efficiency as well as guest perceptions. In order to ensure that a hotel makes environmentally sound purchasing decisions, it is necessary to develop an eco-qualified purchasing list.

Because properties pay not only for the products, but for the weight and volume of each item's transport as well, costs could be reduced by minimizing packaging. We have found that manufacturers are often willing to eliminate or reduce packaging upon request, and will often accept returned boxes and crates to reduce their product costs.

To aid in purchasing for the hospitality industry, HVS Eco Services has published the ECOTEL Product Index, a compendium of high-quality, eco-sensitive products. The index features amenities, cleaners, recycling equipment, recycled office supplies and paper, energy management and HVAC systems, irrigation and laundry systems, organic foods and wines, lighting, paints, wallcoverings, and more. All of the products have been evaluated to ensure superior performance and effectiveness.

**Example:** Because of the transporting distances and the accompanying exorbitant costs, purchasing is key to the success of solid waste management efforts on any island. At Little Dix Bay, for example, management is making a concerted effort to curtail packaging waste (over 50% of waste at the resort is packaging waste). We have found that, because their barges return from the Islands empty, the resort's purveyor is able to return some of the packaging that they deliver. This option is being explored among the groups attempting to develop recycling programs for the whole of the Virgin Islands.

### Energy Efficiency

All energy consuming equipment and facility-related components of a property need to be evaluated and operational guidelines need to be developed to ensure maximum efficiency and conservation. Furthermore, local utility companies should be consulted to identify the existence of term discounts, rebate programs, or other money saving programs.

Energy management is not a new concept. Energy costs money, thus reducing consumption reduces costs for the property. Technology and public acceptance of environmental issues have advanced to the level where hoteliers are no longer shy when it comes to making efforts to reduce consumption.

Additionally, from an environmental standpoint, there are three main factors for conservation: The burning of fossil fuels (coal, oil, and natural gas) results in pollution of the air, land and water (mining causes water contamination by erosion, land destruction by strip mining, and deforestation) and the search for alternative energy sources results in the creation of technologies (solar collection, wind turbines, geo-thermal, hydro-electric plants, and nuclear fission reactors) which may have massive impact on local and even the global ecosystems.

### Sample Energy Conservation Tactics

- Develop a formal preventative maintenance program.
- Track energy consumption and cost data in an effort to identify problem areas, track seasonal patterns, and develop conservation strategies.
- Create an energy policy to convey a formal message that energy conservation should be an important consideration in daily operations.
- Install occupancy sensors in rooms that are frequently occupied for only short periods of time.
- Implement a schedule for the periodic cleaning of all light lenses and fixtures to maintain maximum efficiency and light output.
- Consider installing an Energy Management System (EMS) to automatically control the lighting and temperature levels throughout the property.

**Example:** Tumberry Isle Resort & Club has a formal preventative maintenance program in place for the major energy-consuming equipment. When equipment is maintained according to the manufacturers recommendations, the equipment is not only more likely to last longer, but it will also run more efficiently and effectively. Therefore, to maximize the amount of energy conserved, equipment must be maintained on a regular basis throughout its life.

### Water Conservation

An effective water conservation program incorporates both new technologies—in the form of water-saving devices—and new practices, which promote efficient water use. Therefore, consumption patterns and rates for current or proposed plumbing equipment and operational conservation efforts must be analyzed. Unlike fossil fuels,

water is a renewable resource. Unfortunately, shortages of two kinds may occur:

1. A lack of uncontaminated water—water polluted by agricultural and urban runoff, leachate from near by landfills, and municipal and industrial waste.
2. Water being used at a greater rate than it is being replenished.

### Water Scarcity

Water use is directly related to land use: as development increases, so does the demand for water. To satisfy this increase in demand, municipalities are faced with few options. First, if additional water resources are available, the water district may choose to utilize these resources, passing the extra expansion costs to the consumer. Secondly, if additional water is not available—in the Southwestern United States or small island nations, for example—the water district may mandate a water conservation program, or increase the cost of water consumption. Consequently, by lowering the demand of existing customers, the water utility can connect more individuals to the water system without increasing the water supply.

### Water Purity

Environmental travelers consider not only how much water is consumed, but also how water quality is preserved. According to data from the United Nations Conference on Sustainable Tourism, over 60% of the reefs worldwide are currently decaying, and 10% are already dead. Wastewater treatment for island communities is becoming more and more important as reef protection comes to the forefront of environmental agendas, and as governments mature.

### Water Conservation for the Hospitality Industry

Water conservation and preservation is an essential component of any comprehensive environmental program. The following are the departments in a hotel that consume the majority of water.

**Guestrooms.** Utilize water for lavatories, bathtubs, showers, and in some luxury hotels, bidets. To help save water, implement an optional towel and sheet washing program or place a reminder card next to the sink and shower handles asking the guest to please conserve water.

**Laundry facilities.** Essentially, larger laundry loads (those filled with high-absorbency towels and bathrobes, for example) increase water consumption. The amount of water consumed can become excessive if tactics, such as proper loading methods, are not adopted.

**Kitchens.** In the kitchen, water is utilized to do everything from washing food to boiling pasta, and from making ice to

cleaning the table. To help conserve in the kitchen, soak pots and pans in graywater collected from cooking, thawing, and service before sending them through the dishwasher; plug the sink and partially fill it before performing tasks such as washing vegetables or thawing frozen items; and install foot pedal controls on kitchen sinks.

**Landscaping and Grounds.** Several recommendations can be implemented to reduce the amount of water used during irrigation and routine maintenance. Recommendations include making the appropriate plant selection based on the regional climate and average rainfall, altering the timing of irrigation, incorporating mulches into landscaping, and weeding the landscaped areas effectively so the plants have room to spread their root systems.

**Example:** While water conservation pares costs at all properties, savings are magnified in areas where fresh water is scarce. At Little Dix Bay, justifying water conservation is quite easy. At \$0.1947 per cubic foot, water is 10 times more expensive than even in the desert southwest of the U.S. All of the fresh water is produced through reverse osmosis, requiring approximately eight gallons of salt water to produce one gallon of potable water.

After a water audit was performed, HVS Eco Services recommended that the resort install faucet aerators, retrofit urinal valves, and install low-flow toilets and showerheads. By installing faucet aerators alone, Little Dix Bay would save roughly **\$12,000 a year**, constituting a payback period of 36 days. Similarly, installing low-flow showerheads for the property would save anywhere from \$13,000 (2.5 gpm.) to \$41,000 (1.5 gpm.) a year for the property (a 13 to 21 day payback), depending on the flow-rate of the showerhead installed.

### Legislative Review

All governmental environmental regulations must be reviewed to ensure that the property satisfies legislative compliance. In addition, an indices search should be conducted to determine if the property is currently recognized and regulated by the federal government.

**Example:** Water is a valuable commodity in southern Florida, and Dade county has enacted legislation (irrigation between the hours of 9:00 a.m. and 5:00 p.m. only) to protect it from the harmful effects of over-utilization. The Turnberry Isle Resort and Club abides by this law by watering its grounds during the early morning hours. In addition, the resort also has a collection system in place to capture the run-off from the one-square-mile watershed within the community of Aventura; this water is then used to irrigate the resorts extensive golf courses and landscaping.

## Employee Education

An internal marketing campaign must be developed to increase employee motivation and understanding, and guest awareness of the hotel's environmental initiatives.

Environmentally informed, well-trained employees perform their daily duties in an environmentally responsible manner. Guests will notice that not only does the hotel utilize efficient equipment, but the fundamental principles of environmentalism have been instilled in the employees.

**Example:** The Tumberly Isle Resort and Club offers its employees extensive environmental education in the form of an intense orientation session upon hiring, periodic departmental reviews by the environmental coordinator, and continuous reminders throughout the hotel to reuse and recycle. During inspection, every employee with whom we spoke was educated concerning the hotel's environmental commitment.

### What Employees' Think: HVS Eco Services' Employee Survey

HVS Eco Services has obtained over 2,500 surveys from a variety of hotels questioning employees about environmental programs in their hotels. A portion of the results is listed below.

- 55% of the respondents feel as though the hotel they work at is not environmentally sensitive.
- 90–95% of the respondents are willing to make changes in their work habits to implement an environmental program
- 55% voted recycling as the first program that they would like to implement at the hotel property.
- 77% of the respondents practice some form of environmentalism in their home.

### HVS Eco Services Employee Environmental Training and Education

We recommend training employees in environmental issues as they are hired to work at the hotel to ensure that they understand the importance of the environmental program to the property. In many of the hotels that HVS Eco Services has helped open, environmental training has been a great opportunity to get the employees' support to strive to be awarded the ECOTEL Certification. In its training of over 5,000 people in lodging environmentalism (at hotels and in universities such as Cornell, Johnson & Wales, and New York University), HVS Eco Services has developed a flexible program:

- Training can be applied to hotel management or all levels of employees.
- Training is developed to educate hotel staff about local environmental concerns, as well as specific

environmental practices that are expected to be followed while working at the hotel.

- Sessions are conducted by department.
- Training includes interactive sessions, workbooks, computer developed slide presentation, and whenever possible, local guest lecturers.
- Camaraderie becomes highly visible during our environmental training sessions.
- The concept of a "Green Team"—a formal environmental steering committee established to help implement, promote, and maintain the property's environmental initiative—is emphasized.

## Community Partnership

The fostering of cooperative relationships with local government, charities, businesses, and conservation and citizens groups will enable the hotel to more easily attain its goals. The hotel can become a "friend to the community," by working in concert with local organizations to preserve and protect the environment. Moreover, combining educational, fundraising, and marketing efforts will increase revenues for the entire community.

**Example:** The success of Tumberly Isle Resort and Club's solid waste management program, is due, in part, to the close-knit relationship it enjoys with the community. Besides the active recycling of traditional items, Tumberly is effectively reusing and recycling an interesting mix of non-traditional materials, such as old poster board, egg cartons, tennis balls and canisters, six-pack rings, discarded remnants of office supplies, used flip charts, paints, party favors, magazines, reusable packing boxes, shredded paper, and seat cushions. Organizations or individuals receiving these "non-traditional" items include: the Public School Systems Fund, Children's Art Museum, YMCA, day care centers of the hotel staff, Wildlife Care Center, and shipping/packing companies. In addition, any leftover food is donated to the Extra Helpings Program through the Daily Bread Food Bank.

### Guest Community Participation

Resorts and hotels have become great places for guests to participate in the local environment and culture. HVS Eco Services has designed, coordinated and implemented a number of "Guest Programs" at hotel properties, such as organic gardening, Earth Day celebrations, nature hikes, cultural awareness, and museum visits.

## Conclusion

A hotel must consider these categories in the context of its own particular circumstances in order to maximize

operating cost reduction and marketing revenue. Each hotel will have a unique set of variables.

A hotel environmental program is a profitable enterprise. A mixture of operational practices and technological means, environmental responsibility is not a high-risk, long-term venture. Quite to the contrary, the implementation of new equipment and practices to preserve and protect our invaluable natural resources is a cost-effective, short-payback proposition that is supported by employees and consumers alike, and should be warmly embraced by hotel owners and operators.



# SUSTAINABLE ECOTOURISM & ISLAND COMMUNITIES: A GEOGRAPHIC PERSPECTIVE

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**Abstract:** *The growth of international tourism has made it the dominant service industry in the world, and ecotourism is now a common prescription for funding sustainable community development in the Pacific. Developing and marketing island nations as tourist destinations, though, may transfigure the inhabitants' social history and landscape by mediating the formation of local identities and cultural patterns of behavior. Through their activities, residents, visitors, and the industry create recreational landscapes that represent opportunities and constraints for those living in a place defined through tradition and tourism. Consequently, the relationship bears closer examination in tourism planning.*

*To encourage a proactive approach, this paper presents a geographic perspective of tourism development on the Micronesian island of Kosrae. In particular, it uses cognitive maps to demonstrate that tourism functions as both agent and a process of change in the social identity, structure, and meaning of Kosraeans as they evolve from a patriarchal, subsistence economy to a global market. Through differences in place images, it becomes clear that the physical space of Kosrae is defined by both experience and gender, and the "destination" of tourists is an inhabited landscape whose social communities exhibit the influx of new ideas, experiences, and changing patterns of gendered behavior associated with tourism.*

**Keywords:** *cultural landscapes, ecotourism, environmental perception, gender, Micronesia, sense of place*

## Geographies of Place

The work presented in this paper combines perspectives in human geography and tourism that present the cultural environment of Pacific ecotourist destinations as socially constructed places. In so doing, I emphasize a local landscape that is frequently overlooked in the analyses of tourism planners and developers (Shaw and Williams, 1994; Squire, 1994; Theobald, 1994). The "destination" of the tourist market is a meaningful but different place for residents and visitors, and the communities of people that tourists encounter represent a history of lived experience, their cultural landscapes exhibiting the influx of new ideas and economic transformations associated with tourism development.

Tourism plays a significant role in the lives of people who intersect with or live on the destination of Kosrae, in the west Pacific, and mediates the formation of local identities and cultural patterns of behavior and communication.

Consequently, I intend to demonstrate how geographic perspectives about ecotourist destinations may better reveal the experience of place for Kosraeans, as they undergo the transition from a subsistence economy to a global market, and thereby more constructively anticipate the range of changes wrought on other emergent coastal and marine destinations.

## Physiography

Kosrae is a single island state in the Federated States of Micronesia and the easternmost of the four states, which include Yap, Chuuk (Truk), and Pohnpei, the administrative capital (Figure 1). The second largest island in the Carolines after Pohnpei, Kosrae has a total land area of 68 km<sup>2</sup> or 42 mi<sup>2</sup>, some of it the result of increased landfill in recent years. It is located approximately 800 km (500 mi) north of the equator and 2,080 km (1,292 mi) west of the International Dateline. Consequently, Kosrae is more proximate to the tourist markets of Japan and Australia than to those of the West Coast, whose visitors are attracted by the relative accessibility of Hawaii and Mexico instead (Figure 2).

Kosrae is the remnant of a classic shield volcano, and one of the first "high islands" encountered in sailing west across the Pacific Ocean. Surrounded by what many consider to be among the few remaining pristine fringing reefs in the world, the interior is rugged and heavily dissected by erosion from the prevailing rains, and the verdant, tropical jungle is inaccessible without local guides. A deep valley between Mount Mutante to the north and Mount Tefeyat and Mount Finkol, to the south, divides the island in two. Finkol is the highest point on the island, at an elevation of 850 m or 2600 ft., and it is the dominant outline of these latter two mountains that cause Kosraeans to refer to their home as the "Island of the Sleeping Lady."

What makes the island particularly attractive, from an ecotourism perspective, is the relatively pristine natural environment of Kosrae. Less than 3% of the island's 28,000 acres have been developed as roads and villages, while 63% of the land remains intact as mangrove, swamp, rain, and mountain crest forests. However, this figure is changing rapidly, as the land is cleared for housing and new tourism facilities.

## Culture

The population of the island now surpasses 7,000 persons, the highest it has ever been, and a remarkable rebound from the near extinction of Kosraean culture in 1890 when it numbered only ninety persons (Gorenflo, 1993). Much of the growth has occurred in the post-World War II period and an overwhelming majority of the island's population, or nearly 80%, is now under age fifteen—a situation with consideration implications for the future.

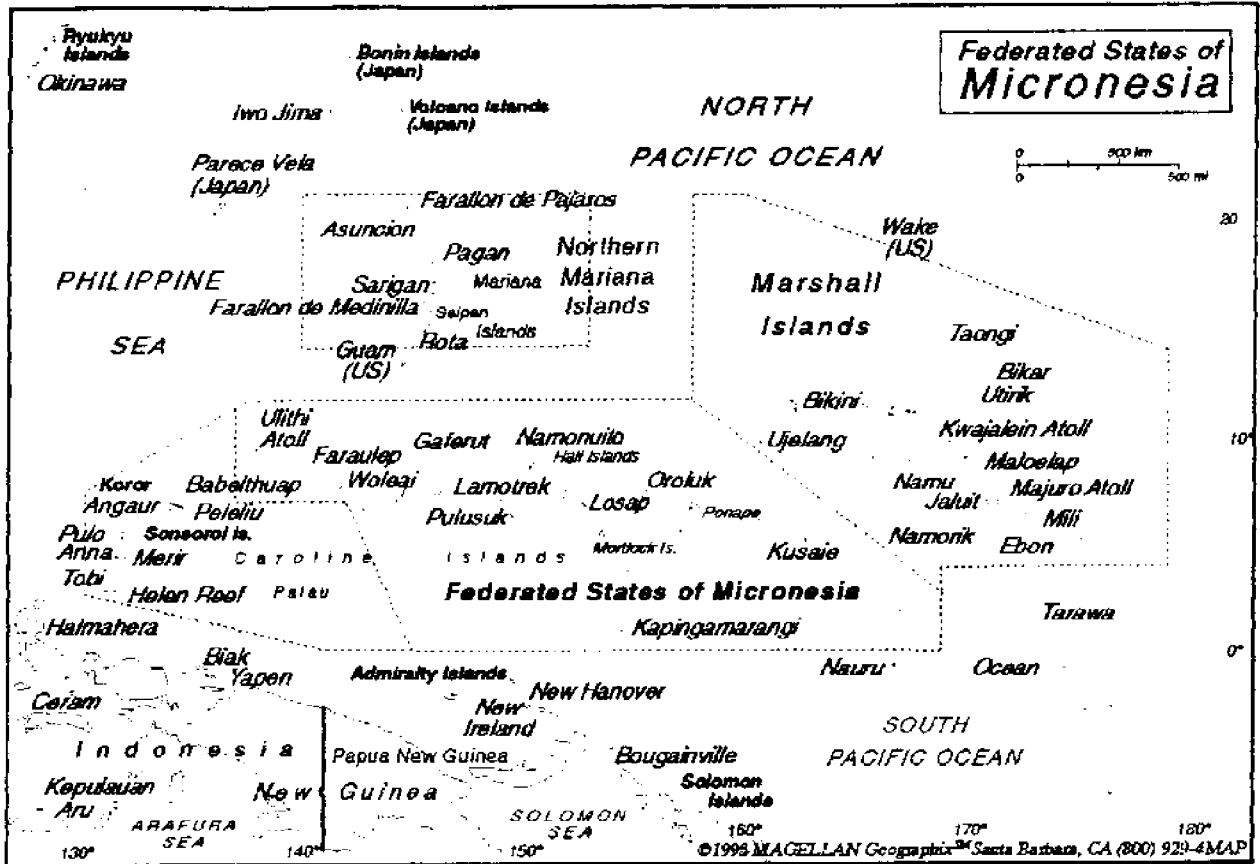


Figure 1. Federated States of Micronesia.

### Federated States of Micronesia

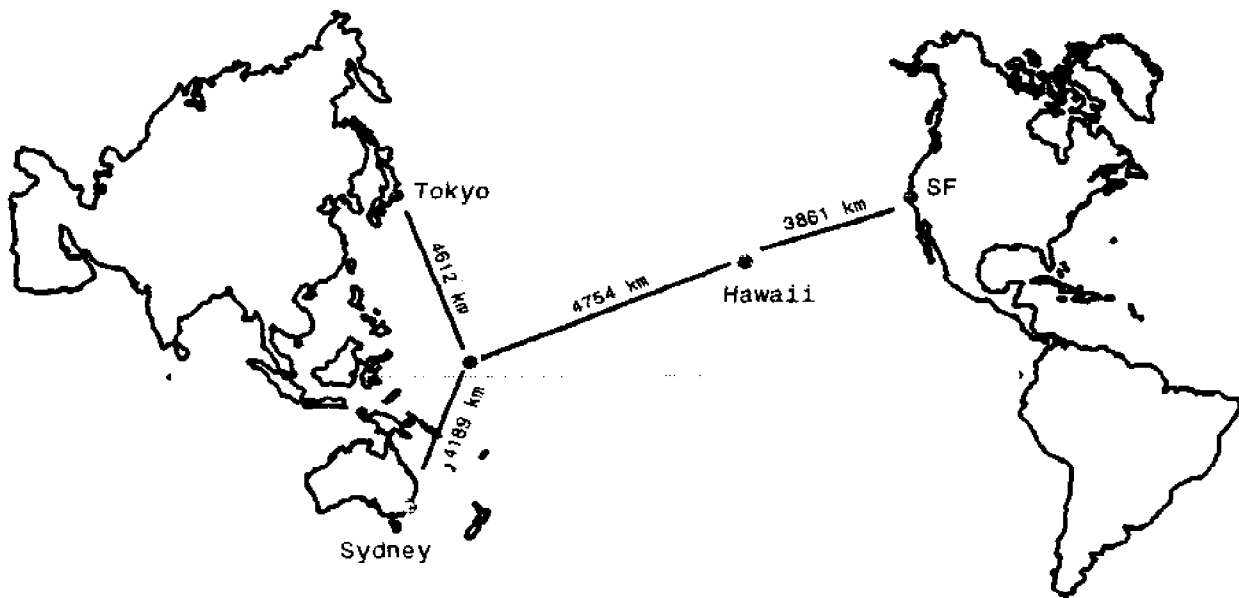


Figure 2. Location of Kosrae, FSM.

Highly homogeneous in terms of ethnicity, Kosraeans reside predominantly in the five villages of Tafunsak, Leluh, Malem, Utwe, and Walung, and more recently, in the state government district of Tofol.

Considered one of the more conservative societies in the Pacific, Kosraeans are also among the most devoutly religious of the Micronesian peoples—fully 95% of the population are fundamentalist Congregationalists, the result of intensive missionary activity in the 19th century that succeeded in regenerating the Kosraean populace while eradicating most vestiges of traditional culture (Leibowitz, 1989; Segal, 1989). Community roles have traditionally been defined by gender with the men engaged in agriculture while women fished. However, the advent of jet travel and international tourism is now loosening the cultural restrictions against women in both dress and behavior, though the sexes remain segregated in church and prescriptions continue against cooking and recreation on Sundays. Less than 10% of the population has ever been off-island, although there is now significant out migration, mostly young adults attending universities on Guam or in the U.S.

Together, the people and the practice of their cultural beliefs provide the framework that dictates acceptable social behavior for visitors and residents alike, thereby presenting tourists with a set of opportunities and constraints in an environment that is both physical and socially constructed.

### Tourism

Hoping to reduce their dependence on the U.S., which currently provides more than US\$40 million a year in development aid (primarily Compact of Free Association funds that end in 1997), the State government has decided to promote Kosrae as a tourist destination, particularly for marine and cultural ecotourism. For many Kosraeans, the phenomenal growth in tourism worldwide is considered solid proof of its enormous potential for development. Indeed, the island is now experiencing a boom in construction of tourism facilities, much of it subsidized by the government—an issue of some concern in that many of the new entrepreneurs are also officials in the same agencies that finance and manage such development.

There is certainly no dispute that tourism can make a significant contribution to Kosrae's economy. In recent years, the travel industry has been one of the most consistent growth industries worldwide, with an increase of more than 600% since 1960 alone (Vellas and Bécherel, 1995). Tourism now constitutes an extremely powerful social and economic force, second only to oil in world trade, and the total spending of more than 500 million international tourists accounts for more than 8% of the world's total exports, 12% of the gross international

income, and more than a quarter of the total revenues derived from trade in the service sector, making travel and tourism the largest growth industry in the world (Ahmen, 1992; de Kadt, 1979).

In the United States, where the tourism industry is forecasted to grow eight percent annually through 1999, international tourism ranks as the largest export of the USA's international trade in services, worth almost \$54 billion in 1992 alone (d'Alessandro and Weston, 1993). By contrast, total receipts for East Asia and the Pacific region as a whole were \$53 billion in 1993, or 16% of the world total (World Tourism Organization, 1994).

This figure represents the annual spending of roughly 68 billion international arrivals, of whom 1.5 million visitors—or 2% of the total—visited Micronesia, much of them drawn by the spectacular marine and biological diversity that abounds. Kosrae now averages more than 2,000 visitors each year, ranking it third in the FSM in arrivals, according to the Kosrae State Division of Tourism (Figure 3). Though the number who come is still relatively small compared to other, more developed destinations in terms of actual numbers, the impact is disproportionately high because of the island's small size and relative isolation, and the exponential growth in visitation.

### Ecotourism

Ecotourism was originally promoted to encourage travel that was culturally and ecologically sensitive, in which tourists both enjoyed and protected nature through the practice of low-impact activities and sustainable development (Valentine, 1993). Given this direction, there are a number of activities and attractions on Kosrae that would appeal to those interested in the physical and human environments of Micronesia. The former includes the vegetated, volcanic mountains and the *Sonneratia* saltwater mangrove forests, the numerous waterfalls and secluded beaches, and the abundant marine life immediately offshore along the reef. But nothing seems to signify the meaning of Kosrae more for residents, or is more ignored by visitors, than the historic Lelu ruins.

Constructed more than 500 years ago, Lelu flourished as the feudal residence of Kosrae's Kings and High Chiefs for nearly 400 years, and the walled city once rivaled Nan Madol on Pohnpei in magnificence and political power. Even today, there is little in the Pacific that rivals Lelu in complexity or size (Cordy, 1984). Yet, the ruins are little visited and the monolithic stone canals are now crumbling and obscured by pig sties and community garbage dumps.

## Planing and Management

That places like Kosrae would increasingly appeal to tourism is certainly not unique to Micronesia. Indeed, the foremost goal of tourism proponents is to develop attractions and markets that engender increasing numbers of visitors, both domestically and internationally. Thus, many would be pleased to achieve even a modicum of the growth now apparent in Kosrae. Economic windfalls rarely come without social costs, however, and the marketing of traditional island communities as recreational destinations inevitably forces upon their inhabitants a social transfiguration. In addition, the development of tourism further exacerbates the already severe limitations that exist with regard to resource use in a bounded environment such as Kosrae, including antiquated and unreliable water catchment systems, a relatively small landbase, and competing pressures between agriculture and urbanization.

## Traditional Perspectives

From a developer's perspective, the planning process is viewed simply as a matter of selecting the tools and techniques that will accomplish the stated goals in the shortest time with the least expense and disruption to the schedule of the developer. Thus, much of the tourism development now underway on Kosrae is carried at the broader federal and regional levels, where information and inter-agency cooperation are considered more reliable and easier to obtain. Consequently, community plans that would benefit from the different experiences of other islands in the Pacific find, instead, apparent conformity and success in the regionalization of place.

Though some attention is given to the needs of environmental preservation and the community, the focus remains on the broader, economic dimensions of recreational development. Where cultural factors are considered more than superficially, the predominant interest is on the role and perceptions of the visitor, rather than the resident. Unappreciated are the perceptions that define the behavior of local people—images that may reveal, over time, transformations in the identity, structure, and meaning of Kosrae as an inhabited place for local people. The result is less informed knowledge at the local level—what happens to the people of Kosrae and their immediate community as ecotourism grows remains frequently unknown and beyond the purview of the observer based in Pohnpei, Guam, or Hawaii.

## A Geographic Perspective

At a minimum, the very act of "selling a place" diminishes the unique history and cultural dynamics of a community and alters the residents' sense of identity. By so doing, important questions are left unanswered. In particular: To what extent do current tourism planning procedures

accelerate the depth and character of the social changes apparent in places like Kosrae? Second, how might the adoption of certain geographic skills and techniques encourage a proactive process that is more cognizant of the repercussions of tourism development on this place and its communities?

I wish to preface my response by noting that the theories and ideas presented in this study are not intended to supplant those normally identified with traditional marine or coastal tourism planning. Rather, it is my hope that the inclusion of a geographic perspective will be regarded as contributing an additional layer of meaning and insight to the processes of ecotourism planning and marketing now underway in places such as Kosrae. The inclusion of the community's values and images, of itself and its place in the immediate recreational landscape, can do much I believe to determine whether any tourism strategy or land use system is successfully implemented or not.

Nor am I opposed to tourism, *per se*, and this discussion should not be construed as a diatribe against its further development. To the contrary, I believe that responsible ecotourism has tremendous potential for providing those who travel with a broad range of educational and cross-cultural benefits, regardless of whether their intended destination is local or international. And I do not deny tourism's ability, as an economic tool, to make a substantial contribution at easing the financial burdens of many resource-dependent communities. Indeed, examples abound of rural towns and villages where the formation and growth of a local tourist industry have resulted in a net increase in employment.

Unfortunately, higher employment figures do not always equate to a corresponding rise in per capita income. And the displacement of lower income residents, forced to confront accelerating costs with minimum wage employment, remains an issue buried in the jargon of job "mobility" and capital "relocation." As a consequence, the significance of the social effects that tourism has on local places, as well as its potential for further disruption, remains unappreciated. Indeed, "possibly the biggest issue tourism will be facing in this decade, and its most serious restraint, is its potentially damaging impact on the people and places visited" (Pacific-Asia Travel Association, 1992:3).

This is of particular importance since it is the hospitality of the "host" or resident population that ultimately decides whether tourism thrives or not. If development activities are not carefully planned to meet the needs and expectations of local people, then the threshold of acceptability will be quite low. Thus, a central question for Kosraeans concerns the long-term consequences to the community of gradually replacing a landscape forged

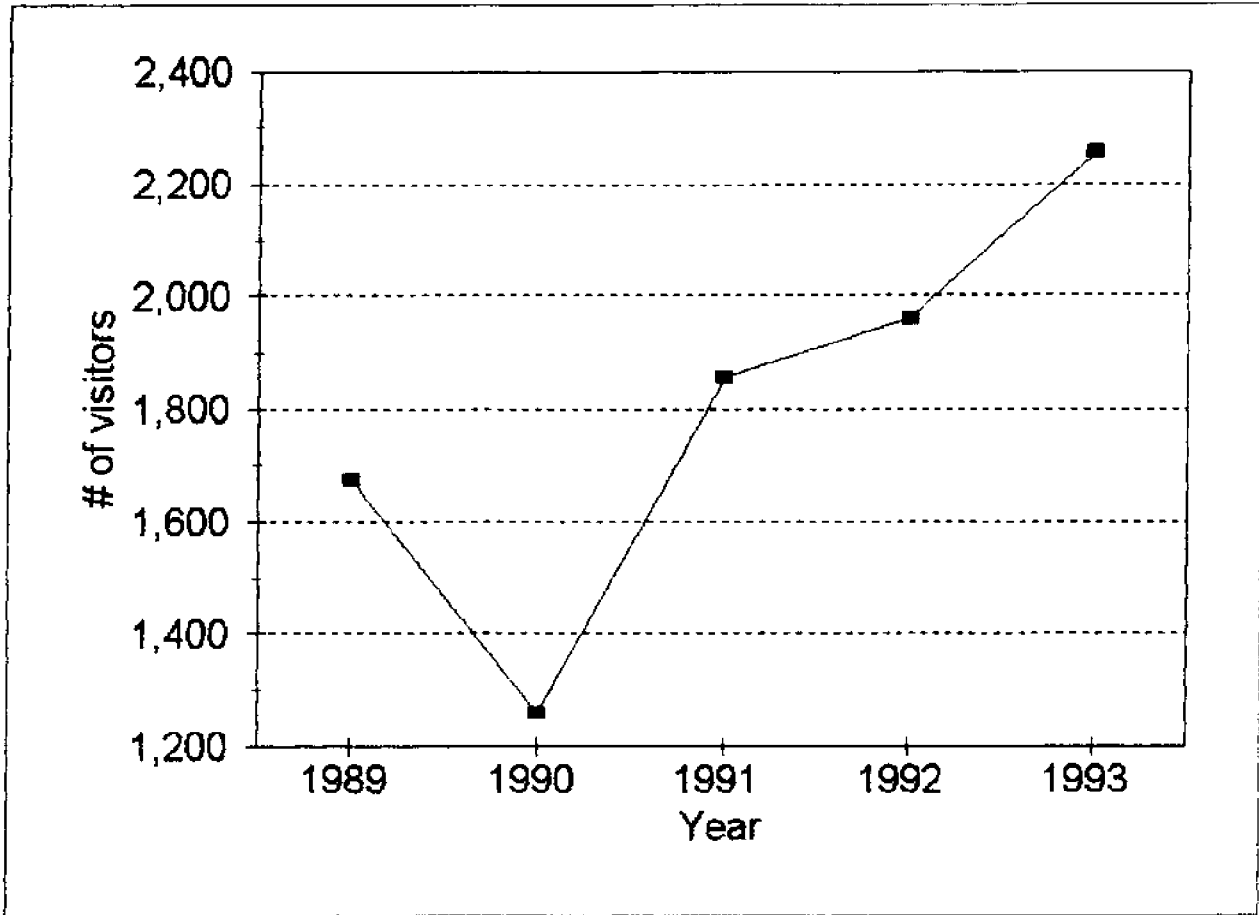


Figure 3. Annual visitor arrivals to Kaostac State.

through time *in-situ* with one that caters primarily to visitors' stereotypes?

### Cultural Effects of Tourism

Recent critiques in tourism studies focus on the attitudes and behavior of the tourist and the industry as agents of social change, rather than acknowledge the significance of places as "centres of felt value" (Tuan, 1976) for the local populace. However, there is at least anecdotal evidence that social behavior between tourists and residents in shared, communal spaces is sensitive to the "different socio-cultural settings in which they perceive themselves to be" (Mowl and Towner, 1995), and some studies have suggested a set of cultural indicators that might be used as part of a kit of planning tools that identify and help to manage tourism's impacts (Craik, 1995). Listed among them are criteria that would ascertain the:

- degree to which a community becomes economically dependent upon tourism over time, and the equitable distribution of any benefits to the community at large,
- extent to which the public is involved in the planning and administration of tourism projects and activities,
- loss of social amenity and environmental degradation, both visual and perceived, and
- changing sense of identity and autonomy.

Yet several critical themes remain ignored, including the commercialization or commodification of local sites and culture, the marginalization of the "host community," and the production and privatization of tourist landscapes and services (Rojek, 1994; Urry, 1990 and 1994). In response, the results of this study focus on tourism as both agent and process in the structure, identity, and meaning of Kosrae for local people, as they and their island State become further embedded in the global tourism economy. It is suggested that the most suitable guidelines for future development are those which express sufficient awareness of the socially constructed landscape of residents, and employ controls and incentives (both economic and social) to encourage sensitive development that is low volume and locally controlled, carefully monitored, and fairly priced.

### Perceptions of Place

Anxious to preserve the cultural "sense of place" that prevails while tourism expands, I was asked by the Kosrae State Division of Tourism in 1992 to initiate a community-based ecotourism program that balanced recreation with respect for cultural traditions and practices. As one component of the project, a composite map of the island's social landscape was constructed from the cognitive images of those who visit or reside on Kosrae, in order to provide

some means of monitoring tourism's ability to affect Kosraean culture and behavior patterns over time.

### Methodology

To establish a baseline for determining future change, 45 residents and visitors were randomly selected and asked to participate in a perceptual mapping exercise. Each was asked to depict physiographic elements in the Kosraean landscape according to situation or function (Lynch, 1960). Thus, participants were asked to identify features around the island according to whether they served as a 1) path or route of transport, 2) a landmark or fixture of location, 3) an activity center or settings for social interaction, 4) neighborhoods, or 5) an edge or boundary, whether physical or perceptual. In part, this was intended to distinguish the experiential landscapes of visitors, who emphasize paths and landmarks as markers of orientation, from the images of residents, who typically express greater awareness of the socially constructed nature of neighborhoods and activity centers.

### Tourism Landscapes

Consequently, one finds a preference among tourists for descriptive images of the physical landscape of Kosrae—not surprising, given that most tourists are initially drawn to a place by its scenic grandeur (Figure 4). Areas identified for their activity are exclusively travel-related: the State Tourism and Immigration offices in Tofol, and the Sandy Beach Hotel and Marine Diving Center in Tafunsak. Again, this finding is rather predictable, given that these are the places at which tourists congregate.

More disappointing, however, is the relative lack of awareness expressed by visitors of the hinterlands of the island beyond the functional role of mountains as landmarks. Nor is there any evidence in the maps of the four villages around the island and the people who dwell in them. Only the administrative district at Tofol is identified, where tourists must go for visas and the post office.

On the maps of residents, however, a great deal more information about the human landscape is provided that is both intimate and meaningful (Figure 5). Most notably, the presence of local people is clearly indicated on every map and each village is shown as a separate neighborhood, though interestingly, Tofol is excluded from this representation of community. In addition, there is a greater diversity of activity centers shown, tangible recognition that residents engage in a variety of ritualized social activities defined by particular locations and seasons. Indeed, the social context and richness of the natural landscape for Kosraeans is illustrated in the naming of selected waterfalls and mangrove channels, sites that have historically served as gathering places for men and women, as well as routes of communication and transport.

# Kosrae: Visitors

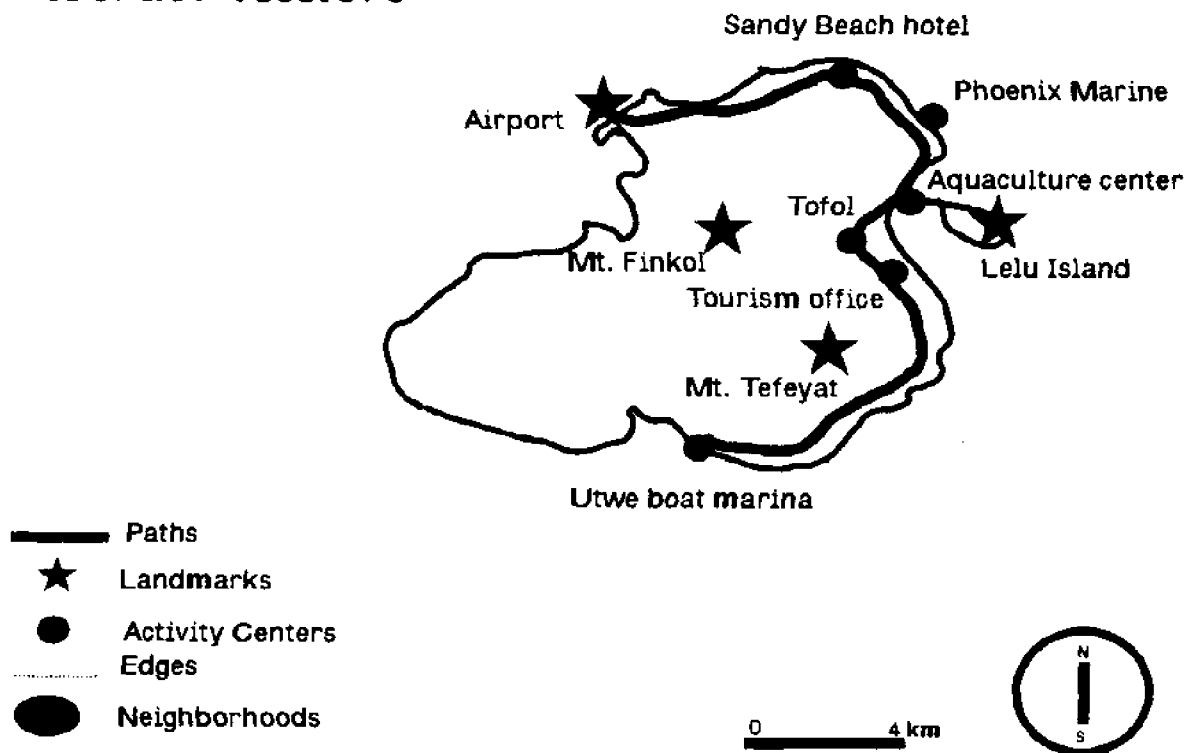


Figure 4. Visitor's perceptions of Kosrae.

# Kosrae: Residents

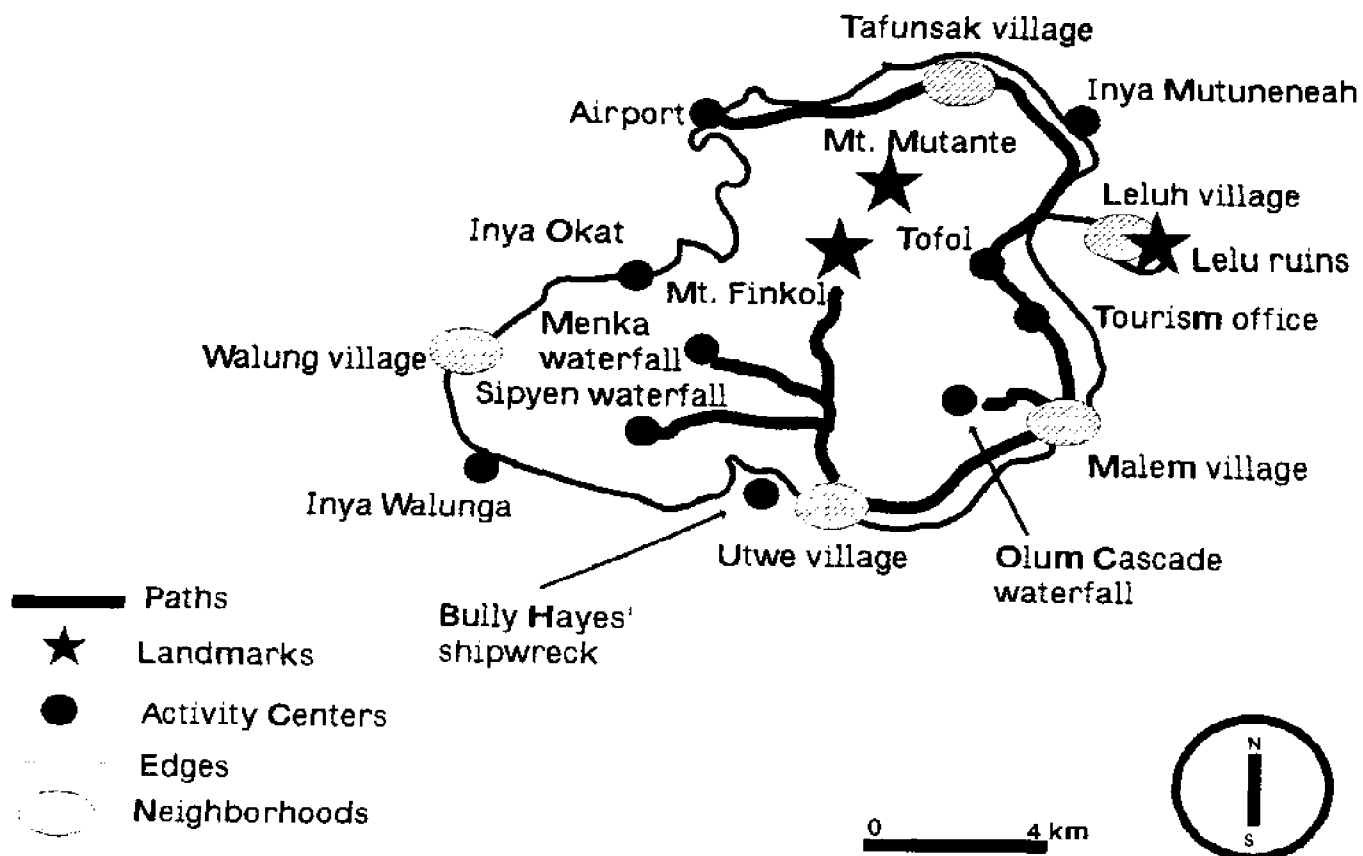


Figure 5. Residents' perceptions of Kosrae.

## Gendered Landscapes

This latter finding makes clear that, not only is the physical space of Kosrae defined by perception, it is also gendered through the social and physical structure of the environment as well. Many of the maps of the older adult residents depict images that mirror their traditional spheres of work and knowledge in farming and fishing; men showed a preference for naming inland areas while women were more cognizant of the landscape along the coast and mangrove channels. However, there is little disagreement in the maps of younger Kosraeans, both male and female, who also exhibited a greater common awareness of the island as a whole. In part, this may reflect the disparity between men and women in benefiting from tourism, since women and young Kosraeans are more likely to be employed in tourism services and, therefore more familiar with the island's biota and landscape (Harvey et al., 1995).

In sum, variances in the perceptions and attitudes of Kosraeans, tourists, and the tourism industry, underscore the critical role that ecotourism plays in shaping the human landscape of the travel destination, with its mosaic of gender and ethnicity. Collectively, they make clear that the general social processes which shape daily life on Kosrae for members of the community are "filtered through a local cultural sieve that produces a different set of outcomes" (Mowl and Towner, 1995:106) for visitor and resident, male and female.

## Recommendations

I do not intend, in closing, that this study serve as a standard by which the incorporation of geographic perspectives into the traditional planning process might be measured for their effectiveness. Instead, I propose that the limited information presented herein function not only as a source of fresh subject matter for consideration, but even more so, as a whole new direction in tourism planning, i.e., a process rather than a means of attaining a particular set of goals.

In a continuing "process," the achievement of success is best measured by the level of satisfaction stated by the participants, rather than by the imposition of functional "land use" zones, an increase in employment numbers, or the kinds of facilities or total leisure dollars that accrue to a community through tourism. Through the inclusion of a wide range of individual perceptions into the planning process, and the meanings and values which they ascribe to a local landscape, insights may be elicited that would substantially improve our understanding of the impacts of tourism, not only on Kosrae, but in similar coastal recreation settings throughout the world.

Many of the social transformations associated with the expansion of tourism on Kosrae are not readily apparent to the casual visitor, couched as they are in the vernacular myths and lifestyles perpetuated by local people, given form only when perceived from positions of social intimacy. Yet, in a very real sense, these "place images" represent the physical manifestation of a socially constructed topography around which people learn to communicate, play, motivate, and navigate. Though admittedly, they proceed at a level that is more localized and personal, they remain as important to the successful conceptualization and implementation of a comprehensive community tourism plan as do the inclusion of scientifically concrete information, buttressed by empirically-proven "facts."

## Sustainable Ecotourism

Adopting this holistic approach makes evident the extent to which sustainable ecotourism on Kosrae, or any other marine destination, is dependent upon the implementation of appropriate management policies and skills that benefit both visitor and resident, as well as clear, long-term benefits to the local community; recognition of cultural practices and beliefs; and the creation of productive linkages between residents, nature conservation efforts, and the tourist's choice of destinations. These objectives are hindered by the difficulties of preparing a marketing plan for such a remote location, questions and conflict over local people's values and those of tourists, differences in the preferred scale of development and location, defining appropriate levels of use of the island's land and marine resources (reduced harvesting of the mangroves in the channels used for outrigger tours, for example, and the endangered mangrove crab, now exported to Hawaii), adopting litter control and encouraging greater recycling efforts, and promoting cooperative efforts among villages, and between government and the private sector (Valentine, 1993).

The dilemma then, for those truly concerned with the development of ecotourism on Kosrae and elsewhere, is to ascertain how to prepare these places for the visitor growth associated with their new fame and exposure as vacation destinations, when it is the existing qualities of remoteness and traditional culture that make them desirable. While the events discussed briefly in this paper describe a specific location and set of circumstances, the processes are endemic to the travel industry and affect local people and communities everywhere.

I suggest in conclusion, therefore, that an appreciative awareness of the symbolic nature of the cognitive images carried by local residents and visitors, however subjective, could prove a useful starting point for regional planners in understanding social behavior in ecotourism communities. To ignore such information, I believe, may precipitate the



unalterable destruction of a pattern of life that took years to (re)evolve and, by itself, represents a historically intact, culturally dynamic continuum on the physical landscape of the tourist destination.

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# SUSTAINABLE TOURISM PLANNING FOR A NEW MILLENNIUM: OR AT LEAST A GOOD PLACE TO START— MULTIPLE OBJECTIVE PLANNING TECHNIQUES AND THE GUIMARAS, PHILIPPINES EXPERIENCE

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**Abstract:** *There is widespread recognition that tourism must move towards sustainability by embracing a more balanced planning approach. This is especially true for many small islands in the Pacific where tourism is being aggressively promoted, often with limited attention given to the overarching socio-cultural, economic, biophysical and institutional parameters. In a revealing Filipino case study, multiple objective decision analysis (MODA) proved to be an effective contributor to sustainable tourism planning.*

*On the small island-province of Guimaras, MODA focused the preliminary planning efforts of the Philippine Cooperative Farm Tourism Project: The Guimaras Pilot Project. The iterative and participatory use of MODA was well received by Guimarasons while successfully integrating local knowledge and values into the planning process. This objectives based approach was also successful at positioning the Farm Tourism Pilot Project within existing provincial, regional and national plans.*

*At the core of the MODA process on Guimaras was a planning workshop. Here, presentations reviewed important contextual issues (i.e., market conditions). This was followed by a qualitative and quantitative examination of project objectives. The insights gained were used to create and clarify a range of alternatives that culminated into a grassroots vision of 'farm tourism.' MODA systematically promoted an open process that established both a framework and a forum for multi-sectoral integration. The resulting group decisions overcame entrenched positions while nurturing a sense of commitment that is critical for effective project implementation. The success of this method on the rural island of Guimaras suggests that it is widely applicable, and thus capable of contributing to sustainable tourism initiatives in many planning contexts.*

**Keywords:** *tourism planning, participatory approach, creating alternatives, farm tourism, the Philippines*

## Introduction

As the world nears the new millennium, there is widespread recognition that the tourism must move towards sustainability by embracing a more balanced

planning approach. This is especially true in developing countries where tourism is being aggressively promoted, often with limited attention given to the overarching socio-cultural, economic, biophysical and institutional parameters. This paper looks at a promising approach for sustainable tourism planning based on multiple objective decision analysis (MODA). Practical application of MODA is then examined in a case study of *The Philippine Cooperative Farm Tourism Project: The Guimaras Pilot Project*.<sup>1</sup>

## Analytical Approach

MODA is an approach to planning and decision making that draws from many disciplines including economics, psychology, operations research, negotiation theory and statistical decision theory. It is based on six fundamental steps: (1) defining the decision problem effectively; (2) establishing the planning context; (3) identifying relevant stakeholders; (4) eliciting and structuring a comprehensive set of objectives; (5) creating alternatives to achieve the stated objectives; and, (6) evaluating the alternatives with the objectives. This 'people-based' approach seeks to clarify inherent value tradeoffs while promoting the development of alternatives that are more likely to appeal to stakeholder interests. The insight gained from the MODA process allows decision makers to make better informed and more defensible choices—choices that can responsibly address the difficult issues of sustainable tourism and are more likely to result in successful project implementation.

## Background

In 1992, The Philippine island of Guimaras (population: 130,000; area: 60,465 hectares) was declared a full province. Historically, Guimaras has been used for resource extraction and largely neglected in terms of development. This exploitation has left a damaged environment with 75% of the people living in poverty, making Guimaras one of the poorest province in the Philippines (MDP, 1993). The current administration's push for economic growth and new provincial responsibilities (ushered in with the 1991 Local Government Code) have exacerbated traditional institutional planning constraints including: no formal planning process or planning framework; opportunistic ad hoc land development; a dearth of (or difficult access to) materials, information and technical expertise; and, limited communication capabilities.<sup>2</sup> Finally, there is a commonly held local belief that Guimaras is on the verge of a tourism boom, a belief that has been alive for over 30 years with little substantive support.

## Project History

The *Guimaras Cooperative Farm Tourism Pilot Project* is an attempt to galvanize the Filipino ideal of 'people power' within a rural agricultural/coastal-zone context. According to the project's Memorandum of Agreement, the project is "to render maximum socio-economic benefit to the local community through the collective and entrepreneurial effort of cooperatives" and achieve sustainable rural development. Cooperatives are entrepreneurial, economically motivated, 'grass-roots' organizations (e.g., basket makers, pump boat operators). Cooperatives would be the "mechanism—the viable structure which shall support and sustain a planned strategy for an agri-tourism merger." But, for many reasons, there was general project confusion that signaled potential conflict, such as:

- few Guimarasnons had heard of "farm tourism" or had had contact with a tourist;
- no clear planning, development or management process had been established;
- the industrious officials in Guimaras did not wait for federal funding and, on a marginal site (called Macopo Falls) with no formal plan, road construction began;
- many of the key Farm Tourism personnel had become deeply committed—emotionally, psychologically and financially—to developing the "donated" (through the agricultural land reforms) Macopo Falls site as a *farm estate* for tourists.

A cursory assessment based on interviews and a site visit suggested that the Farm Tourism project could benefit from exploring other alternatives. A balanced planning approach that addresses contextual constraints would be possible for two distinct reasons. First, meaningful stakeholder involvement could encourage group decision making and allow lead government personnel to fall back into a *supportive* role. Second, there was the opportunity to introduce a new planning approach with the external 'expert' (the author) shouldering the responsibility for the process results. Therefore, key participants could simultaneously 'save face,' while considering alternatives other than the immediate development of the Macopo Falls site.

## Planning Strategy

A project strategy using MODA was crafted in coordination with key national and local project personnel and was based on a similar successful application in workshop setting (see Gregory and Keeney, 1992). MODA provided an 'actor-oriented approach' (Hichcock et al., 1993) and avenue for stakeholder contributions and 'buy-in'—in terms of both the process and the results. The stakeholders could then constructively question the project direction, address the potential danger of resource mis-

allocation and utilize a 'new' framework for identifying stakeholders preferences. This could best take place in a workshop setting and follow-up meetings because of the powerful of the spoken work in Guimaras (due in part to culture and in part to a lack of report making technologies like computers, copy machines, etc.). Specifically, MODA was used for the following reasons:

- Decisions could be structured to promote more comprehensive and creative thinking in an overarching framework that is continuous, incremental and flexible.
- Integration of programs, plans and projects would be possible through the structuring of objectives and the use of multiple stakeholder participation.
- MODA is objective-based, future oriented and explicitly focuses stakeholder values and interests. By focusing on interests, values and objectives (e.g., promote economic opportunities) stakeholders could dissociate themselves from positions (e.g., the farm estate concept) creating an atmosphere for the invention of options for mutual gain (Fisher and Ury, 1983; Gregory and Keeney, 1992).

MODA was utilized on 'data poor' Guimaras because, as McDaniels (1994) explains, "the approach can be tailored to strategic comparisons across a wide range of alternatives, *when less detailed information is all that is available*" (italics added).

## The Workshop

### Workshop Preparation

To use the workshop time as efficiently as possible, preparations began weeks in advance. Document review and interviews with key project personnel provided a solid information base to expedite steps one through four of the MODA process. Aside from preparing for the substantive elements of the workshop, interviews—especially those requiring iterative sessions—were particularly instrumental towards developing personal relationships and uncovering informal personal dynamics existing on the island.

### Defining the Problem Question

The obvious problem question, *What is the most appropriate farm tourism concept for Guimaras?*, was inappropriate for immediate consideration in the workshop due to the overall poor understanding of farm tourism. Therefore, the first question asked was *What is Farm Tourism?* Answers to this question provided insight into the most appropriate form of 'farm tourism' for Guimaras while establishing a foundation for discussion.

## Identifying Stakeholders

Most of the local stakeholders were clearly identifiable from the earlier workshops. However, other groups, organizations and individuals would be impacted by, or could contribute to, the Farm Tourism Project and should be offered a chance to participate. Initially, the suggestion of expanding the representative stakeholder groups was resisted. The underlying friction behind the unwillingness to accept additional groups included anxiety over a loss of control by established groups and apprehension that too many participants would slow project development.

However, compelling reasons for an inclusive process were offered. First, inclusion would foster greater cooperation and acceptance of the project because there would be no hidden agenda. Second, concerns over equity (who pays and who benefits) could be immediately and openly discussed. Finally, thoughtful foresight about the potential role of stakeholders and their early inclusion is an important way to minimize future conflict, integrate the Farm Tourism Project with other projects and activities, and, for the purpose of the workshop, provide additional insight into creating alternatives.

A systematic process using a tourism stakeholder matrix was developed for identifying stakeholders and summarizing existing and potential responsibilities. A review of the matrix with local officials revealed that two groups of paramount importance were not included in the upcoming process: (1) the existing tourism industry of Guimaras and (2) the residents of the local barangays (villages). Subsequently, these groups were represented.

## Establishing the Planning Context

As expected, the participants were all sensitive to the charged *pas pas* (fast forward) development atmosphere on Guimaras. However, none were aware of the constraints of the marketplace. Therefore, in addition to eliciting objectives, most preparatory interviews attempted assess about the Guimaras tourism market. Professional judgments, along with available statistics, provided a reasonable basis for constructing a tourism market profile. Near-term and long-term market potentials were projected prior to the workshop. The market profile was considered to be essential new information to the overall tourism context, reducing important economic uncertainties critical in creating and clarifying alternatives.

## Identifying and Organizing Objectives

Numerous objectives were scattered among governmental plans, policies and specific Farm Tourism documents. Some were general (improve the standard of living) while others were unique to the Farm Tourism Program (strengthen cooperatives). Surprisingly, objectives elicited

from stakeholders did not necessarily mirror the objectives in planning documents. Some objectives elicited from stakeholders further defined fundamental objectives while others were entirely unique. Interviews also revealed that different individuals were pursuing different objectives under the guise of the Farm Tourism Project, threatening conflict and uncoordinated action. The captious goal-chattered environment was simplified into a hierarchy (Clemen, 1991) to promote consensus among all stakeholders as to a single ordering of values (Gregory et al., 1993). The planning process benefited from this structuring of values because the objectives were not tailored to alternatives being considered, promoting the creation of alternatives that might be particularly useful (Keeney, 1988).

## Workshop Organization

The workshop was attended by 35 participants and began with a prayer, the singing of the national anthem, introductory comments and a review of the state of the project. The agenda for the workshop would be: (1) Understand market conditions—present and future—and discuss target markets for 'farm tourism'; (2) Review objectives; (3) Create and clarify alternatives; and (4) Organize a 'farm tourism' committee. Below is a summary of the presentations and discussions.

## The Guimaras Tourism Market

The Guimaras tourism market was the least understood, yet one of the most crucial areas, for planning 'farm tourism.' *For without tourists, there is no tourism project.* Therefore, a profile of market conditions and opportunities was presented. Two things were stressed specifically in terms of the Farm Tourism Project. First, a successful project would diversify the overall tourism product offered on Guimaras. Second, it would provide a diversion for the popular, but easily substitutable, "sea, sand, sun" resort tourism proliferating throughout the Philippines and, indeed, the world. Thus the project was highlighted as an opportunity for Guimaras to create a unique product and maintain viability in an increasingly competitive tourism industry.

A brief review of the available data was then presented. Besides the strong influence of seasonality, the most revealing finding about the Guimaras market was the shallow overnight and foreigner market segment. An estimated 1,750 of the high-spending overnight and foreign visitors came to Guimaras out of a total 11,220 visitors. This represents an average of *only five per day*. In June an estimated average of just *one* foreign or overnight tourist per day arrived in Guimaras! In addition, market projections were made and potential markets identified.

## Objectives-Focused Planning

A review of objectives, their importance and how they were to be used during the workshop followed the presentation of the market conditions. Participants were urged to add any objectives they felt were missing or discuss any existing objectives (one participant noted the importance of international relations and recognition). Participants were then asked to prioritize the list of means and end objectives using a 0–100 scale to weight preferences. Ties were allowed. The primary purpose of the ranking exercise was to give the participants a chance to reflect on what they were trying to achieve with the Farm Tourism project. Prioritization was initiated with end-objectives first, followed by means objectives. In other words, all fundamental objectives were compared and weighted against each other, then, under each fundamental objective, the first-tier means objectives were weighted, and so on. This approach was selected because it emphasises the overall decision setting, more appropriate in cases when participants are unfamiliar with the problem in question (Hämäläinen, Salo and Poysti, 1995). Furthermore, it was hoped that by organizing the objectives in the means-end relationship, a positional familiarity with a broad range of objectives would foster more creative thinking about potential Farm Tourism alternatives. The ranking also pressed the participants to begin to conceptualize difficult trade-offs between objectives and reflect upon their own value systems.

## Creating And Clarifying Alternatives

By design, the majority of the day was spent in a group discussion of farm tourism alternatives. In a brainstorming session, each participant offered an answer to the question: *What is farm tourism?* In an attempt to create an environment which fosters creativity and innovation, all ideas were to be expressed and no judgements or comments were to be made until everyone had exhausted their list of ideas (Fisher and Ury, 1981). Furthermore, any individuals who felt constrained by English were encouraged to use Hiligaynon, followed by an English translation.

Some participants felt restricted by the term 'farm' and felt that it inhibited their vision of the project. The term 'farm' seemed to preclude opportunities such as 'history' and 'religion,' which could be shared with the visitors and instil a sense of place similar to the touted agrarian options. Regarded by many as simply a name, the "Farm Tourism" label unnecessarily constrained project opportunities and was a potential source for disagreement. As Gregory and Keeney [1992] observed: "Disagreements tend to occur when the initial statement of the decision context explicitly or implicitly rules out either objectives or alternatives that certain stakeholders consider important. To reach consensus, one needs to remove the constraint on excluded objectives or alternatives." Agreeing that it was only a "metaphorical"

term, the group immediately supported *any expression* of 'farm tourism.'

## Farm Tourism Alternatives

Although many participants claimed little understanding of 'farm tourism,' thoughtful and viable ideas were articulated. All the participants felt that 'farm tourism' should be *activity based and a learning experience*. Issues of authenticity, scale, control vs. spontaneity, spatial distribution, temporal influences, and the importance of place promoted a rich dialogue—ultimately answering the fundamental question: *What is the most appropriate form of 'farm tourism' for Guimaras?* Three clear alternatives emerged from the session (see Figure 1).

**Alternative 1: Excursion Farm Tourism.** An excursionist is a day visitor. In the context of developing 'farm tourism,' excursions would take place from either the resorts or from nearby large cities of Iloilo or Bacolod. Excursion Farm Tourism would take advantage of the existing tourism market (local and foreign) on the island by designing specific 'tours' to events, exhibitions, and activities—and help initiate the development of festivals. Close coordination with the resorts of Guimaras and promotion in the Iloilo/Bacolod would be required. The location of the events, exhibitions, activities, or places to be interpreted would be spatially dispersed. All participants agreed that this concept could be implemented quickly. It would not require any large investments in infrastructure and would serve as an essential starting point to expand the 'farm tourism' concept.

**Alternative 2: Barangay Farm Tourism.** Barangay Farm Tourism is spatially expansive and calls for tourism development in selected barangays throughout the island with the primary beneficiaries being the members of the Federation of Cooperatives. Most participants felt that to learn about farm-life is to learn about barangay-life. This alternative included three possible sub-concepts: 1) a barangay lodge; 2) a guest house (a separate house but associated with a family); and 3) a home-stay or bed-and-breakfast program. Of all the alternatives discussed, the idea of Barangay Farm Tourism received the most discussion, ranging from implementation to impacts.

**Alternative 3: Farm Estate.** As discussed, the Farm Estate alternative was the most familiar to many of the participants. The concept is locationally specific to the Macopo Falls site. The concept called for construction of an entire farm (crops, livestock, fishponds, etc.) and a lodge/farm house on a site. Many issues were discussed, but the most significant planning constraint revealed was the fact that it will take at least five years before the provincial department of agriculture could develop a working and interesting farm. The department of agriculture representative identified procurement procedures as an

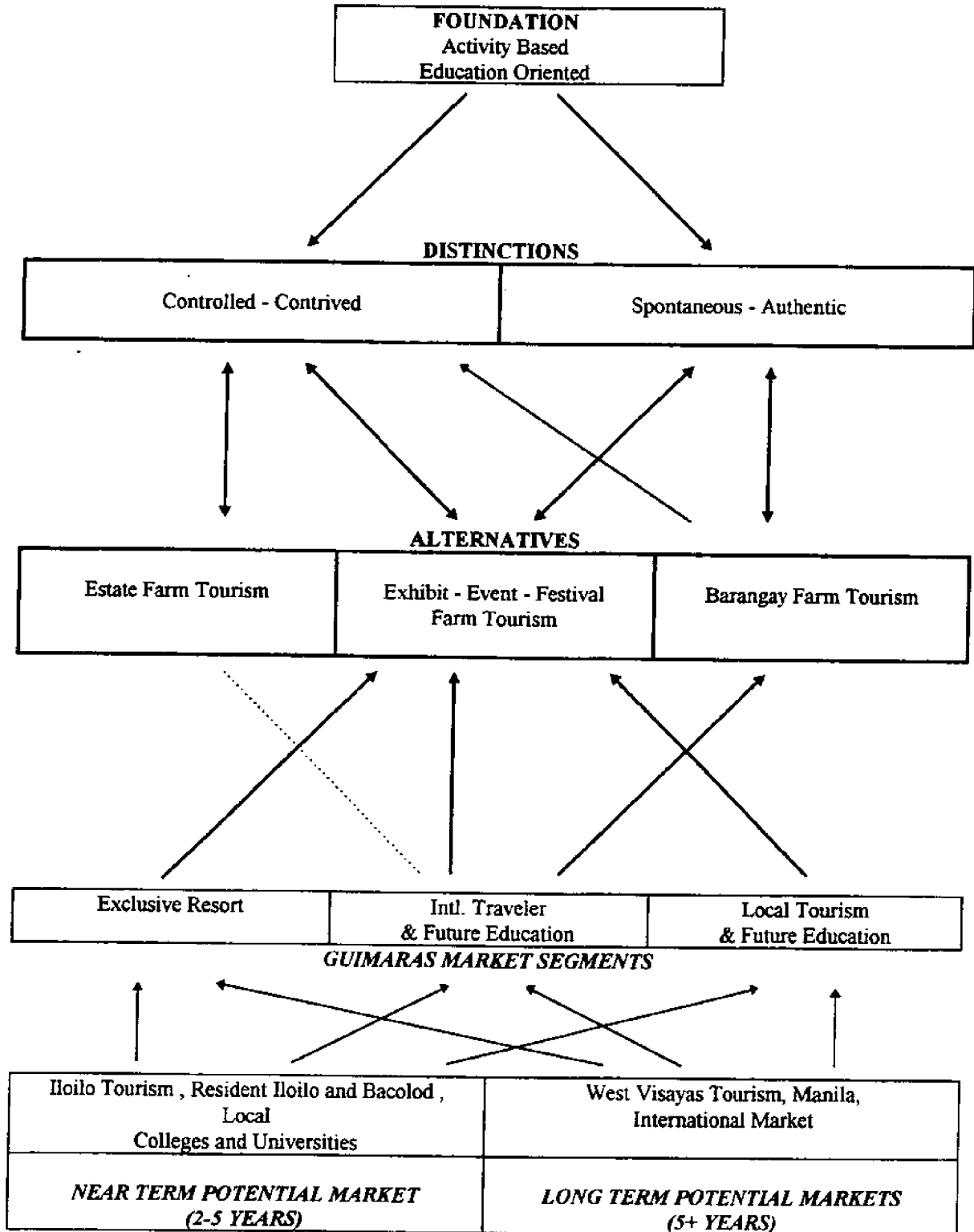


Figure 1. Farm tourism alternatives and market potentials.

additional problem to be considered when planning for tourism development in tandem with agricultural development. The Department of Tourism also indicated that at least five years would be required to develop a market for this product.

### Evaluating the Alternatives

Of the alternatives identified, none were deemed to be mutually exclusive. Trade-offs among alternatives and between objectives would be made over the issue of timing and phasing. Strongly influencing the dialogue was the new information presented during the course of the workshop. The participants reached consensus that exhibits, events, tours and festivals should be immediately developed for the Excursion market segment. Next, Barangay Farm Tourism should be promoted, followed by estate farm tourism after five years.

The proposed phasing had a number of advantages. First, the low initial cost would reduce the financial exposure of the project. Second, because this is an experimental effort, the opportunity for incremental development would allow for basic knowledge to be discovered and, perhaps most importantly, *it would allow key project personnel to gain valuable project specific experience.* Third, a more complete understanding of the impact of different alternatives on desired objectives would be developed. Finally, the Farm Tourism Project could be integrated with provincial and municipal plans under consideration.

### Conclusions

Field research in the Philippines benefited from the systematic MODA process, quickly identifying critical gaps in the data, providing an opportunity for the contribution of all stakeholders and expert judgment and easily incorporating 'new' information (i.e., market constraints) into the planning and decision process. The initial results from the MODA approach should be seen as just one of many steps required to develop a successful Farm Tourism Project. However, important insights were achieved including:

- The workshop successfully established important local area values, positioning them within the national and regional framework.
- Local knowledge, including competing or complementary programs and site specific considerations, were integrated into the planning process.
- The positional embrace of the 'Farm Estate' concept by many key Farm Tourism personnel was expanded, while being harmonized with the previously un-articulated ideas and objectives among stakeholders.

- The workshop signalled the need for planners and stakeholders to recognize the novelty of introducing 'farm tourism' into a young province that is aggressively trying to "catch up" with the nation and the world.

MODA proved to be an effective method to help structure and provide insight into the Farm Tourism Project planning process. With limited time and resources, in an under-developed, un-technical planning environment, MODA established a logical process that was intuitively grasp by stakeholders. Perhaps this was because it genuinely embraces what proponents of the method call "a formalization of common sense" (Keeney, 1982).

### Discussion: MODA and Sustainable Tourism Planning

While the results from applying MODA to planning 'farm tourism' on Guimaras were robust, it is doubtful that the method, in its entirety, will be embraced by Guimarasnons in the future—particularly without a planner familiar with the method. However, some of the more important aspects of MODA were being incorporated into the local planning and decision making process after exposure to MODA. These included: efforts towards an inclusive process; discussions concerning creative alternatives; consideration of other programs through an understanding of multiple objectives; and, consideration of trade-offs, particularly who benefits and who bears the burden of tourism development.

Two specific comments from participants highlight the success of the MODA methodology in the workshop setting, and reflect the internalization of important aspects of the process. At the follow-up meeting to the workshop the President of the Federation of Co-operatives articulated (1) the need to expand the Farm Tourism Task Force in order to include as many stakeholders as possible; and, (2) reiterated the novel concept that the "site" should be the "Island of Guimaras" not simply the "Macopo Falls" site in order to achieve more of the project objectives.

It is important to realize the responsibility of the external expert to understand their role as an 'agent of change.' Of critical importance in any situation, but especially in an Asian context, the expert can provide an avenue for "saving face" as new realities become apparent. The external expert can provide the opportunity for the group to attempt new methods and explore new ideas while shouldering the responsibility of failure (i.e., the President of the Federation of Cooperatives, referred to the 'expert' to help validate the idea of a broad inclusion of stakeholders). Therefore, change, or serious discussion of change, can be more easily initiated from within the group (where it must be made to have any lasting effects) without

radically disrupting existing networks, relationships and structures. This effort to 'keep the process in the comfort zone,' by using existing institutional structures and established relationships, should promote more rapid realization of substantive change.

It is the responsibility of the expert to be aware that besides important knowledge, they also bring their values into the process. MODA, especially through the value hierarchy, helps to address this issue of expert bias. As McDaniels (1994) explains, the planner's role is to: "ensure completeness and avoid redundancies in structuring the objectives" and "clarify the distinction between ends and means." This discrete role and the iterative process of establishing an objectives hierarchy minimizes the problem of an excessive infusion of expert values in the tourism planning and management process (see Williams and Gill, 1994; Stankey, 1990). MODA strives to separate expertise and experience from values and objectives. In this way, the focus is on the objectives being pursued and the creation of alternatives, not what the expert believes. The expert should recognize this distinction in their actions and make it explicit to those involved. On the other hand, it is not possible to completely eliminate expert bias and responsible "biasing" should be encouraged as part of the role of the expert. Responsible biasing includes "suggestions that cause the group to think deeper about their problem and reach what they consider a better understanding" (Keeney, 1988).

While the conceptual approach used has potential for broad application in numerous settings, more advanced and quantitatively powerful extensions of this method (i.e., testing probability with Monte Carlo Simulation or the establishment of decision maker utility functions) would be inappropriate in settings similar to Guimaras due to: a reliance on verbal communication; limited expertise; general unfamiliarity with the techniques; lack of high tech equipment to facilitate analysis (i.e., a computer); and lack of time and interest among key decision makers. Nevertheless, enormous advances were achieved by using the approach simply to structure, organize and open dialogue surrounding important issues. The process in general, and the workshop in particular, achieved the more important objective of *value focused thinking*—which is, according to Keeney (1988), "to better understand the decision situation, which could lead to identification of better alternatives, better communication, better use of data, and hopefully better decision making."

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<sup>2</sup> For example, there are two cellular phones on the island, the road system is poor, the transportation system is overburdened and inconvenient, there are very few computers and no photo copiers.



# ECOTOURISM AND MARINE RESERVES IN NEGROS ORIENTAL (PHILIPPINES): A SUSTAINABLE SOURCE OF INCOME FOR FISHING VILLAGES?

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**Abstract:** *The coral reef marine reserve of Apo Island, Philippines is widely regarded as an impressive success of community-based reef conservation. The reserve attracts increasing numbers of tourists as well as environmental groups thus generating additional income and promoting reef protection. This is an attempt to evaluate the economic benefits of the protected area for fishermen, resort owners and dive tour operators.*

*The questions has been raised as to whether this model can be applied to other reserves in Negros Oriental, with similar economic benefits. Therefore, some selected sites have been described in terms of attractiveness and accessibility with regard to ecotourism. The potential for ecotourism varies greatly between the 17 other protected inshore and offshore reefs, with some sites showing considerable potential for tourism development. In order to support tourism the reserves have been marked and sign-posted to help fishermen and tourist locate the reserves. A joined photo exhibition with the Provincial Tourism Board was held to promote a high profile campaign for reef conservation.*

**Keywords:** *Philippines, coral reef reserves, economic value, ecotourism, fishing communities*

## Introduction

Apo Island is located in Negros Oriental in the Central Visayas, Philippines (Figure 1). This is a volcanic island covering only 72 ha with a total population of 460 people (Savina and White, 1986), whose main source of income is fishing. As early as 1979, Silliman University based their coral reef conservation programme on the active involvement of the fishing community of Apo (Cabanban and White, 1981). The underlying principle was that only the main reef users could provide efficient protection for small size reserves. Since 1985 when the marine reserve of Apo was formally established, it has developed into a model site (Savina and White, 1986; White 1989a, b), attracting scientists, reef managers and increasing numbers of tourists. Numerous studies mainly concerned with changes in fish populations and fish catches have been published (Alcala and Luchavez, 1981; Savina and White, 1986; White and Savina, 1987; White, 1988, 1989).

However, these studies concentrated on the fishery aspects and did not include the benefits of tourism.

Tourism in Negros Oriental is still in its infancy. The social and political setting in the province is stable and foreigners can enjoy the warm welcome and the hospitality of friendly people. The potential for tourism development is very promising (PATA, 1994). Hiking in an impressive mountain scenery with volcanoes, waterfalls and caves are only a few of the numerous attractions (Figure 2). The marine environment offers a particularly interesting spectrum of activities such as dolphin and whale watching, dive trips to coral reef reserves, as well as bird watching in mangrove forests.

However, the marine resources are heavily over-fished and additional sources of income for the fishermen are scarce. In a joint programme by CEMRINO, PPDO-RMD and GDS<sup>1</sup> small-sized marine reserves of 4–10 hectares are currently being established (Vogt and Schirm, 1995, 1996). These reserves allow fish stocks to recover, and it is hoped that a spill over effect will lead to increased sustainable fish catches in the adjacent areas. This paper aims to assess tourism as an additional source of income for fishing communities.

## Financial Benefits of the Marine Reserve at Apo Island

A cost benefit analysis of Apo Island marine reserve was conducted. For this purpose, published catch data (White and Savina, 1987) were combined with enquiries made on Apo island and at the Dumaguete fish market. The major economic advantages and disadvantages for fishermen, resort owner, dive tour operators, scientists and environmental groups are presented in Figure 3.

### Fishermen

In order to establish a reserve on Apo, the fishermen had to stop fishing at a site where fishing had been profitable before. The value of this loss in fish catches is estimated to be approximately US\$2400 every year. However, the financial benefits of transporting tourists to the island is substantial. In the resort, four additional jobs have been created providing income for four people. The income gained from selling souvenirs appears to be limited though. The overall income due to tourism exceeds by far the loss due to reduced fish catches (Figure 3). However the total amount is less than for the other groups.

### Resort Owner

Accommodation on Apo Island is very limited. Located about a 15 minute walk away from the reserve the "Canopy

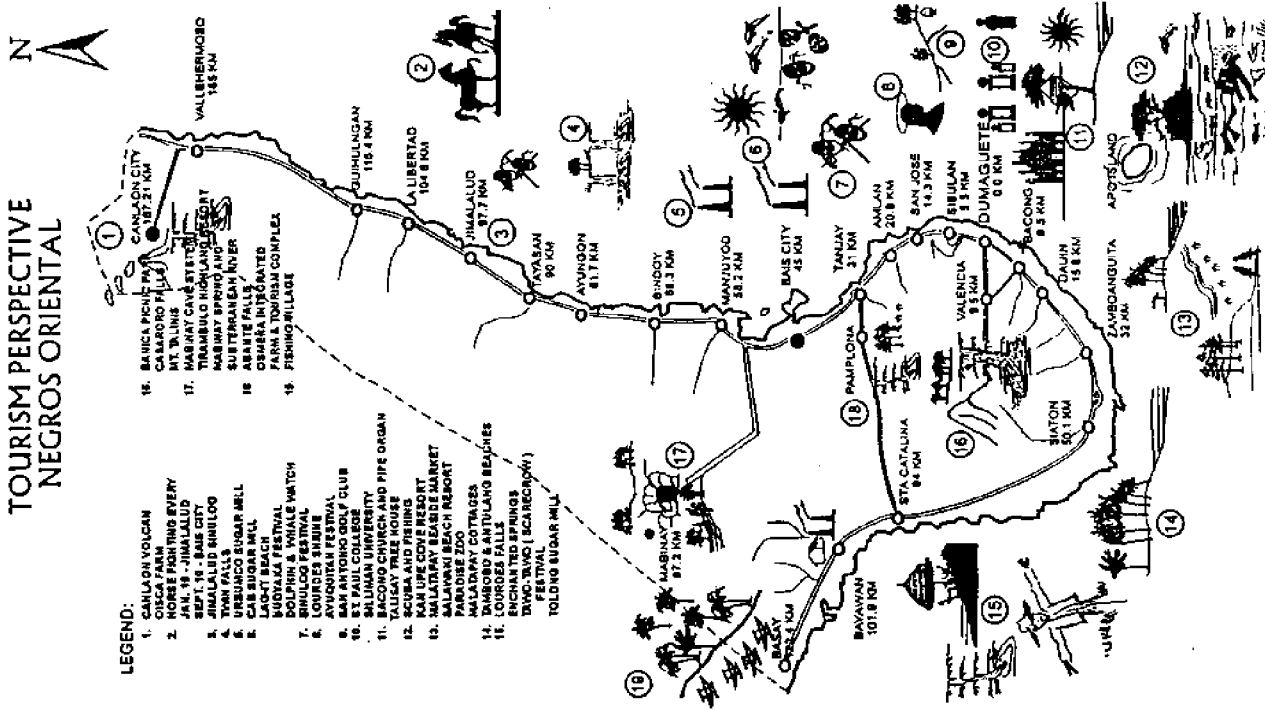


Figure 2. Tourism perspective of Negros Oriental (reproduced with permission of the Provincial Tourism Office).

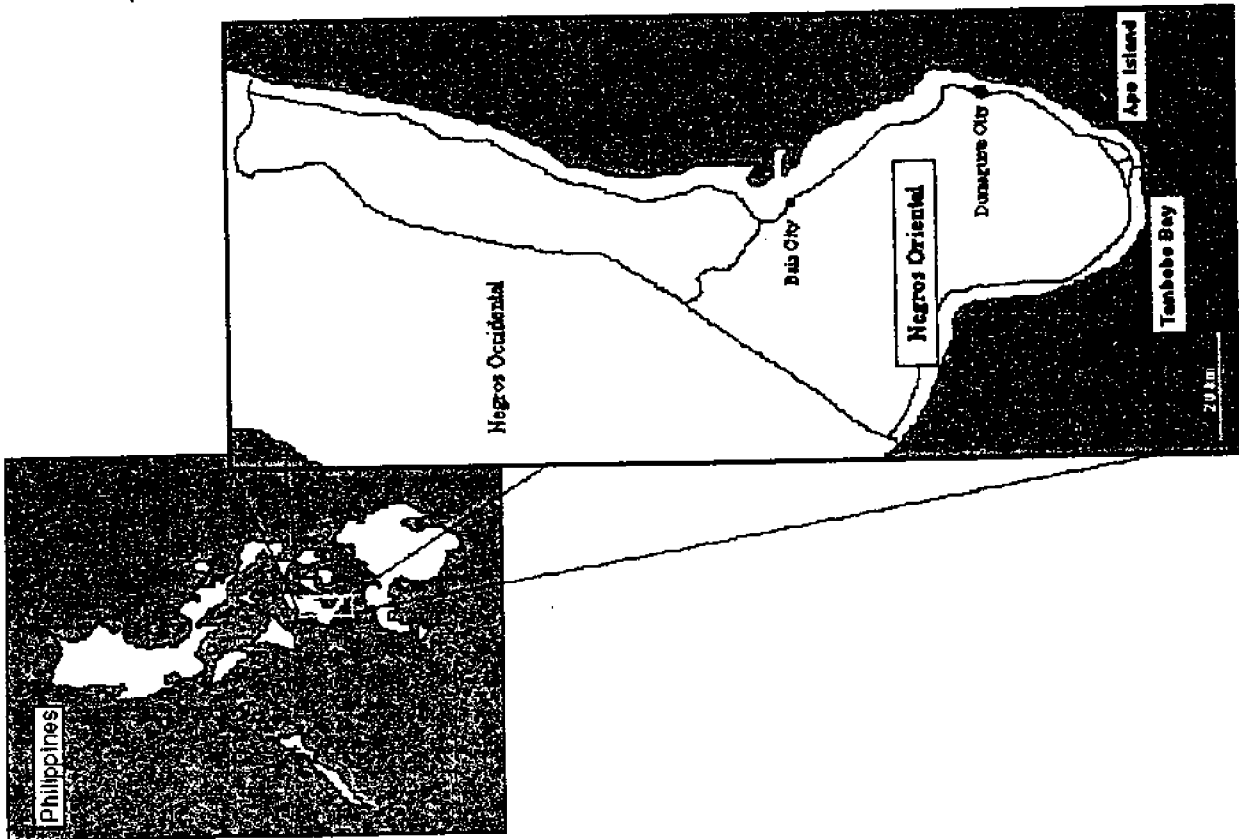


Figure 1. The location of the province of Negros Oriental within the Philippines.

Cove" is the most frequented resort. It consists of six beautifully arranged huts, and a small restaurant made of local design and materials. Recently, diving facilities have been added, allowing divers to fill their tanks and to rent equipment. The resort has become increasingly popular with Filipinos and foreigners. The resort owner had to make a substantial investment in setting up the resort, thus taking serious risks. The income generated by the resort is considerable (Figure 3). The future of the resort is strongly dependent on the health status of the coral reefs, and the reputation of the reserves as model for other areas.

#### Dive Tour Owner

Dive tour operators are predominantly Filipino, although foreigners carry divers to Apo as well. The Apo coral reefs are regarded as one of the top dive spots in the Visayas, thus divers visit Apo as part of a dive tour. The dive tour operators are a group that potentially benefit the most without having to invest in the site (Figure 3). The risks involved for this group are limited, because they are not dependent on one site alone. They can choose to take their group to other sites once one reef has lost its attractiveness. However, in the long-term it is also in the interest of dive operators to support the sustainable use of the reserves because the number of attractive sites is limited, and frequent site changes may have a negative impact on their business.

#### Scientists and Environmental Groups

Neither group directly benefits financially. However, the Apo reserve provides a study and model site for both groups. Considerable effort by Silliman personnel was initially needed to achieve the protected status of the reserve.

There are no documented negative effects of tourism on the environment of Apo island. However, large amounts of plastic bags and other garbage gets trapped in the bay where the resort is located. The origin of the waste is unknown and it may not originate from the island. Tourists have to walk through the village in order to get to the marine reserve; however, it appears that the friendly inhabitants of Apo do not mind their presence.

#### Can This Model be Transferred to Other Reserves in Negros Oriental?

Coral reef reserves in Negros Oriental receive wide support by the local fishing communities, provincial authorities, political and environmental organisations. A joined photographic exhibition with the Provincial Tourism Board<sup>2</sup> was held to highlight the main attractions of the province. As part of the natural heritage coral reef were

included to heighten awareness of reef conservation and to promote their sustainable use.

In a province where Filipino and foreign travellers are welcome, ecotourism may be considered as an additional economic benefit of marine reserves. In May 1996, there were 18 active coral reef reserves in Negros Oriental. The potential of six additional sites to become reserves is currently under investigation (Table 1). All of the marine reserves are small in size (< 15 ha), and are managed by the local fishing communities. The reef reserves vary largely with respect to their attractiveness to tourists. A vital factor for the selection is the structure and species diversity of the coral reef. All sites marked as "well developed" in Table 1 provide dive locations similarly attractive to the reserve in Apo. However, the other locations have individual characteristics, and may be of interest for divers as well. Most reserves can be visited on day trips. Travel time from Dumaguete to the reserves varies between 30 minutes to 3 hours. A trip to Apo will take 30 minutes by car and a further 30 minutes in an open outrigger boat. This may be considered either adventurous or inconvenient. As it may take some time to hire an outrigger boat, the total travel time may be about one hour 30 minutes. Many other reserves require less travel time and can be accessed from the shore.

However, tourists may be prepared to travel longer distances if the destination is worth the trip, and if suitable accommodation is available. Accommodation may be a limiting factor (Table 1). In 1994, only 168 rooms were available in the entire province (PATA, 1994). However, it is likely that this number has at least doubled since the recent opening of new resorts and hotels.

Based on the above criteria, the reserves are grouped and their potential for tourism are discussed.

#### Tambobo Bay group

In the municipality of Siaton, south of Dumaguete, development has already commenced. Two reserves have recently been established in this region (Tambobo and Andulay), and a third reserve (Lutoban) is strongly being recommended (Cemrino, 1996). This region provides coral reefs similar to Apo Island in terms of size and diversity, and is accessible by road. Accommodation is available in scenic surroundings for a small number of people. Similarly to Apo, the resorts are owned by foreigners. Dive tour operators do not seem to include this area in their tours yet. Unlike Apo, fishermen do not benefit by renting out their boats to transfer tourists. Thus the economic benefits are then considerably less, compared with Apo. However, if this region becomes frequented by divers outrigger boats may be rented to transport divers to the most interesting locations. As a second measure to compensate for the loss in fishing ground, it is suggested that a fee for entering the

Table 1. Economic benefits and disadvantages of the marine reserve in Apo Island.

fishing community	min			max			average	US\$/day	US\$/year
	0	4	2	2	4	38	14038		
<b>benefits:</b>	boat transfers to Apo								4212
	selling of souvenirs etc.								4660
	new jobs in resort								2423*
<b>disadvantages:</b>	fishing grounds reduced								
	catch loss in reserve (11.2 ha)								
<b>resort &amp; dive base owner</b>									
<b>benefits:</b>	accommodation beach hut								21058
	hill top								7019
	restaurant								29481
	dive base								4212
<b>disadvantage:</b>	initial investment								32692
<b>dive tour operators</b>									
<b>benefits:</b>	dive spots								42115
<b>scientists</b>	study sites								non monetary value
	model								non monetary value
<b>environmental groups</b>									
<b>benefits:</b>	model								non monetary value

\* This value was computed by fish catch data of White and Savina (1987) combined with fish prices at Dumaguete fish market. It was assumed that the fishermen receive 75 % of the market price.

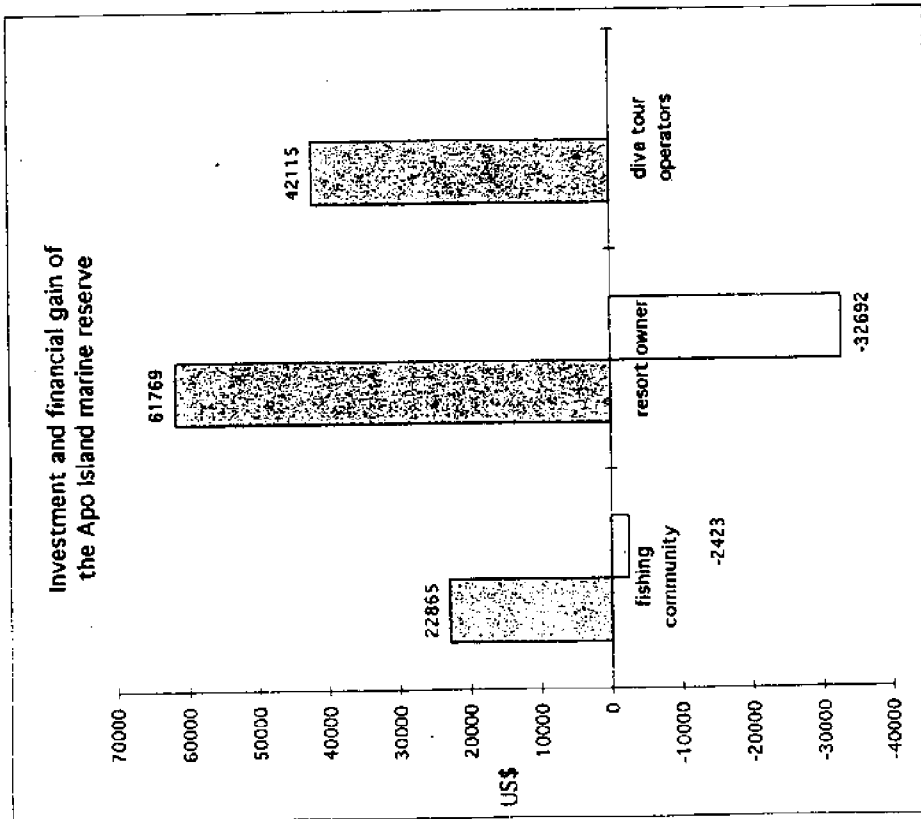


Figure 3. Investment and financial gain of the Apo Marine Reserve.

reserve is applicable. The fee should be made available to the Bantay Dagat (fishing association).

### Bais Bay

Bais Bay, located approximately one hour drive north of Dumaguete, has become well known for its dolphin and whale watching tours. These trips include guided tours through a mangrove forest and a swim in sandy area. However, nearby coral reef reserves (Table 1) are not included in the programme. It appears that considerable potential exists to include snorkelling and diving in these tours. A small fee should be due for tourists entering the reserves. These fees should be for the benefit of the fishing organisations in charge of the reserves to compensate for loss in fish catches in these areas. Accommodation is available in Bais City including a newly opened hotel on a hill top overlooking the bay.

### North of Dumaguete

Most of the reserves are located north of Dumaguete (Table 1). The conditions of the reefs and their attractiveness to tourists vary strongly. However, the interested traveller may easily arrange a collection of sites to be visited during day trips or with overnight stay in, for example, in Bais City.

### South of Dumaguete

Apart from the reserves in the Tambobo group only two other reserves are located south of Dumaguete in Masoplod Norte and Bongalanan. The reserve of Masoplod Norte is conveniently close to Dumaguete, whereas Bongalanan offers a particularly well-developed reef situated at the southern end of the province. Tourists prepared to travel for three hours may find accommodation in nearby Basay.

## Discussion and Conclusions

Using the example of Apo, it has been shown that fishing communities can benefit economically from community based reserve management through tourism. The Apo model may be transferred to other locations where conditions are comparable. However, the extent to which each community may benefit varies considerably depending on site factors. A study of the tourism potential of Negros Oriental concluded that the province should take full advantage of its tourism assets (PATA, 1995). Along with this report, it has been strongly urged that small scale, sustainable tourism is promoted only, adjusted to the specific environment of each site. This form of tourism may be addressed as ecotourism, special emphasis being placed on avoiding undesirable long-term effects. The time scale for evaluating tourist development should be viewed

within the context of intergenerational quality of life. This requires both sustainable use and the protection of biodiversity as preconditions for the needs of future generations (McManus, 1995).

In areas such as Tambobo Bay conflict may arise between the already developing ecotourism and plans to build a moderate-sized hotel with an attached marina. It is planned that a 30-room hotel is built with an option to expand at a later stage (PATA, 1994). Given the very positive conditions in this area, it is possible that the area will be developed to accommodate and entertain tourists on a two to three star level. However, the potential of the bay as a site of a marina, used for sport fishing for the clientele of the four to five star level may be another future plan. This development will doubtlessly create new job opportunities. It appears likely that a large number of positions will require specially trained personnel, which may be employed from other areas. The benefit for the fishing community may be increased if fishermen provide transportation to the reserve, or are entitled to charge admission fees. However, this would require a united group dedicated to use the reserve as a source of income. The danger exists that more business minded people may take over this role, thus reducing the benefit of the fishermen.

In the past, Tambobo bay escaped the threat of becoming a U.S. American naval base. However, it can be expected that within one to two generations, tourism will have changed it beyond recognition. The possibility exists that this change will have irreversible effects for the artisanal fishing community that exists now. Whether this change will be for the economic benefit of these people is difficult to predict. Regardless whether two to five star facilities or ecotourism prevail, either form of tourism is dependent on a healthy environment, including the existing coral reef reserve. Preservation of the marine life is thus mandatory.

## Acknowledgments

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<sup>1</sup> Centre for the Establishment of Marine Reserves in Negros Oriental, Philippines (CEMRINO), Provincial Planning and Development Service-Resource Management Division (PPDO-RMD) and German Development Service (GDS).

<sup>2</sup> From 20-29 March 1996, the Provincial Tourism Board organised the "Balik Negros Oriental" tourism week. As part of the programme a joint photo exhibition was held at the Lee Super Plaza Shopping Centre with contributions from the Provincial Tourism Board, CEMRINO, GDS and PPDO-RMD.

# BASIC RESEARCH OF BARRIER-FREE COASTAL RECREATIONAL FACILITIES IN JAPAN

**Tsuyushi Kobayashi**

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**Abstract:** *This research comprehensively examines the actual situations on the barrier-free marine recreational facilities by means of questionnaires to the local governments and users, as on-site surveys at the representative beaches and marine facilities in the Kanto region from the viewpoint of the handicapped.*

*There are three types of barriers: physical barriers with machines, buildings or town environments, physiological barriers in the human conscience or attitude, and social barriers as a part of the social system.*

*With this study, the physical barrier at the beaches and marinas, and the psychological barrier of the local government and aged or handicapped as the users were examined.*

**Keywords:** *barrier-free facilities, marine recreational facilities, aged, handicapped*

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## Introduction

The increase in the aged generation in the Japanese population has advanced at a very rapid rate that cannot be observed in any other country in the world. It is expected that Japan will be an aged society in the year 2000, in which 65 years or older persons would account for one-fourth of the total population. At the same time, the number of handicapped in Japan is estimated to be as great as approximately three million, and various assignments are currently imposed which include the promotion of self-supporting the society, upgrading the quality of living, and so on.

Since more advanced town and living environments have been achieved in European and American countries than in Japan, the interest in leisure activities and education are much higher among those people because of the upgraded living quality. Accordingly, many facilities based on the barrier-free concept are now being built on the seaside areas in those countries for which considerations have been made for the handicapped as well.

Since Japan is surrounded by the sea, many people participate in marine recreational activities such as sea bathing, camping, gathering sea shells, and yachting. The number of participants tends to increase every year.

However, the environment has not yet been fulfilled in actuality that enables the Japanese nationals to participate in other marine recreational activities. Accordingly, further fulfillment of such marine recreational activities and measures thereof would be required in the future as the number of the aged increased and living quality improves.

## Purpose of Research

The barrier-free concept in Japan is mainly applied when designing residential or public facilities. However, it has been rarely applied to the seaside space such as the coastal areas. Accordingly, the application of the barrier-free concept to such areas is believed to be indispensable when designing the seaside facilities that take the uses of the handicapped into consideration.

This research has been conducted in order to comprehensively seize the current barrier-free situations at the respective marine recreation facilities. The survey was conducted based on the following three points:

1. Survey by means of the questionnaires which were sent to all the prefectures in Japan and cities specified by the government ordinance,
2. Survey by means of the questionnaires on the conscience for the seaside among the aged and handicapped as the users, and
3. On-site survey on the current fulfillment situations of the sea bathing and marina facilities.

## Research Method

**Survey by means of the questionnaires which were sent to all the prefectures in Japan and cities specified by the government ordinance**

A total of 59 questionnaires were sent by mail to the attention of the civil section of the respective local governments in Japan which included 47 prefectures and 12 cities specified by the government ordinance having the population of one million or greater.

Forty-nine questionnaires (100%) were returned from the prefectures and eight (66.6%) from the cities. Since two questionnaires were sent in duplicate to the two prefectures, a total of 57 questionnaires were returned from the 61 parties (93.4%).

The following questions were included in the questionnaires:

- Are there any manuals provided for the barrier-free facilities?

- To what extent does the local government think that a Japanese national understands about the barrier-free facilities?
- Importance of the barrier-free facilities for the aged and handicapped at the public water side facilities.
- Adopted considerations and future measures for the aged and handicapped at the public water-side facilities.

#### **Survey by means of the questionnaires on the conscience for the seaside among the aged and handicapped as the users**

Aggregate survey questionnaires were sent to the aged who are living in the seaside or inland areas. Survey questionnaires were also sent to the welfare center for the aged and the handicapped who are living in the seaside or inland areas or belonged to a group for the handicapped.

In the case of the questionnaires for the aged, a total of 190 answers were returned (100 for the seaside and 90 from the inland areas). Further, in the case of the same for the handicapped, a total of 197 answers were returned (150 for the seaside areas and 47 from the inland areas).

The following questions were included in the questionnaires:

- Frequency of the visits to the seaside by the aged or handicapped,
- Purpose of the visits to the seaside by the aged or handicapped, for future requests, and
- Recognition of information and utilization of the seaside facilities.

#### **On-site survey on the current fulfillment situation of the sea bathing (51 places) and marina facilities (29 places)**

The survey was conducted on the 51 beaches with high utilization rates and 29 relatively large marinas in the Kanto region. Note that the beaches were selected in Ibaraki prefecture (27 of 92 places) and Kanagawa prefecture (24 of 37 places).

In order to seize the current situations on the facility fulfillment for the uses by the aged or handicapped, the survey was conducted on the following points mainly from the viewpoint of the handicapped who have difficulty in moving by themselves (wheelchair users). The degree of fulfillment was determined by comparing the actual situations with the average figures according to the acts or guidelines as specified by the local governments:

- Accessibility (to seize the actual situations on the accessibility to the beach or facility by the handicapped),

- Convenience of the facilities (to seize the actual situations on the parking lots, public toilets, and public phones), and
- Service and recreational facilities (to seize the actual situations of the club house and beach houses).

#### **Research and Considerations**

The research comprehensively examines the actual situations on the barrier-free marine recreational facilities by means of the questionnaires to the local governments and users, as on-site surveys at the representative beaches and marine facilities in the Kanto region from the viewpoint of the handicapped.

The following conclusions were obtained by the research:

- Currently, considerations have been made for the uses by the aged or handicapped at few public beach facilities. However, the barrier-free facilities are expected to increase in the future since approximately 90% of the local governments have the policy to partially fulfill them.
- A difference in the behavioral will was noted for the beach between the aged and handicapped. The handicapped showed more positive behavioral will for the beach. Further, the aged or handicapped living in the inland showed more positive behavioral will for the beach.
- There were seven beaches out of 51 places at which considerations have been made for the uses by the aged or handicapped. However, it was noted that only three beaches can actually be used by the aged or handicapped in view of the considerations after the fulfillment and provisions of the sloped walkways.
- There were only three public marinas out of 29 places at which considerations have been made for the uses by the aged or handicapped.

There are three types of barriers: physical barriers with machines, buildings or town environments, physiological barriers in the human conscience or attitude, and social barriers as a part of the social system.

With this study, the physical barrier at the beaches and marinas, and the psychological barrier of the local government and aged or handicapped as the users were examined.

As stated above, elimination of the barriers at the public water-side facilities and marine recreational facilities in Japan are currently far behind European and American countries. However, barrier-free facilities are expected to increase in number in Japan in the future due to the positive attitude by the local governments, and the need for access to the beaches by the aged and handicapped.



# MARINE TOURISM DEVELOPMENT IN FIJI

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*Abstract: not available*

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## Introduction

Fiji's underwater scenery and surface areas are amongst the six top destinations for diving and exploration by tourists in the world. It has been proven that protecting an area from fishing and shell collecting allows nearby areas to produce more marine species. Recently, members of Fiji's tourist industry welcomed government's intention to create marine parks and reserves. The trend worldwide is to highlight environmental issues. If Fiji proceeds with the creation of marine parks and reserves, the tourism industry as well as other sectors of the community would benefit.

## Current Situation and Issues to be Addressed

In Fiji, the indigenous people are owners of fishing rights while the foreigners are the investors. The main area of contention is fishing rights. There are no clear guidelines for the use of fishing grounds for tourism activities. As a result, agreements between developers and indigenous people have not necessarily been fair or reasonable to either party. The only guidelines in use at the moment is Cabinet decision CP (74) 204 or 25/9/95, which states:

- (a) That Fijian customary fishing rights are not compensable rights;
- (b) That where Fijian customary fishing rights are inferred with, the owners should be compensated in the form of a capital sum by the lessee/developer or the crown or whichever party carries out the development.

To date, no formula has been set for the industry and any inquiries made to respective Government bodies have been directed back to the level of Operator—Fishing Rights Owner.

The landowners view their fishing grounds as a source of food and any exploitation through other activities will disturb the food cycle. Therefore, they feel that they should receive compensation for any disturbances to their marine resources. General developers often consider the reefs and adjacent offshore water bodies offshore as belonging to the state and therefore feel that local

landowning groups do not deserve compensation for their use. The Fiji Diver Operators Association view is that (1) customary fishing rights are not affected by scuba diving (2) there is an incorrect assumption that the use deprives the Fijian people seafood and (3) diving is not harmful to the reef. Scuba diving for observation purposes has not been considered, in international arenas, as harmful to marine life. The Fiji Hotel Association says that the extent of compensation should be determined by the nature of the activity and exclusivity of use. The Society of Fiji Travel Agencies asks, who would be responsible; who would be paying; and what protection would these payments give to the operators.

At the moment, the Government, those involved in the tourist diving industry in Fiji, and the landowners have been continually discussing proposed marine park/reserve guidelines to establish commercial business ventures which would be fair and reasonable to both parties. Due to the sensitivity of the issue, the Fiji Government is carefully considering the range of views raised and is taking into consideration the interest and welfare of the nation before entering into any agreement. To reach an amicable solution, the Government has coordinated ongoing meetings through its Department of Tourism.

## Fisheries Resource Management in the Pacific

Fish stock depletion has always been present. Administrators and managers of the world fisheries are searching for a series of management systems to control the exploitation and utilization of fisheries stocks on a perpetual basis. Remarkable changes have occurred in fisheries, which were brought about by political, legal, biological and technical developments. The fishing fleet has been able to essentially open all oceans. Most of the world's fisheries have paid the price of over exploitation and thus collapsed. There is an urgent need to review the methods of regulating fishing mortality. In the absence of regulations, profitable use is unstable (Panayati, 1982).

In multi-species tropical fisheries, it has been suggested that control of access could be the solution to overfishing (Panayati, 1982). However, since no one species is targeted, the sustainable yield curves are difficult to ascertain. The catch at any one time would consist of a number of species, each having individual population dynamics and therefore a different sustainable yield.

In the Pacific, traditional communal fishing right systems exist. In Fiji, the system is called "qoliqoli." The qoliqoli represents a marine tenure system, which is also found in different forms around the Pacific. The system has a very traditional customary base, hence is often referred to as the

Customary Tenure System (CMT). The CMT defines a traditional group as custodians or owners of the fishery resources in a defined marine area. The area is normally within the reef flats and lagoons.

Fisheries exploitation in these traditional customary fishing areas should be with the consent of the custodians. Within these areas, customary ceremonies are observed which often consist of fishing in the area banned for certain periods. These practices are means of conservation.

### **Fiji Commitment to Coastal Zone Management**

The coastal zone is of vital importance to Fiji's society and national development. It brings together a unique assemblage of resources such as reefs, mangroves, water, agriculture, seafood, beaches, and high quality landscapes. Yet it is also the location of every significant town in Fiji; the majority of villages; the vast majority of the population; as well as industry and commerce.

#### **Effective Conservation Management**

The objective is the establishment of an effective "on-ground" system of culturally appropriate protected area and sites to include: national parks; nature reserves (terrestrial and marine); regional recreation parks (such as forest parks); archaeological sites and reserves; and national monuments.

The rationale is to build upon the National Resource Assessment and the Register of Sites of National Significance and to take the survey work to define "reserve" or protected areas and sites. This will provide the Government and the DOC with an operational management framework for national environmental and heritage conservation. The resource assessment and the Register can only be as meaningful as the "on-ground" result. Establishment of a protected areas/sites system also has direct correlation with the preparation of national land use and coastal zone plans. Establishment of the system would be the first major task of the DOC.

#### **Activities**

- Determine the most appropriate form of a protected area/site system for Fiji taking into account the traditional land and resource tenure/use system and the socio-economic aspirations of traditional users;
- Use the resource assessment and Register of Sites of National significance data to determine suitable area/site boundaries;

- Consult with land/reserve owners, Provincial councils, and NLTB, on levels of use/development of respective areas/sites;
- Prepare, in the short term, management objectives/frameworks for each area or site as a basis for long-term preparation of comprehensive area/site management plans; and
- Establish an institutional capacity in DOC for effective and ongoing management of the protected areas/sites system.

#### **Personnel**

- Conservation planner (consultant) with in-depth experience in developing protected areas/sites in conjunction with traditional land/resource owners to be responsible for developing overall framework system (1–2 years)
- Ecologist/Park Planner (consultant) with experience in park establishment to determine appropriate boundaries, development, and management objectives (3–5 years)
- Archaeologists and historic site specialists to prepare boundary and management prescriptions for archaeological, historic sites and monuments (6 months–1 year)
- Resource economist/secondary tourism planner to prepare a report on potential of areas for appropriate development activities compatible with conservation objectives and resource owner aspirations (6 months–1 year)

#### **Government Contribution**

- Provision of counterparts
- Land/resource owner liaisons
- Survey teams
- Development of supporting legislation and regulations

# PROSPECTS OF COASTAL TOURISM DEVELOPMENT IN BANGLADESH

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**Abstract:** Coastal and marine tourism of Bangladesh is now under prior consideration of the country. The country possesses the longest sandy beach of the world at Cox's Bazar along with the world's largest area of contiguous Sundarban mangrove forest. At present, most of the tourism activities aggregate around Cox's Bazar at the south-east coast of the Bay of Bengal of Bangladesh. The semi-diurnal tidal patterns offers off-shore clean sea waters at high tide. In recent years the tourism authority has attracted a good number of visitors by introducing motels, recreation center, protected beach, golf courses and warm swimming pool facilities. The area is well-connected with the capital city Dhaka and port city Chittagong by air and luxurious air-conditioned buses. The Sundarban mangrove area provides evergreen vegetation, wide range of floral and faunas including the famous royal Bengal tiger, spotted deer, over 200 migratory birds, 334 species of plants. The development of eco-tourism in this mangrove area is yet to be generated. Traditional honey collections, numerous criss-cross rivers and tidal creeks could aide wild attractions to the tourists. The present article deals with aspects of development and management practices for Cox's Bazar and future eco-tourism in Sundarban mangrove region. Some preventive measures for environmental preservation are suggested.

**Keywords:** eco-tourism, sandy beach, mangrove forest, Sundarban, Cox's Bazar, Bangladesh

## Introduction

Sun, sand and seashore are the main coastal and marine tourist attraction in Bangladesh. In addition, tropical evergreen forest and high rise secondary hilly cliffs along the sea coast offers a wild interest to the tourist. Unfortunately the country has an under developed coastal and marine tourist industry. Bangladesh possesses the longest sandy beach of the world and the world's largest area of contiguous mangrove forest (ESCAP, 1988). Most of these areas are completely unspoiled and offer a window of opportunity for practicing sustainable tourism.

Tourism is one of the well known rising industry and an important source of income for many countries. UNEP (1984) reported that the number of tourists increased approximately 5% each year in the world. This growth rate consequently increases a world wide tourist-generated income. Two-thirds of the worlds population is living

along the coast (Stayaert and Troost, 1984) and 60% of the large cities are located by the sea (Dwivedi, 1968). The majority of tourists have a tendency to spend their vacations at seaside and thus much attention has been given to develop coastal and marine tourist resorts around the world. As a potential sector, Bangladesh is now looking for developing and expanding its coastal and marine tourist resorts.

At present, policy of the country for development of sustainable coastal and marine tourism resorts are under prior consideration. As a potential source of foreign exchange earnings, scope for new jobs and regional development, the existing policy of the country is offering departmental cooperation to encourage the foreign investors in potential tourist sites. The Ministry of Civil Aviation and Tourism is responsible for policy-making and implementation in this sector of the country. Bangladesh Parjatan Corporation (BPC) is an autonomous institutions that ensures tourism supply and marketing facilities for tourist. In addition, a few private travel agencies provide necessary information for the tourists interested. The present articles deals with existing tourism and its future opportunities in relation to eco-tourism.

## Hydro-Meteorological Regimes in Coastal Region

Bangladesh is situated in the northeastern part of South Asia, bounded by India on the west, the north, and the northeast, and Myanmar on the southeast and the Bay of Bengal on the south. The country enjoys a sub-tropical monsoon climate consisting six seasons in a year with three prominent seasons, namely winter, summer and monsoon. Winter is quite pleasant; it begins in November and ends in February. As a tropical winter, fluctuation in minimum temperature ranges from of 7.22° C to 12.77° C (45° F to 55° F) and maximum of 23.88° C to 31.11° C (75° F to 85° F). The maximum temperature recorded in summer months was 36.66° C (98° F), especially in the northwest part of the country (BBS, 1992). July is the onset of monsoon and continues till August and sometimes till early October. It contributes about 80% of country total rainfall. In general average seasonal temperature always exists at moderate level in the coastal districts.

The tidal patterns of Bangladesh coast is semi-diurnal; it consists of two high and two low tides in a lunar day. As a result, the high tide offers off-shore, clean, enjoyable sea water twice a day. Moderate velocity of the sea borne wind generates attractive wave crest and adventurous sounds. The boat and sea surfing are still to be developed. Boat riding at outer tidal area is possible but the surfing is still wanting to be tested. The average salinity during the tourist season is about 30 ppt in the Cox's Bazar sea coast.

The mean tidal height fluctuation is about 3.5 m at Cox's Bazar and Teknaf, and about 4.0 m at Chittagong sea coast (BIWTA, 1994). During the monsoon months most of the coastal waters become turbid due to heavy rainfall in mainland, which causes a huge silt-laden river run-off water in the bay. Despite these hydro-meteorological characteristics, the winter months are considered as the peak tourist season because it possesses relatively comfortable weather in aspects of humidity and temperature.

### Natural Landscape in the Coastal Region

Planning of tourism development is dependent upon the attractiveness of natural landscape. The coastal area of Bangladesh supports a diverse range of natural landscape. The most important tourist spots are Sundarban mangrove forest of Khuina, which is surrounded by numerous branches of rivers, canals, tidal creeks; planted-mangrove vegetation on the flat beach along the Chittagong sea coast; world's longest sandy beaches of Cox's Bazar-Teknaf and secondary hilly cliffs with tropical evergreen forest along this coast line; St. Martins coral island in the Bay of Bengal, at 22 km south of Teknaf; and numerous nearshore sandy and rocky islands. Among the islands, Kuakata, Rangabali, Moheshkhali, and Sonadia are of potential for marine tourism. The St. Martins island, only coral island, at present essentially needs to declare as a Marine Protected Area (MPA) since its total biotic environmental condition is extremely deteriorated due to indiscriminate exploitation of coral, seaweeds and other resources of economic importance.

The present favorite tourist spot of the country is Cox's Bazar sea beach. The adjacent Himchari National Park is providing few natural waterfalls, offering an extra attractions to the tourists. Additionally, some other landscapes are available towards the south of Cox's Bazar sea coast where no tourism activity been observed. This may be due to less trodden areas and lack of suitable communication.

### Existing Coastal Tourism Facilities

Presence of tourism supply undoubtedly important to ensure visitors requirements in any tourist resorts. Adequate lodging facilities offers ample opportunity for resting and relaxing environment for tourist. In addition, adequate recreational facilities, cultural events, sports facilities, shopping centers as well as sight-seeing tours are essentially needed in a well-established tourist resort. These facilities will ensure freshness of mind since tourists are looking forward to tension-free days in their visit. The existing facilities in Bangladesh is underdeveloped stage and thus for tourist it is adventurous. At present marine

and coastal tourism is centered towards Chittagong and Cox's Bazar. Both cities support quality and inexpensive residential hotel, motel and family cottages. There are 30 hotels in Chittagong including one from Bangladesh Parjatan Corporation. Only one swimming pool is available here at Agrabad Hotel. In contrast, there are 44 hotels, motels and family cottages are available at Cox's Bazar including a youth inn. Some of these possess swimming pools, bar, golf link and arranged seasonal-cultural programs with local tribal communities. An overview of existing physical facilities for tourist in Chittagong and Cox's Bazar region is represented in Table 1.

Communication networks play an important key role in the tourist resorts. At present regular air links and air-conditioned bus services are available between the capital city Dhaka to tourist city Chittagong and Cox's Bazar. Bangladesh Railways also provide several express train services between these cities. In contrast, the Sundarban and other coastal district in southern region are well communicated by air, rail, buses and passenger ships. A famous steamer service named 'Rocket' is very popular among tourist for river journey. This service is available since British time and still maintained under such tradition. The journey in river often experienced by traditional Hilsa (River Shad) fishing on the River Padma and Meghna or scope for tracking the spotted deer along the river coast during Potuakhali to Khulna bound journey.

### Present Constraints

Bangladesh possesses some of the best natural features of the world. Its marine and coastal tourism is still not popular to the international tourist communities because of several constrains. The most important one is the higher travel cost for Europe and North American tourist. Previously majority of the foreign tourists were represented by Western Europe, Far East and Oceania. After opening Biman's (country's national airline) New York flight, the increase in North American tourist is evident. As a nation the country has its own heritage and reputation. The lack of proper tourism follow-up in international community, it's unique cultural conservatism failed to attract tourist (ESCAP 1988). An unfortunate image existing for Bangladesh as a country of natural disasters (i.e., flood, cyclone, tornado etc.), which may divert tourists. In fact, these natural disasters are not evident in the tourist season (winter months). Finally the existing management and marketing system for international tourist communities are not well organized like the other successful coastal and marine tourism nations. To develop the existing practice as well as to share the international tourist market the country needs some strategic policy changes as soon as possible.

**Table 1. Some Facilities in Coastal and Marine Tourism in Chittagong and Cox's Bazar, Bangladesh.**

City	Name of Hotel/Motel	Rent/Room/Night in US\$	Additional Facilities
Chittagong	Agrabad Hotel (***)	60 to 65	Swimming pool, Hall room, Bar and restaurant etc.
Chittagong	Motel Saikat (**), BPC	40 to 45	Site seeing tour
Chittagong	Hotel Saint Martin (**)	50 to 55	Information is not available
Chittagong	Hotel Meridian (*)	40 to 50	Information is not available
Cox's Bazar	Hotel Saibal (***), BPC	50 to 55	Bar, Swimming pool, golf link, Conference Room.
Cox's Bazar	Hotel Saymon	25 to 30	Bar, Swimming pool
Cox's Bazar	Hotel Panowa	20 to 25	Information is not available
Cox's Bazar	Palonkee	20 to 25	Information is not available

## Future Opportunity

In general, the present tourism practice of the country is emphasizing in inland historical places, like centuries old architectural monuments, numerous cultural heritage places and natural landscape sites. Evidently, the number of foreign tourists is now increasing (Figure 1). This may be due to several factors. The Bangladesh Biman offers best prices for package tour from London, Athens, Tokyo, New York, and some other international cities. Besides some problem in India and Bangkok may divert tourists in Bangladesh. Until now, most of the potential coastal landscape is under utilized for tourism. Creation of nature oriented tourism (i.e., ecotourism) in these area will provide more economic growth (Figure 2), and will open warm relationships with native and international tourist community. Hetzer (1965; in Miller 1993, p. 188), mentioned that responsible "eco-tourism" is measured against four standards:

1. minimum environmental impact;
2. minimum impact on—and maximum respect for—host cultures;
3. maximum economic benefits to host country's "grassroots"; and
4. maximum "re-creational" satisfaction to participating tourists.

It should be kept in mind that there is no standardized method of quantifying the nature of eco-tourism although 'The Ecotourism Society' defines ecotourism as "responsible travel that conserves the environment and sustains the well-being of local people" (Miller, 1993). As ecotourism is comparatively responsible tourism rather than traditional practice, the future development in the coastal and marine tourist resort in Bangladesh may proceed with eco-tourism practice. Some of the potential aspects are mentioned below.

### Eco-tourism in the Sundarban

The Sundarban mangrove forest is one of the world's largest contiguous mangrove forest consisting about 6200 square kilometers and 334 species of tropical evergreen trees that offers home for various biodiversity. This forest supports habitat for 400 species of wildlife, including 261 birds and 49 mammals and others like reptiles, amphibian (Khan 1986). The world's famous royal Bengal tiger and spotted deer are the main attraction of the area. The entire forest is embraced with numerous criss-cross rivers, canals and tidal creeks. These water bodies provide home for various of fishes, shrimps, reptiles (including tropical crocodile), and freshwater dolphin. Traditional honey collection from Sundarban forest is an attractive and adventurous job for collectors since time immemorial.

The Sundarban mangrove forest is legally owned by the government and declared as a wildlife sanctuary in early

1970s. Hunting of animals, cutting of unauthorized trees are completely prohibited. The Department of Forest under the Ministry of Forest and Environment is at present managing and monitoring the wealth of the forest. At present only two tourist spots, 'Hironpoint' and 'Katka' are available at the southern tips of the forest. Visiting these places requires special journey arrangement due to getting permission and accommodation. The 'Hironpoint' resort is maintained by the Mongla Port Authority in Khulna and 'Katka' is maintain by the Department of Forest. The main attraction of the sites are the royal Bengal tiger, spotted deer, bird-watching and other wildlife. Development of "eco-tourism" facilities in this area (Sundarban forest) will create a new scope for tourists to have a 'wild tour' in a very remote but adventurous site.

### Development of Marina

The coastal area of Bangladesh possesses some near shore islands which are suitable for development of marina and yacht club. The important coastal islands are Kuakata island near Patuakhali coastal area, Rangabali island near Bhola district and Sonadia island near Cox's Bazar sea coast. At present some preliminary resort development is going on in Sonadia and Kuakata islands. The most important features of these islands are isolation from local communities, absence of permanent human habitat and wide sandy beaches. The romantic features of the Kuakata island is the scope to enjoy sun rise and set scenic beauty. Development of adequate residential and recreational facilities as well as good transport networks in these areas will obviously attract both domestic and international tourists.

### Approach to Environmental Preservation

It is well established that humans are the only creature responsible in damaging environmental quality of our planet. The increase in population during the tourist season generates problems related to pollution through direct waste disposal on the beaches. The mass population in a wild sanctuary or marine protected area sometimes create insecurity to the biodiversity especially when rare or endangered species are present. The development of marine and coastal tourism no doubt is one of the potential industry for the developing countries. The need of such development for improving their economic growth is also expected. Thus strategic policy approach may prevent probable environmental loss in the tourism sector. For that, to develop a new tourist resort in a valuable ecosystem, the following steps may helps to protect the marine and coastal tourism area. These are:

- Conducting detailed Environmental Impact Assessment (ELA) prior to tourist resort development including social and cultural monuments of that region.

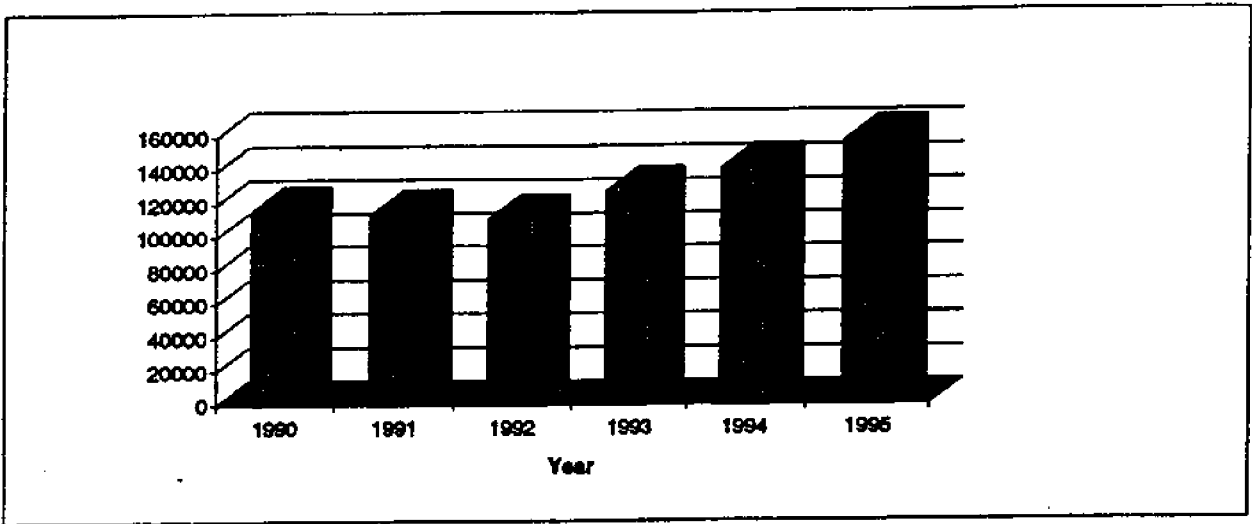


Figure 1. Number of tourist during 1990 - 1995.

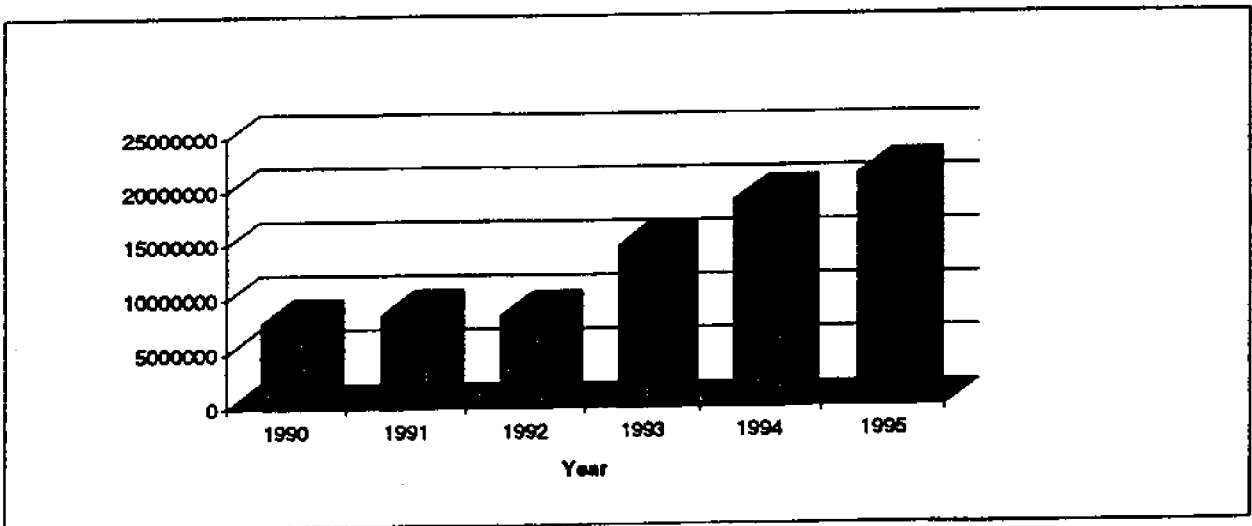


Figure 2. Income (US\$) during 1990 - 1995.

- Adoption of precautionary principle in every stage during the development of tourist resort.
- Controlling tourist access by an optimum number according to the bearing capacity of the area.
- Adoption of necessary regulatory bindings in tourists area to keep the environment clean and healthy.
- Maintaining restricted and protected tourist resort for foreigner, if local socio-cultural heritage is conservative or conflicting nature with the lifestyle of visitors.
- Co-management in the coastal and marine resorts may offer better management efforts.

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## Conclusion

There is no doubt that the physical feature and climatological conditions of Bangladesh is suitable for sustainable and ecotourism practices. The country is now looking for the experiences to develop some of its new coastal and marine tourist resorts in potential coastal districts. Due to lack of adequate investment and technological know-how the coastal and marine tourism is yet to be utilized. To improve this bright of the country, it needs cooperation from both international and regional communities. The potential investors, companies or organization may consider to extend their new tourist resorts in Bangladesh. In turn, this will open an era of opportunities for the international tourist communities to know more of Bangladesh!

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# TOURISM EMPLOYMENT AND THE URBANIZATION OF COASTAL BALI

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**Abstract:** Tourism employment is a major motivator for migration. Since many tourists resorts are located in coastal zones, migration to these resorts results in urbanization of the coastal zone. This paper presents the results of interviews conducted in two coastal resort villages in Bali, Indonesia. Tourism workers in four employment categories were surveyed: 1) hotel front desk employees; 2) guides; 3) souvenir kiosk operators; and 4) beach and street vendors.

Although migration has largely been seen as a rural to urban phenomenon, the research demonstrated that migrants to Bali's coastal resorts originated from both rural and urban centres. Furthermore, early migrants to the coastal resorts were not drawn by the "urban" nature of the resorts, but rather, by tourism employment opportunities. However, continued migration to these resorts has contributed to the urbanization of the coastal zone. The resulting urbanization is of the "desakota" form, described by McGee (1991) as a mixture of rural and urban land use.

Migrants to Bali were predominantly single males from Java who worked in the informal sector as vendors. A small proportion of migrants were married and had migrated together with family members. These migrants were found to be permanent, having never returned to their home villages. As well as non-Balinese migrants, a significant proportion of the sample were Balinese but had migrated from rural areas to the coastal zone to take up tourism employment. Both Balinese and non-Balinese migrants were found to have contributed to increased urbanization in the coastal zone. Attitudes in these coastal resort communities were of tolerance toward new migrants.

The research led to a number of policy implications for migration to and urbanization of the coastal tourism resorts. It is important for governments and tourism planners to: 1) encourage and support the economically viable informal tourism sector; 2) direct migrants to employment opportunities left vacant by the local community; 3) provide free or low-cost training courses in Balinese culture and customs for migrants; and, 4) direct migrants toward employment opportunities in other tourism areas to minimize urban growth of coastal area.

**Keywords:** tourism, employment, migration, coastal urbanization, Bali

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## Tourism as a Coastal Urbanizing Force

A large literature exists demonstrating that tourism is an urbanizing force in the coastal zone (Smith, 1991; Wong, 1991; Goodall, 1992; Smith, 1992a; Smith, 1992b; Mullins, 1993). Most authors have argued that it is the additions to the physical infrastructure of tourism which is the primary urbanizing force (i.e., airports, roads, hotels, restaurants, stores). These additions lead to many negative impacts, resulting largely from physical transformations of the natural landscape. As beach resorts evolve into urban centres, negative environmental impacts occur, including the transformation of sensitive lands to a built environment of roads, hotels, restaurants and shops. Damage to natural ecosystems, both marine (e.g., damage to coral reefs, water quality degradation) and terrestrial (beach erosion, pollution, habitat conversion, hydrological changes) can be the result of tourism development and is both unpredictable and often irreversible (Wong, 1991, 1993). As well, it has been argued that "coastal resorts are not only a particular feature of tourism development, they are also a distinctive urban form," (Goodall, 1992, p. 5) largely characterized by strip development.

This paper argues that in addition to tourism infrastructure, migrants seeking employment in the tourism sector also act as a strong urbanizing force. As well, the paper argues that the form of urbanization resulting from tourism cannot always be characterized as simple strip development, but also includes a more complex form labelled by McGee (1991) as *desakota*. *Desakota* urbanization has been described as a pattern of alternating urban and rural land uses, where the rural lands continue to support intensive agriculture. The paper is based on the results of research conducted in Sanur and Kuta, two coastal resort villages in Bali, Indonesia.

## Tourism Migration

Tourism can bring about migration within the labour force, through the creation of employment opportunities. In turn, migration to tourism areas fosters urbanization through an increase in population, and associated increases in housing and related infrastructure which service the migrant community. Although some tourism researchers (Monk and Alexander, 1986; Lever, 1987) have argued that tourism migrants are usually circular rather than permanent (that is, they work in the tourism areas during the high season and return home during the low tourist season), others have argued that migrants are permanent, remaining in the tourism area year round, even though they maintain strong links to their home village, through periodic visits or by sending home monetary remittances (Elkan 1975; Lever 1987). Thus, an important question to address when considering the urbanization effect of migrants is whether the migrants are permanent or circular. Permanent

migrants add considerably to urbanization pressures while, in general, circular migrants add less.

Another question regarding migration is whether migrants compete for tourism jobs with the local labour force or whether they fill a niche left open for social, cultural, economic or political reasons. Most researchers have argued that increased competition results (Davies, 1979; Cleverdon, 1977; Todaro, 1976; Gee et al., 1984; Parnwell, 1993; Sharpley, 1994; Krippendorf, 1994). A few, however, have inferred that competition may not be the dominant consequence and that migrants for tourism jobs in fact fill vacant niches (McGee, 1982; Monk and Alexander, 1986; Lever, 1987; Connell, 1987). If, in fact, migrants do fill vacant niches, then existing employees are not displaced, community harmony is more likely to be maintained, and new migrants represent an addition to the local population and its supporting need for urban infrastructure.

### Urbanization and the *Desakota* Model

Urbanization affects and is affected by migration. With specific reference to Asian countries, McGee asserted that the type of "urbanization" which has, and continues to occur in many Asian countries, is the development of regions of mixed rural and non-rural activity which surround an urban area. McGee (1991, 1995) labelled these areas *desakota* from the Indonesian words *desa*, meaning village and *kota*, meaning city. Tourism, through the creation of physical infrastructure, stimulation of economic investment, and migration for employment, is an urbanizing force. With urbanization comes the large potential for adverse effects such as congestion, inflated land prices, modified social organizations and changes in cultural values (Culkier-Snow and Wall, 1993). However, a question relevant to coastal zone management is: what pattern does tourism urbanization follow in the coastal zone? This question was applied to tourism employment in two coastal villages in Bali, Indonesia.

### Tourism in Bali, Indonesia

The island of Bali (see Figure 1) is one of the most toured of Indonesia's provinces, with over one million tourists (approximately one quarter of all tourists to Indonesia) visiting Bali in 1995 (ITR, 1996). Although Bali has historically been Indonesia's main tourist magnet, Bali did not become a prominent destination until the late 1960s with the construction of an international airport and the island's first five-star hotel. The number of tourists to Bali increased dramatically over the 1969–1995 period from about 25,000 visitors in 1970 to 1.1 million in 1995 (ITR, 1996). Bali is a 5,600 km<sup>2</sup> tropical volcanic island which consists of three main bio-geographical zones: the

mountainous central region, the coastal lowlands, and the limestone fringes. The 1990 population of the island was 2.8 million with almost a quarter residing in the southern coastal areas (UNDP, 1992). The population density in 1991 was 500 persons per km<sup>2</sup>. Bali's population is young, with the largest percentage falling within the 15–19 age bracket (UNDP, 1992). Unlike predominantly Moslem Indonesia, the main religion in Bali is Hindu.

One significant result of the rapid development of tourism in Bali has been dramatic economic growth with the island having one of the highest average income levels in all of Indonesia (Culkier-Snow, and Wall, 1993). A highly visible result of this growth has been a rapidly changing landscape of increasing numbers of hotels, restaurants and souvenir shops, particularly in the highly desirable coastal zone. Employment in tourism has increased in both the formal and informal sectors, and the main resort areas of southern coastal Bali (Sanur, Kuta and Nusa Dua) have attracted migrant workers from other parts of Bali and throughout Indonesia.

The 1971 SCETO tourism master plan for Bali was largely responsible for the concentration of tourism, and the resulting urbanization, in Bali's southern coastal zone. The SCETO tourism plan suggested a development strategy which encouraged rapid and concentrated tourism development in three main resort areas in southern Bali. This has contributed to greater urban growth in the southern coastal areas, than any other area of Bali. As well, Bali's southern coastal areas have seen the greatest concentration of 5-star hotels, which Rodenburg (1980) documented as drawing 90% of their employees from outside the area adjacent to the hotel.

### Tourism Employment Trends in Bali

Tourism development in Bali has resulted in the creation of many employment opportunities. Since 1970 and the initiation of mass tourism, there has been a trend in Bali for village residents to leave low-wage traditional sectors, such as farming and fishing, and migrate to the main resort areas of Kuta, Sanur and Nusa Dua in order to seek tourism employment. As well, non-Balinese migrants have been attracted to the island by tourism employment possibilities, even in the face of government policies attempting to restrict such migration. In 1973, a program was launched to allow only those migrants with a secure occupation and place to live to move to Bali (Picard, 1992). However, this policy has been difficult to enforce and was largely ineffective. The total number of migrant workers in Bali is not known, although official government figures for 1990 indicated that approximately 115,000 people were classified as migrants to Bali<sup>1</sup> (Darmasetiawan, 1992).

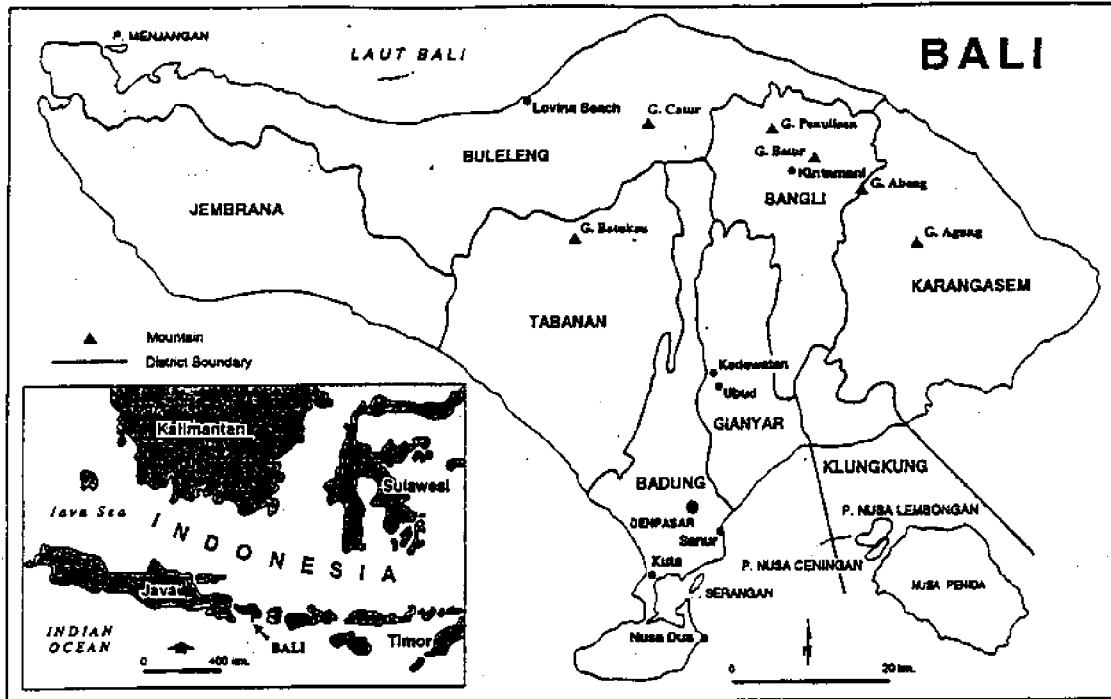


Figure 1. Bali (inset shows the location of Bali within Indonesia).

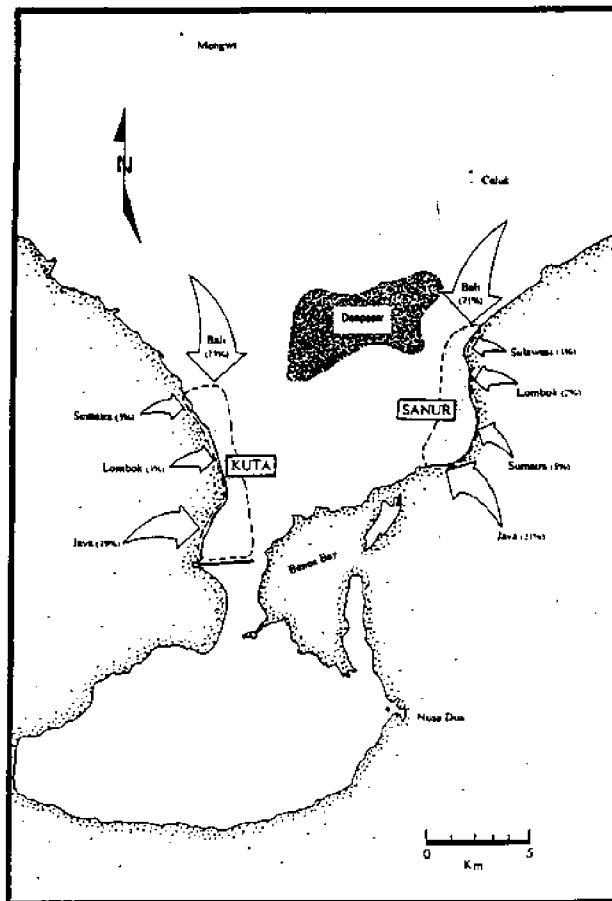


Figure 2. Composition of tourism employment migrants to Sanur and Kuta by Province.

## Case Study: Sanur and Kuta

Sanur and Kuta were chosen as case study sites because of their prominence as tourist resorts in Bali, their differing resort characteristics<sup>2</sup>, and their history of relatively unplanned and unregulated development. Nusa Dua, the third major tourism resort in Bali, was excluded from the study area because, as a government planned enclave resort, the development of tourism is strictly regulated and informal sector workers are not permitted within the enclave.

Sanur is a large village situated on Bali's southeast coast about six kilometres from the capital city of Denpasar. Before tourism arrived in Sanur, residents worked predominantly in farming, fishing, animal husbandry and artisanal activities (Picard, 1993). Although Sanur residents were able to support themselves economically by these traditional means, the area was relatively poor, largely due to the limited availability of arable land. Thus, the introduction of mass tourism to the area in the late 1960s was looked upon favourably by local residents (Lindayati and Nelson, 1995). In 1969 there were just 399 accommodation rooms for tourists in Sanur but by the end of 1990 this number had grown to 3,145 rooms (Bali Government Tourism Office, 1990). Village leaders have taken advantage of the financial prosperity resulting from tourism to finance social and cultural activities. A beach market has been created, restaurants and art shops have been opened by local villagers, and by the late 1970s, approximately 400 people were employed in these tourism-related ventures (Picard, 1993). By the late 1980s, over half of Sanur's working population was employed in tourism-related activities (Lindayati and Nelson, 1995).

Pre-tourism employment in Kuta primarily consisted of fishing and farming, with very limited craft development (Hussey, 1989). The first tourism employees in Kuta were entrepreneurs who set up small-scale, locally-owned hotels and guest houses, restaurants, clothing and souvenir shops, and bicycle and motorcycle rentals. These enterprises were initially considered by the local entrepreneurs as auxiliary activities to supplement their primary income from more traditional activities (Picard, 1993). Tourism is no longer peripheral to the community of Kuta. The number of tourists to Kuta increased from 1,000 in 1970 to 60,352 in 1980 and in 1980, the Balinese government recognized Kuta as a priority tourism area and officially changed its status from village to town (Hussey, 1989). Today, Kuta is dominated by non-stop tourism development, including hotels, shops, and restaurants.

## Research Approach

Interviews were conducted with a total of 240 tourism workers in four employment categories in both Sanur and Kuta. The four employment categories were: 1) front desk staff at starred hotels; 2) drivers/guides who take tourists on tours; 3) workers in kiosk stalls (small shops) who sell souvenirs; and 4) beach and street vendors/hawkers. These groups were chosen because they represented a range of employment types, included members of both the formal and informal sector, and varied in the degree of entrepreneurship, job security, job flexibility and capital required for the job. Thirty front desk employees at starred hotels were interviewed, and 30 guides/drivers, kiosk workers and vendors were approached randomly at pre-selected sites in each of the two case study sites (Sanur and Kuta). The questionnaire was administered orally by Balinese research assistants and, because respondents were approached randomly, no effort was made to seek out an equal number of male and female respondents. The data were analyzed through use of frequency counts, cross-tabulations and analysis of variance. In addition to survey research, maps, secondary data and direct observation were used to establish the character or "form" of urbanization particular to tourism in Sanur and Kuta.

## Main Findings

### Migrant Demographics

Many of the tourism employees surveyed in the study had migrated to the coastal tourism areas from other parts of Bali or from other islands in Indonesia. Almost a third (28%) of the survey sample were non-Balinese migrants, most of whom were single young males from Java (64%) (see Figure 2). Vending was by far the most common tourism occupation for non-Balinese migrants (77%), followed by front desk employment (17%), guiding (13%) and kiosk employment (3%). In contrast, kiosk work was the most common occupation for Balinese respondents, followed by guiding, hotel front desk employment and vending. Since very few Balinese were drawn to Sanur and Kuta by the possibility of working as vendors, these employment opportunities were being filled by non-Balinese migrants and constitute an employment niche left vacant by the local population. Regardless of the tourism occupation, respondents in all four employment groups reported monthly earnings of at least US\$80.00, double the official minimum wage for Bali (US\$40.00/month), while some earned as much as five times the minimum wage (US\$200.00/month).

Most Balinese and non-Balinese tourism migrants had migrated to Bali's coastal areas with at least one other person, thus multiplying the effect of migration on coastal urbanization. Most migrants were accompanied by family

members or friends. However, both Balinese and non-Balinese guides were the only groups for which the majority migrated unaccompanied.

### Migration Permanence

An important aspect of migration studies within tourism is whether migrants are permanent or circular, that is, whether they remain in the resort areas year-round or return to their home periodically. All of the non-Balinese migrants were permanent migrants, i.e., they had no intention of returning home for many years or until they were financially well-off. Approximately half of the Balinese employee sample had migrated from rural areas to the coastal zone to take up tourism employment. Most (86%) of these Balinese migrants had originated from outside the southern coastal regions, but did not return to their home villages, instead remaining in either Kuta, Sanur or the immediate vicinity. Most front desk and kiosk workers (98%), vendors (97%) and guides (95%) lived within the southern coastal areas. This has a significant impact on urbanization of the resort areas and urban growth in Denpasar, considering that almost a third of the sample were non-Balinese, and that almost half of the Balinese respondents had originated from outside the southern coastal areas.

The residence time for Balinese migrants to Kuta and Sanur varied with both employment type and the location. Kiosk workers, on average, had resided the longest in the resort areas with an average of 17.2 years, followed by front desk employees (11.8 years), guides (10.5 years) and vendors (8.3 years) ( $F=24.37$ , .001 significance). Although similar patterns in years of residence by employment type were found for non-Balinese respondents, they, on average, resided for a shorter period of time than Balinese respondents. Non-Balinese kiosk workers had resided in Sanur or Kuta longest (7.7 years), followed by guides (6.4 years), front desk employees (6 years) and vendors, who, at two years, were the most recent migrants. These findings lend further support to the contention that migrants to the coastal tourism areas were, in fact, permanent migrants.

### Urbanization Pattern

McGee's urbanization model was used to assess the role tourism has played as an urbanizing force in Bali, primarily because of the proximity of agricultural areas with tourism urban coastal areas (*desakota*). His model is particularly useful when applied to Bali because of the interconnection between agriculture and the socio-cultural and religious foundation of Balinese culture which, according to official government policy, is the root of tourism in Bali (*pariwisata budaya*). However, tourism employment is by no means the sole urbanizing force in Bali. Other influences, such as a lack of expansion capacity in traditional sectors and rising

expectations resulting from media exposure and higher levels of education, are also urbanizing forces.

Although migration has largely been seen as a rural to urban phenomenon, the study demonstrated that migrants to Bali's coastal resorts originated from both rural and urban centres across Indonesia. Furthermore, early migrants to the coastal resorts were not drawn by the "urban" nature of the resorts, but rather, by tourism employment opportunities. However, continued migration to these resorts has contributed to the urbanization of the coastal zone. Although Bali's main tourism areas are outside, but with relatively easy access to, a large urban area, the type of urbanization occurring in the southern coastal areas matches that of McGee's *desakota* urbanization model, with tourism acting as one of the urbanizing forces.

Although some strip-type development may be found in tourism areas in Bali (Smith, 1992b), productive agricultural land is interspersed among the hotels, restaurants and shops which dot the landscape (Hussey, 1989; Lindayati and Nelson, 1995). In addition to the competition between agricultural land and tourism infrastructure, tourism employment competes for agrarian labour. However, the absolute number of individuals involved in agricultural activities has not declined, thus minimizing the potential negative impacts on Balinese cultural traditions due to a decline in agricultural importance. The agrarian tradition and its associated cultural and religious importance persist, in part, because the rice fields and the associated cultural traditions are in close proximity to the growing tourism resorts and are attractions for tourists. This proximity makes it possible for tourism employees centred in the resort areas to maintain their ties to traditional ways and, thus, negative impacts are not inevitable.

### Coastal Community Reaction to Migrants

Although many authors have stated that migrants can place stress on existing communities (Cleverdon, 1977; Gee et al., 1984; Monk and Alexander, 1986; Parnwell, 1993; Sharpley, 1994; Krippendorf, 1994), and some have specifically argued that migrants cause increased competition (Todaro, 1976; Cleverdon, 1977; Davies, 1979), this study revealed that there was little resentment among Balinese toward the non-Balinese employed within the tourism sector. Balinese respondents commented that they were not interested in working at the occupation that non-Balinese migrants typically chose, vending, since it was considered a relatively "low class" job which was culturally inappropriate for Balinese. Instead, Balinese respondents stated preferences for other types of tourism employment, such as working in kiosks, hotels and as guides. The fact that many non-Balinese migrants filled a niche left vacant by Balinese employees minimized possible resentment felt by Balinese towards non-Balinese migrants. Some comments by Balinese regarding non-Balinese migrants

were: "We can learn from outsiders," "If outsiders are successful, then I too can be successful," and "People have the right to work in whatever area they desire. We can all work together and be tolerant of one another." Furthermore, non-Balinese vendors often sold products supplied by Balinese owners of souvenir kiosks. Thus, non-Balinese workers acted as sales agents and received a commission from Balinese kiosk "contractors." This finding supported the contention by some researchers that migrants to a tourist area do not cause increased job competition, rather they fill niches left void by the local population (McGee, 1982; Monk and Alexander, 1986; Lever, 1987; Connell, 1987).

## Discussion and Policy Implications

Although the coastal communities of Sanur and Kuta were tolerant toward new migrants, significant barriers to employment choice existed in these communities. Most non-Balinese migrants faced restrictions in participating in many of the tourism alternatives to vending, such as working in a kiosk, or hotel or as a guide. Official residence in Bali was a prerequisite to owning a kiosk and therefore, kiosks were predominantly owned by Balinese citizens who were reportedly more likely to hire Balinese family members or friends as employees. Hotel employees generally were required to have a high level of formal education and tourism training, characteristics often lacking in the non-Balinese migrant sample. Working as a guide was an occupation in which local knowledge of traditions and the culture was deemed beneficial as was a detailed knowledge of Bali's tourist sites. New migrants to the island did not usually have this type of knowledge and, thus, initially chose alternative employment such as vending.

The study demonstrated that migration to tourism areas for employment fostered urbanization through the permanency of migration. All surveyed migrants to Bali resided in either the resort areas of Sanur or Kuta, or in the nearby capital, Denpasar. Because these migrants settled in the "urban" areas and were permanent migrants, they contributed to urbanization in the southern coastal areas. This increased urbanization in coastal Bali which has resulted from tourism employment requires further analysis and policy response by government and tourism planners.

Four main policy implications arose from the findings of this study. The first concerned the magnitude and economic structure of the informal tourism sector. The study demonstrated that the tourism informal sector was significant in Bali and its members were relatively well remunerated while exploiting niches left open by sector counterparts. Therefore, it is important for governments to encourage and support this economically viable and socially compatible sector. The perceived undesirability of

the tourism informal sector is very much a current policy reality, however. The UNDP-sponsored Comprehensive Tourism Development Plan for Bali (1992, p. 50) described vendors in Bali as "...undermining the quality of the tourist product and...endangering the livelihood of other workers and investors in the industry" and recommended that such vendors be restricted to designated areas through government policies and police support.<sup>3</sup> In providing support for the informal sector, it is more effective to eliminate barriers which restrict the informal tourism sector from operating efficiently rather than to impose policies which, in attempting to actively support or assist the informal sector, actually hinder it.

The second policy implication is to enhance the positive social impacts of migration to coastal tourism areas by directing migrants toward employment opportunities left vacant by the local community, thus reducing community stress resulting from employment competition.

The third policy implication is to provide free or low-cost training courses in Balinese culture, customs and traditions. Tourism in Bali is being promoted as "cultural tourism," yet many tourism employees are non-Balinese. The study suggested that official government policies promoting cultural tourism should acknowledge the importance of non-Balinese tourism employees in the formation of tourists' cultural experiences. Thus, these individuals should be incorporated into the cultural tourism policy framework. Effective policies, targeting non-Balinese tourism employees, would recognize these tourism employees as "cultural emissaries" and provide them with free or low-cost training courses in Balinese culture, customs and traditions. This policy may also assist in strengthening positive relations within coastal communities which host tourism migrants.

The fourth policy implication is to direct migrants toward employment opportunities in non-coastal tourism areas through housing policy and development planning in order to minimize urban growth in the coastal zone. In an attempt to spread the benefits of tourism to other areas in Bali, thus minimizing the negative impacts of urbanization in the coastal zone, twenty-one centres around the island have been designated by the regional government for future tourism development. This action constitutes a reversal of the SCETO master Tourism Plan and should assist in reducing the impact that migration for tourism employment has had on urbanization in Bali's coastal zone.

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#### ENDNOTES

<sup>1</sup> This figure includes only those migrants who have officially registered with the local government.

<sup>2</sup> Sanur tends to attract up-market tourists, while Kuta cater more to low-budget tourists.

<sup>3</sup> This proposed "solution" was similar to that proposed by the government of the Dominican Republic—relocation of vendors to a designated area in which tourists could approach them at their leisure (Kermath and Thomas. 1992). However, by doing so, these informal sector tourism employees are forced to "formalize, a process which destroys much of the potential for respectable incomes and which has been unsuccessful in other developing countries.

# COASTAL DECLINE IN ANTIGUA AND BARBUDA

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**Abstract** *Like other small Caribbean microstates, Antigua-Barbuda has heavily promoted tourism to modernize its former colonial sugar economy. Three decades of free-market growth, however, suggest the island's tourism path is nonsustainable. Unbridled development of large-scale infrastructure and foreign financed hotel-marina resorts along delicate coastlines has caused loss of wetlands, endemic species, and pre-Columbian settlement sites and spawned illegal sand mining, beach erosion and near shore pollution.*

*These coastal stresses have continued despite protective legislation, either ignored or unenforced, and the conservation efforts of local citizens and non-government organizations. Four case studies of instances of irreversible environmental damage are reviewed. Results indicate a sharp public policy reversal is warranted to sustain coastal assets for future commercial (tourists) and recreational (residents) value.*

*This shift toward a more sustainable path is urgently needed for three reasons: (1) the current context of heavy external debt and limited resources available for restoring past damage, (2) the government's pervasive control of coastal resource use and its minimal success in economic diversification, and (3) the gradual maturation of Antigua toward becoming a high-density mass tourism destination where crowding, asset loss, and declining visitor satisfaction are more the rule than the exception. The directions for change involve comprehensive planning, environmental education, training, and monitoring, and participatory decision-making.*

**Keywords:** *island tourism, Caribbean, Antigua, Barbuda, coastal resources*

## Setting

Antigua and Barbuda lie 250 miles east-southeast of Puerto Rico roughly midway between the Leeward and Windward Islands that comprise the Lesser Antilles. Antigua contains over 97% of the total population (59,355 in 1991) and nearly two-thirds of the total land area (170 sq. mi.). The islands enjoy unique natural and historical assets that demand careful management for their sustained enjoyment by present and future generations. Antigua's coastline is deeply indented with abundant wetlands, beaches and fringing reefs. Its coastal areas also contain over 100 pre- and post-Columbian Indian settlement sites and rich remnants of sugar mills and fortifications that testify to its

plantation past and colonial role as headquarters to the British Navy in the Leewards.

Centuries of deforestation, plantation slavery and sugar culture produced a legacy of erosion, watershed damage and declining yields. The intensity of monoculture and nonsustainable farming practices degraded "the vegetation and landscape of Antigua. . . more significantly and more dramatically than on almost any other Caribbean island" (Coram, 1993:167). The post-emancipation era was characterized by stagnation, heavy emigration and environmental neglect. The collapse of export sugar and cotton after World War II coincided with diversification attempts at small-scale food and livestock production, light manufacturing, off-shore finance, and aggressive tourism promotion. This restructuring has created a legacy of overgrazing and devegetation and has threatened the flora and fauna in coastal areas where tourism development has been rapid and intrusive.

## Tourism

Prewar tourism was primarily confined to the gradual conversion of coastal plantation "great houses" into hotels (Weaver, 1988). With the postwar advent of jet travel, however, tourism and related construction quickly came to dominate the landscape and economy, accounting for over two-thirds of all foreign exchange earnings and half of GDP and employment (de Albuquerque and McElroy, 1995a). Growth was especially brisk in the 1980s. Although it took over three decades to produce the first 100,000 annual stayover visitors (1950-1983), the second 100,000 was achieved between 1983 and 1988. As a result of this intense colonization of coastal areas with infrastructure and visitor facilities, it is estimated that during the 1980s more mangrove swamps and off-shore reefs were damaged or killed than in all of Antigua's previous history (Coram, 1993:168).

According to the Tourism Penetration Index constructed in Table 1, Antigua now ranks as one of the most heavily developed resort areas in the Caribbean. Average daily visitor densities approach 100 tourists per 1,000 inhabitants. This is roughly equivalent to a 10% increase in the resident population, and approaches the threshold of high-density mass tourism islands like Aruba, Bermuda, and the U.S. Virgins. Antigua shares with these destinations a propensity for large-scale resort/marina complexes, high volume hotel and cruise visitation, mounting natural asset losses, crowding, year-round tourism, and the syndrome of declining average visitor stay and satisfaction prompting increasing promotional expenditure. In addition, the relative failure of non-tourist diversification efforts has even exacerbated pressures on coastal resources (Lorah, 1995).



Table 1. Selected characteristics and density rankings for selected small Caribbean islands, 1993.

Island	Pop. (000)	Area km <sup>2</sup>	Tourists (000)	Cruise (000)	Visitor Spend/ Pop (US)	Avg Stay Pop.	Avg Dens.	Daily per km <sup>2</sup> (1)	TPI(2)
<b>STAGE III High Density</b>									
St.Maarten	33	34	520	660	11,406	4.8	262	254	1.5
USVI	109	342	561	1,208	8,451	5.1	102	33	3.3
Caymans	30	260	287	606	8,617	4.9	184	21	4.0
Aruba	71	193	562	251	6,534	7.2	166	61	5.0
Bermuda	59	55	412	154	8,551	6.2	126	135	5.2
Average	60	177	468	576	8,712	5.6	168	101	3.8
<b>STAGE II Intermediate</b>									
BVI	18	150	200	86	6,778	7.0	226	27	7.5
Antigua	66	440	249	238	5,638	8.3	96	14	8.7
Guadel.	405	1,373	453	263	913	6.3	21	6	9.7
M'tnique	360	1,060	366	429	921	5.1	17	6	9.7
Barbados	264	431	396	429	2,000	11.2	50	3	10.8
Curacao	144	444	214	183	1,675	8.0	36	11	10.8
St. Lucia	140	616	194	154	1,579	10.6	43	10	11.8
Bonaire	11	288	55	17	2,527	6.9	95	4	12.0
St. Kitts	41	269	89	83	1,869	8.1	54	8	12.0
Grenada	96	344	94	200	501	7.2	25	7	12.0
Average	155	542	231	208	2,440	7.9	66	10	10.5
<b>STAGE I Low Density</b>									
Monts'rat	10	102	21	10	1,520	11.0	66	6	14.5
Dominica	71	750	52	88	468	7.8	19	2	15.5
St. Vinc.	109	389	57	69	500	10.3	16	5	16.0
Average	63	414	43	56	829	9.7	34	5	15.3

SOURCES: CTO (1994, 1993; 1992, 1991, 1990); USDC (1993).

- NOTES: (1) Average daily densities are computed as:  $[(\text{No. Tourists} \times \text{Avg. Stay}) + \text{No. Cruise}] / \text{population or km}^2 \times 365$ . Estimates for the British Virgin Islands should be interpreted with caution since a considerable amount of BVI tourism is water-based with reduced impact on the local population and landscape.
- (2) The Tourism Penetration Index is computed as the inweighted average of each destination's rankings on the six separate tourism indicators in Table 1 above.

## Coastal Impacts

Untrammelled visitor growth, hotel/marina expansion, tourism infrastructure and related construction, and sand mining have irreversibly altered the islands' coastal ecosystems, reduced biodiversity, disturbed archeological sites and damaged historic artifacts. Antigua's best known beaches, heavily colonized by tourist facilities, have been destabilized by shoreline devegetation, mangrove destruction, and erosion from illegal sand mining. The nearshore has experienced heavy siltation from surface runoff and pollution from pesticide runoff and the outfall of malfunctioning sewage treatment plants.

Resort construction and dredge dumping have also damaged several adjacent salt ponds and delicate wetlands, destroying wildlife habitat and endangering native species crowded into the coastal zone by generations of upland deforestation and erosion (USAID, 1991). Harbors have been polluted and seagrass beds destroyed by sewage from urban locations and solid waste dumping from Antigua's renowned yachting industry. In the capital city of St. John's, for example, open sewers flow directly into the harbor. Fringing and offshore reefs have been significantly degraded because of sedimentation from surface water runoff, sewage discharge, over fishing, and recreational diving and boating (de Albuquerque and McElroy, 1995a). As a result, fish catches and traditional pursuits like crab hunting and coconut gathering are declining.

## Management Efforts

These coastal intrusions have occurred despite the existence of a public regulatory infrastructure, protective environmental legislation, and the concerns and activities of non-governmental organizations (NGOs) and private citizens. They have also taken place in the absence of a national development plan and in the context of fiscal profligacy, future economic uncertainty, and a strong government commitment to short-run economic growth over long-run environmental stability.

The Department of Public Works, responsible for protecting beaches from illegal sand mining, has been generally ineffective because it possesses no enforcement arm nor resources for monitoring and enforcement. Likewise, because of lack of funds, the Central Board of Health has been unable to enforce sanitation laws and deter litter and dumping. Most importantly, the Development Control Authority, with statutory oversight for all coastal zone construction and development activity, has been routinely bypassed by developers who go directly to the pro-business Cabinet for project approval.

The one bright spot has been the persistent efforts of NGOs and other community groups to defend Antigua's

natural, historical and cultural assets. The Environmental Awareness Group (EAG) has been Antigua's most visible NGO publicly campaigning to dramatize coastal damage and providing library and technical support for researchers. The EAG has also mobilized regional and international organizations to fund local conservation, monitoring and educational programs. The EAG's success, however, in limiting tourist intrusions in fragile coastal areas has been mixed.

## Case Studies

The following four case histories illustrate how NGO and citizen conservation efforts have been thwarted by aggressive developers and a powerful government elite committed to rapid tourism growth.

### Jolly Harbour

In 1988 the foreign owner of the 500-room Jolly Beach Hotel on Antigua's west coast began construction of a large-scale marina/condominium project with Cabinet approval and the low-cost purchase of 53 acres of prime wetlands. Mangroves were bulldozed, the shoreline devegetated, and adjacent salt ponds dredged and partially filled (de Albuquerque, 1991). Over 400 members of a nearby community signed a petition for the Prime Minister protesting the wanton destruction of beaches and wetlands. Government's response emphasized the marginal commercial value of the "useless" mangrove swamps and the positive economic payoffs. Because of the power of Government and the uncertainty wrought by the 1990-1992 recession, the furor subsided. At present, the marina is completed, and several condominium phases have been built.

### Marina Bay Project

In 1986 a joint venture between the St. John Development Corporation, a statutory body of government, and Italian financiers was begun on Antigua's northwest coast involving the construction of a large-scale condominium and marina/shopping complex. Excavation included dredging McKinnon's salt pond/mangrove swamp and digging a channel that cut off shoreline access between two of Antigua's most popular beaches and blocked off access to Corbison Point, an historic site. Local outcry became a flashpoint. The EAG widely publicized the large-scale coastal alterations. Bowing to pressure, Government commissioned an environmental impact assessment (EIA) that was completed but never implemented. In both 1989 and 1990 McKinnon's Pond witnessed massive fish kills which were linked to the Marina Bay project, which had impeded natural flushing, and to the dumping of poorly treated sewage effluent from nearby hotels (USAID, 1991). At present the marina is not operational, and only the first

phase of condominiums has been completed because of financial problems.

### Coconut Hall

In 1992 the same scenario of massive excavation without warning or citizen consultation was repeated at Coconut Hall on Antigua's north coast. Over 80 acres of hillside and mangroves were bulldozed to make way for a large-scale resort in one of the last remaining coastal stretches rich in creeks, bays and vista access to small offshore islands. Because of the appearance of Cabinet secrecy and the perception that recommendations from appropriate government agencies were either bypassed or ignored, a major confrontation erupted between the EAG and local citizens against the developers. Caught off guard, Government commissioned an environmental impact assessment (EIA), but dragged its feet signing the final approval for the EIA. The EIA report was finally completed in July 1994 and included detailed changes to the project, mitigation strategies and monitoring plans. Presently, the project appears to be on hold since the Italian developer has lost interest, but the irreparable damage to scoured hillsides and uprooted mangroves remains.

### Sand Mining in Barbuda

The past two decades in the Eastern Caribbean have witnessed an unprecedented boom in hotel and residential construction. This has spawned a demand for construction sand that increased 10% per year during the 1980s. Much of this aggregate was supplied by the sand dunes of Barbuda. It is alleged that this most dramatic example of sustained ecosystem destruction in the country was allowed to continue largely because the Prime Minister and two cabinet members had up until 1991 direct financial interests in the lucrative mining company.

At the height of the operation, some 20,000 tons of sand were being exported each month to nearby islands like Antigua, Guadeloupe, Martinique, St. Maarten, and the Virgin Islands. According to the EAG, the sand mining operation has created a large crater seven meters deep, and has resulted in irreversible losses of palmetto forests, mangroves, and sea grape stands, and serious beach erosion and wildlife disruption. An injunction on further sand mining was imposed in 1992 since it was determined that Barbuda's groundwater supply had been contaminated. Since the injunction there are indications that illegal sand mining has increased on neighboring Antigua.

### Lessons and Implications

These four cases exemplify the structural constraints on coastal conservation faced by small tourist-dependent

microstates with few resources and economic alternatives. These limitations are especially severe for destinations like Antigua and Barbuda with a maturing visitor industry on the threshold of high-density mass tourism that are also burdened by a heavy debt legacy of past borrowing to finance infrastructure and resorts. Presently Antigua's annual debt service amounts to 10% of GDP and 70% of current government revenue.

In this context, the case studies illustrate: (1) the persistent policy preference for short-term economic gain over long-term environmental stability, (2) the overriding "environmental veto" of a dominant Prime Minister and Cabinet against the conservation policies of government agencies charged with planning and managing natural resources, (3) the ineffectiveness of environmental legislation without appropriate funding and backing for monitoring and enforcement, (4) the inability of NGOs and "green" community groups without statutory authority to reverse coastal destruction in a hostile top-down policy environment, and (5) the very weak conservation ethic that dates back to colonial times.

The overall implication is that coastal decline will continue in Antigua and Barbuda and in other high-density tourist driven islands unless a significant broad-based sustained intervention is attempted to reverse past practice. This effort would involve accomplishing the following five long-range tasks: (1) securing internal (taxes, user fees) and external funds for environmental planning and programming, (2) establishing an effective comprehensive planning framework for identifying critical and damaged assets and developing enforceable construction guidelines and impact assessment requirements, (3) providing for adequate staffing of agencies in coastal monitoring and for ongoing staff training programs, (4) instituting a community-wide coastal environmental education program to provide the electorate with a countervailing voice against the often narrow short-sighted business and political interests, and (5) designing mechanisms for public and NGO participation in coastal resource decision-making so that citizens' heightened environmental awareness and stake in their natural patrimony find concrete expression in coastal zone management policy.

Although this five-step program is ambitious and time-consuming, it is necessary to counterbalance the nonsustainable resource practices that historically and cumulatively destroyed export agriculture and presently undermine the delicate coastal asset base of today's economy. Reform is particularly imperative given current capital constraints and limited diversification possibilities as well as the intrusive large-scale high-density tourism style that increasingly characterizes Antigua's economy. Bermuda's recent example of participatory planning, growth controls and coastal conservation demonstrates that such policy reversal is possible in small, highly tourist-

dependent island societies (de Albuquerque and McElroy, 1995b).

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# MANAGING GRASS-ROOTS COASTAL TOURISM: A VANUATU CASE STUDY

Anita van Breda

**Abstract:** *The Republic of Vanuatu, a relatively remote and undeveloped island nation in the South Pacific, faces new issues as it plans for growth in the tourism industry. Conventional tourism to the capital city is well established. Potential exists however for development of small scale, nature-based tourism at the grass-roots level.*

*This case study examines an indigenous coastal tourist resort owned and operated by a family community. Offering fine sand beaches, outstanding coral diving, and tours to nearby attractions, the resort managers recognize the special attributes of their site and are committed to maintaining their cultural identity while protecting the environment and growing their business. Work with an environment and business advisor led the family to change some business practices as they called on traditional management practices to protect their environment.*

*Encouraging grass-roots ecotourism projects such as this one, which may involve working with a single indigenous family or individual land owner, requires resource managers and tourist practitioners to take an approach to development different from projects directed at the national level. As the tourism industry continues to grow, government and non-government organizations should consider policies and training that empower local people to truly participate in and benefit from tourism. Promotion of tourism operated at the community level, in addition to enhancing natural resource conservation, should be based on respect and appreciation for the cultural and social attributes of the people involved.*

**Keywords:** *Vanuatu, marine tourism, enterprise development*

## Introduction

This paper examines coastal and marine tourism and resource conservation of an indigenous resort in Vanuatu, South Pacific. An overview of Vanuatu's environment, history, and tourism industry is given. The author then discusses the specifics of one local family's efforts at conserving their environment, developing their tourism business, and maintaining their culture. An environment and business advisor's (the author) role in this process is explained. Observations and recommendations are made for those interested in promoting grass-roots and land owner based conservation and business development as an alternative to conventional tourism.

## Vanuatu

### Environmental Setting

Vanuatu, formerly the New Hebrides, consists of some 80 islands with a population of approximately 150,000. Located 170 kilometers (km) to the south of the Solomon Islands and 800 km west of Fiji, Vanuatu's land area covers 12,336 km<sup>2</sup>. Most of the land is covered by thick bush and sharp upland ridges formed by past volcanic activity. The country's climate is tropical in the northern islands and subtropical in the southern islands with temperatures averaging 30° C from November through April and 20° C from May to October. Rainfall averages 4000 millimeters (mm) per year in the north to 3300 mm in the south. Cyclones are a regular occurrence between December and March.

Most of Vanuatu's islands have areas of small sand beaches, although in many places the sand ends where rocks and fringing reefs begin. Vanuatu's warm clear waters hold an abundance of coral and fish communities not unlike Australia's Great Barrier Reef. Vanuatu's tropical forests offer a varied flora and are largely still intact. The islands have 57 species of land and sea birds; seven are endemic.

### Political History

Vanuatu obtained independence in 1980 from joint rule under a British-French condominium government (indigenous inhabitants are known as ni-Vanuatu). Land tenure became the critical issue which drove the islanders to seek self rule and autonomy. Whereas foreigners considered land a commodity to be bought and sold, ni-Vanuatu culture espouses a spiritual attachment to the land that made it impossible to accept strict monetary value placed on their ground (Harcombe, 1991). Vanuatu has over 100 local languages, and is a country far from politically unified. Vanuatu as a nation however, prides itself on maintaining "custom" as a legitimate force in daily life, including economic development issues.

## Vanuatu Tourism

Vanuatu receives about 45,000 tourists and another 70,000 cruise ship passengers annually (McVey, 1994). Most visitors are from nearby Australia and New Zealand. Figures for 1993 report tourism earnings of \$US31 million or 14.7% of total exports valued at \$US21.2 million, making tourism the top foreign exchange earner (Vanuatu Weekly, 1995). Following independence, government policy restricted tourism to the capital, Port Vila on Efate Island, and two other islands: Espiritu Santo (known as Santo) to the north, and Tanna to the south. The National Tourism

Office (NTO) was established by an act of Parliament in 1982 to promote tourism and provide information services.

Recent government decentralization has opened up the other islands to tourism development. Small bungalow accommodation and guesthouses can now be found on almost every island. In 1994 the government commissioned several consultants to research and design a master tourism plan for the country. The plan (McVey, 1994) calls for diversification of Vanuatu's tourism industry

### **SCUBA Industry**

Vanuatu's marine and coastal resources are naturally of importance to its SCUBA tourism industry. Air Vanuatu (the government owned international airline) estimates that 25% (5,000) of the total number of visitors from Vanuatu's main market, Australia and New Zealand, come to dive (McVey, 1994). Five dive and sail operations are located in Port Vila, and two are operational on Santo, offering clients a variety of coral and wreck diving. Indications point toward a continued growth in Vanuatu's dive market if some limitations can be overcome. Vanuatu, however, must compete with Solomon Islands, Fiji, Truk, Palau, and Papua New Guinea which all have a wide variety of dives that some consider of better quality (Derby, pers. comm.). Vanuatu's premiere dive attraction undoubtedly is the S.S. President Coolidge in Santo, the world's largest most accessible wreck dive.

### **Environmental Threats and Conservation Efforts**

Compared to other nations in the region, Vanuatu's environmental resources have suffered relatively little destruction and depletion. The forests, although under considerable threat from an increase in unsustainable logging, are mostly intact. Mining will become an environmental issue of concern in the near future as foreign mineral companies escalate prospecting and exploration. Marine species depleted by both commercial and subsistence over-exploitation include: coconut crab, trochus shells, green snail, and mangroves (Bell and Amos, 1993). Sea turtles also verge on extirpation.

A thorough discussion of Vanuatu's complex land tenure system is beyond the scope of this paper. The issue of land tenure, however, is relative to tourism development and the protection of natural resources. Land tenure extends beyond the waters edge and thus applies to marine and coastal resources. There is virtually no public land in Vanuatu, and therefore (with the exception of pelagic fisheries), few common resources. Foreigners can legally enter into long-term lease agreements with custom landowners only with participation of the Government Department of Lands, a sometimes long and complicated

process. Development of protected areas therefore must evolve under the customary land tenure system.

The Government Environment Unit and Fisheries Department are primarily responsible for protecting Vanuatu's terrestrial and marine resources. In 1983, the fisheries department declared the wreck of the S.S. President Coolidge a marine reserve, the only one in the country. Establishment of Vanuatu's first national park by the Environment Unit is now underway on Santo. Custom landowners can proclaim land as protected without official government sanction.

### **Marine and Coastal Tourism: Santo**

Santo lies one hour north by air from the capital Port Vila. With a population of approximately 22,000, the 116 km long and 59 km wide island is Vanuatu's largest in size (4,010 km<sup>2</sup>). The west coast is accessible only by boat or plane; the mountainous interior, with four peaks over 1700 m high, remains mostly undeveloped and uninhabited (Stanley 1991). In the southeast corner of the island lies Santo's main town, Luganville (population 8,000). Most tourists to Santo are divers who travel to Luganville to dive the wrecks and reefs scattered offshore. The S.S. President Coolidge is located seven kilometers outside of town. The 211 m luxury liner converted to a WW II troop transport carrier, sank in 1942; the bow lies in 20 m of water, the stern in depths close to 80 m. Nearby the Coolidge, divers enjoy the varied and abundant sea life inhabiting Million Dollar Point where the U.S. military dumped hundreds of tons of surplus (including vehicles and other heavy equipment) before leaving the country at the end of WW II. As a marine reserve, it is illegal to take souvenirs from or fish the Coolidge and Million Dollar Point. Respect for these regulations however, seems to be on the decline.

### **Lonnoc Beach Resort**

#### **Background and History**

Scattered along Santo's northeast coastline are small villages, plantations, and modest tourist attractions such as blue holes and swimming beaches. Located 45 km northeast of Luganville lies Hog Harbour village and Lonnoc Beach Resort (LBR). Lonnoc is Vanuatu's largest and most successful ni-Vanuatu owned and operated tourism business.

The Lonnoc community consists of one extended family which owns several coastal acres of land including a scenic white sand beach lining a protected shallow water bay. The principle owners of the resort are four brothers who started the business as a barbecue stall on the beach.

Building over time, they developed the enterprise into a Melanesian resort with eight bungalows, a honeymoon cottage, and a large restaurant and bar. Most of Lonnoc's clients are tourists from Australia and New Zealand and expatriates living in Vanuatu.

### Lonnoc Setting

Remote and pristine, Lonnoc's natural environment offers visitors palm-fringed sand beaches, safe shallow-water swimming and a genial and unpretentious atmosphere. Small patch reefs are present in Lonnoc's bay, but the main dive and snorkel attraction for Lonnoc is Lathu, or Elephant Island, an uninhabited cay located 2 km offshore. The reefs around Elephant Island were classified by marine scientists as one of the four best in the country, with a high diversity of marine resources and a rich coral community (Done and Navin, 1990). Elephant Island's custom owner, who works closely with Lonnoc, collects a small fee from visitors to the island.

Dugongs (*Dugong dugon*) are present in the area. A pair can often be seen feeding on the shallow sea grass bed in front of Lonnoc's beach. Neighboring Champagne Beach, within walking distance of Lonnoc, has consistently been rated by cruise ship passengers one of the most beautiful beaches in the South Pacific. Environmental consultants researching the Master Tourism Plan described Champagne Beach, Hog Harbour, and Elephant Island as profoundly scenic and "represents the essence of what draws visitors to the South Pacific islands" (Darby and Challacombe, pers. comm.).

The site suffers little from coastal damage such as overfishing, reef destruction, and commercial development and pollution. Conditions may change, however, in the near future. When cruise ships visit Champagne Beach for example, tourists trample coral, locals harvest live shells to sell to tourists, and sea turtles are caught and kept in buckets to be offered as props for tourist photos. Coral destruction from a cruise ship tender grounding at Champagne Beach has been documented.

Mineral exploration poses a potential threat. In 1995 a foreign mining company filed an application for a prospecting license with the Government for an area of land adjacent to Lonnoc. Mineral exploration could have a devastating effect on Lonnoc's environment and tourism business.

### Lonnoc Diving

Lonnoc has one four-meter fishing boat for taking guests snorkeling and diving to Elephant Island and nearby patch reefs. No formal SCUBA services (or dive master) are available on the premises; tanks and equipment must be rented in town and transported by truck to the resort. The

boat owner or one of his two sons captains the boat. The two present professional dive operations in Luganville generate little business for Lonnoc. Most dive tourists visiting Santo either do not know about the coral diving at Lonnoc, or are locked into a package that does not allow them to make alternative arrangements to experience this dive site.

### Management and Enterprise Development

Melanesian custom dictates that almost all family members are involved to some extent in the business. With the exception of a few "hospitality" courses, however, none of Lonnoc's staff have formal training in any aspect of the tourism industry. Reservations are made in town at the Luganville Drugstore, operated by the wife of one of the principal owners. As Lonnoc has no telephone, communication requires some diligence by passing information with bus or taxi drivers and/or friends and business associates.

The family vision for LBR is one of managed growth; however, the resort is to remain a family enterprise. Conflicts have arisen in the past over the rate and kind of growth LBR will undertake. Western-style enterprise development does not always conform with the Melanesian approach to life and business. Most ni-Vanuatu families supplement financial income and economic security with wage employment, subsistence fishing, and gardens used for both cash crops and food for the home. Management and operation of Lonnoc, similarly diverse, can frustrate outside consultants, foreign non-governmental organizations, and expatriate business associates, who often mistake lack of defined and fixed structure as lack of interest and commitment to the business.

### Lonnoc Ecotourism and Protected Area Development

Growing up with Lonnoc as their home, the reefs, beaches, forests and wildlife seemed commonplace and infinite to the family. With the help of an environment and business advisor, familiar with the family and the site, planning for business growth and the relationship that growth must have with a healthy environment, led to a change in business operations. The catalyst for change was not necessarily exposure to new ideas, such as the concept of "conservation," but giving a different "value" to Lonnoc's beautiful landscape and natural resources while encouraging traditional resource management practices.

Over a four-month period, formal meetings, education workshops, and informal discussions were held among the advisor, LBR owners and staff, and Elephant Island's custom owner, allowing for mutual information exchange and learning. Topics of discussion ranged from biological relationships and the impact of management activities on the environment, to the needs, expectations, and quirks of

western tourists. Subjects discussed pertinent to marine and coastal resources include:

#### Safe Boating, Anchoring, and Diving

- Boat captains should refrain from spearfishing while taking out snorkelers and divers, and should not leave passengers unattended in the water.
- Anchor in sand; avoid damaging coral with anchor and chainline.
- Always carry tools, spare parts, water, and extra fuel on the boat.
- If a bareboat fishing boat must be used as a tourist vessel, get a ladder. Tourists have a hard time climbing out of the water up and over gunnels.
- Map the waters and dive sites, to the best extent possible, and keep records of dive sites visited and the number and type of activity (SCUBA diving, snorkeling, fishing) and records of boat maintenance and expenses.
- Make a plexiglass bottom bucket as an educational tool. Use it to show tourists and locals (unable or unwilling to get into the water) the underwater world; can also be used to assist with finding proper anchorage.

#### Environmental Education and Tourist Guidelines

- Make available information regarding the country's flora, fauna and culture. Use posters, books, and photographs; give specific information on avoiding environmental hazards.
- Educate tourists (they can be the worst environmental offenders) and insist they respect the environment with specific rules and regulations such as: collect only dead shells; avoid touching or overturning coral; take only photographs, not organisms or specimens.
- Minimize tree and vegetation removal; in wash areas dump soapy water onto the ground, not into the bay.

#### Marketing/Advertising

- Establish and maintain good relations with professional dive operators for mutual benefit.
- Expand marketing beyond diving by promoting the seascape and coastal landscape.

#### **Lonnoc Protected Area**

Over time the family expressed concerns regarding Lonnoc's environment: patches of coral were dead, shellfish were no longer as plentiful, and sea turtles no longer nested on their beach. In 1995 the family placed a taboo on the reefs and waters surrounding Lonnoc. Although resource extraction has not been quantified,

these areas have been used by the family, local villagers, and tourists for fishing, reef gleaning, shell removal, and a place to wash. The taboo bans all extractive activities for two years and requires that the occasional sailboat anchoring at Lonnoc do so in deep water to avoid damage to shallow water coral or sea grass. At the same time, the custom owner of Elephant Island also placed a taboo on his island, and is now considering pursuing national park designation.

These land owners believe a healthy environment will attract more tourists, a source of cash. In addition to a cash return for their efforts, they seem proud of a renewed responsibility for management of the land and sea. The small area protected perhaps does not contribute a great deal to conserving "biodiversity" on a grand scale, such as one would expect from a national conservation area or park, but the area does symbolize what local people, using traditional cultural practices, can do to manage both their environment and their ecotourism business at the grass-roots level. For others with similar resources and initiative, this process could serve as a model for landowner reserves or "micro-parks" as described by Thaman (1994).

### **Conservation and Development Recommendations**

The following comments and recommendations are intended for conservation and development professionals, government and non-government organizations, tourism specialists, and others seeking to encourage community level participation in the tourism industry as a means of environmental conservation and economic development.

#### **Environment and Business Advisor**

At Lonnoc, the incentive to manage and protect environmental resources came from within the family community with the support of an advisor. The proper advisor can be instrumental to facilitating grassroots participation in nature and cultural based tourism. The advisor(s) must be able to integrate environmental, social, cultural, economic and business factors into the planning process. Few individuals or organizations have expertise in all these subjects; therefore, limitations must be recognized and acknowledged.

#### **Education and Training**

Encouraging participation of local people in marine and coastal tourism requires a means for local people to obtain SCUBA training, certification, and equipment. In the Caribbean, NGOs have provided SCUBA training for indigenous people. Few ni-Vanuatu have the means to pay for a certification course or equipment. Without development of these skills however, indigenous tourist



operators will always have to rely on foreign-owned dive businesses and expatriate dive masters.

Some tourism professionals in Vanuatu believe indigenous people lack management and entrepreneurial expertise. Sentiments such as these reflect a common malady in developing countries—"experts" who are unable or unwilling to spend time in the bush and go beyond writing a report. Most locals have never been tourists themselves, and therefore may be unfamiliar with skills involved with the industry. It is also true that local people may need education and training in the mechanics of enterprise development such as book and record keeping, finance, and banking. Government and NGOs should approach "training," however, as a means to empower local people to take what they do know, including their traditional knowledge and practices, and channel these towards meaningful participation in the tourism business. Such an approach will require long-term commitment to the people and their resources, rather than short-term, high-priced, consultant taught workshops that instruct local people in service trades alone.

Ecotourism literature often discusses the need for "education and awareness campaigns" directed towards locals in order to gain proper attitudes, good will, and their participation in tourism development. Local "participation" however, sometimes means getting landowners to agree to land leases so that outsiders can develop a tourist operation. A more productive approach may be to foster a dialogue of two way education. Those who wish to truly promote participatory planning must commit to more than showcase "community" meetings; confronted with outside "professionals" few local people are likely to voice their opinion or concerns.

### Environmental Monitoring

Whether or not rigorous scientific data is collected, training and encouraging locals to monitor environmental parameters reinforces the connection between a healthy environment and a healthy business. At Lonnoc, for example, boat drivers trained to use a secchi disk and thermometer for rudimentary water quality testing are proud to develop skills recognized as valuable; an experience which contributes to a new aspect of stewardship.

### Conclusion

Lonnoc Beach Resort is an indigenous coastal tourism enterprise whose owners have demonstrated a commitment to protecting the environment while improving and growing their business. Whether or not their protected area, business practices, or approach to ecotourism, will effectively do so over the long term remains to be seen.

The process is not a static one, but continues to evolve and adapt over time. What has been accomplished however, can serve as a model for other communities with similar initiative.

Both government and NGO development agencies need to acknowledge tourism options, and commit to long-term development that protects and benefits local people and their environment. Small-scale and individualized interventions, such as a single tourist enterprise, requires an approach to development different from that of national programs and projects. An environment and business advisor, given time to gain locals' trust and respect and to gain an understanding of their culture, can facilitate conservation and business development at the grass-roots level, thereby offering local communities an alternative to conventional tourism.

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# ENVIRONMENTAL CARRYING CAPACITY VS ECONOMIC PRIORITY: HARD CHOICES IN DECISION-MAKING OF TOURISM DEVELOPMENT

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**Abstract:** *As a consequence of demands for hard currency and foreign exchanges, development of newly tourist resorts are now given priority in Bangladesh. This opportunity attracts many investors and entrepreneurs. As a result, some islands and sea coasts with vulnerable ecosystems are being underway into tourist resorts development. Most of the expansion were done without or having very little environmental attention. In addition, multipurpose coastal uses in the same areas added more adverse effect to the system. This complex situation is conflicting with the theme of sustainable tourism. The present article deals with the "concept of priority" to determine environmental carrying capacity in vulnerable ecosystem's to achieve sustainable tourism development assuring environmental preservation. We suggest, conservation of the nature should be the first motto for sustainable tourism development. This strategy will provide long-term preservation of biodiversity for economic growth in countries like Bangladesh, where great opportunity is underutilized or mismanaged.*

**Keywords:** *environment, carrying capacity, tourist resorts, Bangladesh*

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## Introduction

At present, tourism is an important source of income for many countries and its demand is increasing day by day. The increasing interest of tourists in sea beaches or marina's stimulated for establishing newly tourist resorts in many coastal nations. Perhaps, coastal and marine environments are very important in providing space and opportunities for leisure, contemplation and physical activities. In the context of conservation and sustainable development of coastal zone, tourism and recreation are key factors (Kenchington, 1993).

Like many coastal nations, development of tourist resorts are now given priority in Bangladesh. This speculative strategy is to open the window of opportunities especially in the private sector to develop some newly resorts area. To support and encourage the investors, road communications and other tourism infrastructure

development were done in many part of the country. This in turn attracts tourist on one hand and unknown damages to natural habitat on the other hand. In fact, these succeeding development expansion was done without or little environmental attention. It is now accepted that tourism have both beneficial and detrimental impacts on coastal and marine environment depending on planning and management magnitude. Conservation oriented development planning may convey the beneficiary effects to the country.

According to Stewart (1993, p. 202) marine conservation regimes manifest in biosphere reserves. In addition, other forms of management tool also available to govern both tourism development and resource conservation. This regime combines the management of people and resources in the coastal territory and nearshore marine environments, and their components. No doubt, tourism stimulates investment as a source of employment, provides a means of earning foreign exchange. It also requires the adoption of a comprehensive development policy. Development decisions that commits in environmental attention rather than political interest may preserve landscapes, seascapes, biosphere and national heritage site of the country. Considering these issues, this article deals with developing in coastal and marine tourism with suggestion for strategic planning as a "concept of priority" in Bangladesh. This in turn will provide long-term preservation of biodiversity since these are the valued ecosystem components in a tourist resort area.

## Importance of Carrying Capacity

Carrying capacity is an ecological term which means the potential number of animals of a particular species supported in an unit area. However, the term in a more current and general sense as the amount of recognized resource value that an ecosystem can supply. The major concerns of the environmental carrying capacity in tourist resort development planning is to preserve the optimum environmental quality of the area. Its aim is to preserve ecological and genetic biodiversity of native and endangered species, to ensure health safety for tourist in the system and as well as to protect large scale natural disasters. A policy with the appropriate ecosystem management rule (i.e., storage components of ecosystems are of extreme value and should always be fully protected) might be support the continuous tourists interest and also support the native population survival in natural disasters. UNEP (1984) reported that increasing trend of tourists is about 5% in worldwide. Considering this increasing trend the projected tourist number of present will be double after 20 years. For that, it requires more facilities in coastal and marine areas, and also need to offer more user conflicts. Furthermore, the coastal habitats are generally

affected by large boundary currents, gyres and eddies. Thus it is essentially more task for implementation of developmental planning policy to support significant changes in valued ecosystem components in future. In reality it is difficult to determine the accurate environmental carrying capacity in a coastal boundary or marine area since both the environmental systems are some how more or less dynamic in nature. Some strategic evaluation of any significant criteria may consider for the initial purpose during the project planning. For instance, evaluation of total microbial pollution of that area may be useful since in most cases this types of pollution is created by human activities. Thus assessment in a newly proposed area may comparable with the interrelationships between the native and tourist population, and then existing facilities in valued ecosystem components and future development plan. On the basis of calculated thresholds, the future development planning in coastal and marine tourism will provide long term economic goal.

### Development Priority Dilemma

During last decade coastal and marine tourism is expanding rapidly in developing countries, as a result all recreational units interact with their economic activities. Perhaps such expansions are now in priority because of better scope for economic growth, creation of jobs, earnings of foreign exchange and improve relationships with other international communities. Most of the cases, in general, development priority is projected in short-term multi-sectoral economic goal as a result policy implies without or less environmental consideration. For instance, development of aquaculture unit may interfere with recreational uses of same water areas, or, industrial developments displaced spawning grounds of native fishes, even, toxic materials poisoning to commercially important fishes and, in long-term, that area will become more complex to the resource managers.

In Bangladesh, some of these development policy may complicate the environment. Most of the shrimp hatcheries and nurseries of the country is situated along the Cox's Bazar sea beach area which is conflicting with its recreational facilities. "Himchari National Park," the most attractive site of Cox's Bazar coast is also close to some hatcheries, which is now suffering from environmental degradation and become one of the most vulnerable natural ecosystem (Pernetta, 1993).

Saint Martin's island is the only coral island of Bangladesh. At present various coral types are endangered due to over exploitation of resources resulting, mass habitat loss of natural coral by the both local and tourist. Most of the people of the island are fishermen and completely depends on sea resources. A couple of families are coral collectors and supplies to the

tourist market of the country. Coral boulders are also use to obtain calcium. The selling of olive Ridley turtle and green turtle eggs in the local market is evident (ESCAP, 1988). It should be noted that green turtle is now one of the an endangered turtle of the world. In the recent years, some newly established fish drying industries at St. Martin's island are responsible for air pollution offering off-order to the environment. These factories are also contributing large-scale organic pollution through discarding offal's directly into the sea shore. This activities clearly conflict with tourism and are detrimental to the coral reefs, since the growth rate of corals are drooping considerably in the St. Martin's Island vicinity.

Patanga and Fauzdarhat sea beach of Chittagong has been considered as polluted due to the port activities, ship-breaking and discharge of several nearby industries (UNEP, 1986). The renovation program of Patanga sea beach is conducted without essential measures for improving water quality in the area as the Karnafuli River estuary received all the untreated industrial loads from upstream (ESCAP, 1988). The Fauzdarhat sea beach remains abundant due to Vatiary-Kumira ship breaking activities which create noise, air and oil pollution in the area. One of the recent development step is the construction of Cox's Bazar-Teknaf highway through the coast line to facilitate easy tourist passages and communication through the coast line. This policy might affect some valued ecosystem components in that region including the "Himchari National Park." The present situation in some of the coastal region is summarized in Table 1.

It is clear that all the above development policies implies a quick economic interest rather than long-term environmental benefit. This types of policy is conflicting with sustainable sectional development in an Integrated Coastal Zone Management Program. The development policy in coastal and marine tourism should be harmonized to the other sectional process including the natural environment.

The country has some good and well-clarified legislative framework especially in wild life conservation and pollution control. But the applicability of these regulatory framework is now under questions. The continuous environmental degradation of Saint Martin's Island, Chittagong-Cox's Bazar sea coast and Karnafuli River estuary and also illegal marine and coastal wildlife killing indicating the inefficiency of administrative capability. The long chain bureaucratic process is always delayed to act in emergency stages, which is at present an important barrier. The appropriate regulatory framework for environmental preservation, the most important components is lacking in the present tourism objectives.

## Concept of Priority

There is no doubt that every country wish to have continuous sustainable economic growth. Like other economic sectors coastal and marine tourism is now considered as a rising industrial activities in many countries including Bangladesh. Every coastal nations are more concerned about their maximum utility of coastal resource exploration including tourist sector development. Development in the tourist sector is essential for sustainable economic growth, but it should contain less environmental temptation. Conservation of nature should be the foremost priority, then the economic goal from the system. These strategy may ensure long-term economic benefit and will provide higher environmental sustainability.

Considering these, the first essential step in a tourist development program is to identify the valued ecosystem components (i.e., landscape, seascape, wildlife, migratory birds, coastal forest, etc.) as a part of project development planning. Because these components possess the highest aesthetic values and more attraction to the tourists. Moreover, these information will help in evaluating the probable environmental degradation and quantifying the value of loss from the conversion or development. When predicted aesthetic value loss is relatively higher than economic gain from tourism, habitat restoration program within the resort areas should adopt to mitigate of the probable loss. The adoption of such strategic steps may accept the project for implementation. Finally, dual development plan, i.e., sustainable environment and tourism, will possible by adopting co-management policy. Members from government representative, private tourist organization, interested public group (i.e., natural scientist, economist, sociologist, anthropologist, environmental engineer, etc.) and responsible local community members may help in avoiding long-chain bureaucratic process through sharing ideas and responsibilities in the decision making process.

## Conclusion

Environmental friendly tourism practice plays the key role in an integrated coastal zone management program. Development of tourism and environment at the same time will save many resources for a tourism growing country. Attempts in conserving the natural environment should be the moral practice for utilizing a significant ecosystem component and a sustainable tourism practice. This will ensure long-term economic benefit from tourism and will improve environmental carrying capacity. Thus management initiatives require practically applicable organizational and legislative framework. And no doubt policies must reflect the national, social, economic and environmental interest rather than political commitment.

Regarding these the following recommendations may help in the development of policies to avoid any catastrophic environmental loss in Bangladesh.

### Recommendations:

- Immediate adoption of environmental friendly appropriate regulatory instrument and management institution.
- Immediate stopping of fish-processing activities around St. Martin's Island.
- Complete ban on coral and other vulnerable resource harvesting, gathering, processing, and selling from St. Martin's Island.
- Immediate declaration of St. Martin's Island as a Marine Protected Area and adopt as an environmental-friendly tourist spot.
- Immediate declaration of the Nijum Dwip, Shah porir Dwip, and other marine bird gathering islands as "Marine Bird Sanctuary."
- Urgent program for habitat restoration at "Himchari National Park" of Cox's Bazar, the coastal wet-lands and islands around Teknaf coast, and Moheshkhali, Kutubdia, Swandwip, Hatia, Rangabali Islands.
- Immediate actions for water quality monitoring program from all estuaries to estimate types of industrial activities and other source of wastewaters.
- Immediate measures for conserving existing natural beauties, valued ecosystem components and natural habitats around the coastal areas of the country.
- Urgent program for maintaining optimum human population at St. Martin's Island and other sensitive coastal regions.

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**Table 1. Present Situation in Some Significant Coastal Areas of Bangladesh (after Permetta (1993) and several field investigation done by the authors)**

<i>Significant Coastal Area</i>	<i>Usual Ecosystem Components</i>	<i>Present Use</i>	<i>Remarks</i>
<b>Saint Martin's Island</b>	Wintering ground for wild fowl; nesting site of sea turtle; 13 genera of corals; several million years old "Coquina bed;" various types of biodiversity.	Fishing and resource gathering; fish drying; agriculture; tourism.	Environmental quality extremely deteriorate due to complex multi-uses and indiscriminate resource exploitation.
<b>Cox's Bazar Beach</b>	Himchari National Park and its pristine wildness with numerous wild life and natural water falls.	Tourism; fishing; aquaculture unit; refugee slums; etc.	Any road communication facilities through this coastal belt will destroy the park since this area is already lost its pristine value.
<b>Nijum Dwip</b>	Habitat of migratory marine birds; mud flats wetlands; sandy and muddy beaches.	Fishing; fish drying; scattered tourist visit.	Declaration as a bird sanctuary seeks top priority.
<b>Naf Estuary Islands</b>	Shahporir dwip: tidal mud flats and migratory birds; Jaliar dwip mangrove block; several coastal intertidal mangrove vegetation's and wild life; Muchoni & Whykeong-important mullet fishery nursery ground.	Fishing; fish drying unit; aquaculture; tourism.	Jaliar dwip mangrove block and other several mangrove vegetation is already cleared for aquaculture development. Shah porir dwip urgently needs to declare as a bird sanctuary.

# TOOLS AND PROCESSES TO FACILITATE DECISION MAKING FOR THE FLORIDA KEYS NATIONAL MARINE SANCTUARY MANAGEMENT PLAN: A CASE STUDY OF COMMON PROPERTY RESOURCE MANAGEMENT

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**Abstract:** *There are no structured methodologies for making coastal environmental decisions, and the public participation that is required by U.S. law occurs in an ad hoc manner. Subsequently, most decisions made for coastal common property resources do not reflect societal preferences, and the outcomes do not provide efficient allocations. Combining economics and decision theory will help to first to determine, then to achieve the necessary conditions for making "good" coastal environmental decisions and improve the outcomes. To determine how to make "good" decisions, the factors that typically complicate coastal decisions are first identified. Then "good" environmental decisions are defined; conditions similar to those used for a well-functioning market system are adopted, i.e., (1) the stakeholders must be well-informed, (2) the stakeholders' preferences must be included, and (3) flexible and adaptable decisions must be achieved. This research then identifies families of analytical tools that can help overcome the complicating factors.*

*Instead of using one tool or process, this research focuses on using a number of tools within a commonly recommended process to overcome or reduce the severity of the complicating factors. A case study is used to show how multiple objective utility functions, mental maps, simulation models and uncertainty analysis tools can be used in sequence to assist the generally recommended steps of good decision-making. This study provides evidence that these four families of tools should be used in combination to make "good" environmental decisions. These tools enable the decision makers to achieve the necessary conditions for good decisions in the coastal environment, because they (1) elicit and transfer knowledge about qualitative and quantitative factors, (2) elicit and combine stakeholders' preferences, and (3) enable adaptable decisions.*

*The case study demonstrates that no one tool can help achieve every step of decision-making, overcome all the complication factors, or obtain all the necessary conditions. Combining tools in a structured method offers the best results. The necessary conditions can be more easily achieved so that the chosen alternative will more closely reflect well-informed societal preferences.*

**Keywords:** *common property, uncertainty, decision making tools, Florida Keys*

## Motivation for the Work

Coastal areas typically possess resources of great economic and intrinsic value. The marine ecosystem surrounding the United States' Florida Keys is no exception; the coral reefs, fisheries, estuaries, sandy beaches, etc., support the majority of the Keys' economy. Outdoor recreation and tourism support about half of all employment in the Keys (Ehler, 1994). Tourism expenditures in the Keys' was calculated at \$800+M/year in 1989 and growing (Kearney and Centaur Report, 1990). The commercial fishing business, also supported by the marine ecosystem, is worth \$5 million per year in the Keys (Dewar, 1994). The importance of the marine ecosystem is even greater when one realizes that there are no major industries in the Keys other than tourism and commercial fisheries; without these, the entire socio-economic structure would collapse (Ehler, 1994).

Like many common property resources, the Florida Keys' marine ecosystem has suffered from the Tragedy of the Commons (Hardin, 1968). Over a number of decades, the degradation and death of marine resources has become prevalent. Coral reefs have died, the Florida Bay has been likened to "the dark side of the moon" and fish stocks have disappeared (Dewar, 1994). As a result, the number of Florida Keys residents concerned with the problems grew. Many saw the need to manage their marine resources for sustainable use. They called for government intervention, realizing the laissez-faire market system would not properly manage these common property resources.

Concerned citizens became involved, writing to their congressmen and forming special interest groups; the political fervor grew until it caught the attention of US Senators. In 1990, the Senate passed the Florida Keys National Marine Sanctuary (FKNMS) Act, mandating that a 2200 sq. nautical mile area surrounding the Florida Keys be designated a NOAA National Marine Sanctuary. (This is the only NOAA sanctuary designated by the U.S. Senate; all others have been designated by NOAA). The Act required that a management plan be created to ensure that the Keys' marine resources would be used and conserved. Many Keys' residents felt the first battle had been won; there was local, state and federal recognition that the marine resources needed to be managed for sustainable use.

The second battle, creating a successful management plan, was more difficult. The focus of this research is to make the creation of similar management plans easier. While many of the Keys' citizens are now satisfied with the draft FKNMS Management Plan, the decision making process itself was long and arduous. The FKNMS Management Plan took 5+ years to create and even longer to pass into law. (As of summer 1996, the plan is still in review, currently in the Federal Office of Management and Budget.) While the plan was being created and waits for the Federal government, the marine resources have continued to degrade. As Alison

Fahrer, an Advisory Council member and Chairperson of the AC's Zoning Committee, said, "I've been very frustrated with the pace. If this were a business proposition, it would have taken no more than 18 months" (Fahrer, 1994).

There was and is a strong need to focus and streamline the decision-making process. Making decisions about how to allocate common property resources should utilize the latest applicable research and theories—research concerning management of privately held resources, Economics and Decision Making Theory. The purpose of this research has been to determine which processes, tools, techniques, theories, etc. would be most beneficial to public sector decision making for common property resources.

### **Complications—Why is it Difficult to Make Decisions for Common Property Resources?**

One can site many reasons why making decisions for the public sector is more complicated than for the private sector. After reviewing over seven decisions made for coastal common property resources,<sup>1</sup> it was found that many of the reasons could be distilled into three main types. These complicating factors are:

- many people with multiple values
- difficulties in incorporating all the relevant information from multiple disciplines, and
- high levels of uncertainty

#### **Many People with Multiple Values**

With most environmental decisions, many people influence and are influenced by the laws and regulations concerning the area. Typically, there are 1) multiple government agencies who have jurisdiction in the designated area and 2) a great number of individual citizens who affect and are affected by the designated area. Because of this, it is becoming the norm to legally mandate that both private citizens and multiple government agencies be involved in environmental decisions. This was the case for the FKNMS. The Act mandated that "the Secretary of Commerce, (through NOAA) in consultation with appropriate Federal, State and local government authorities and with the Advisory Council established under section 208, shall develop a Comprehensive Management Plan and implementing regulations to achieve the policy and purpose of the Act."

The decision to create the FKNMS Management Plan included nearly 20 government agencies and a citizens' advisory council including representatives from over 20 different interests groups. In addition, Florida state required that many of the meetings be open to the general

public and that public participation be elicited. Hundreds of meetings took place in an effort to include the comments, thoughts and values of all those affected. The large number of people involved, while necessary and beneficial to creating a widely accepted plan, increased the number of judgments, preferences and interests that had to be included. This complicated the decision making process. Unfortunately, the methods used to incorporate the many interests were relatively unsophisticated.

#### **Poor Management of the Information from Multiple Disciplines**

In all complex environmental decisions, it is a substantial challenge to record, organize and incorporate the vast amount of information relevant to the decision for a number of reasons.

1. Large amounts of information. The sheer volume of information that is relevant for the average environmental decision makes it difficult to consider it all simultaneously. While humans are good at determining and intuiting the relationship among different data, we are less adept at juggling many pieces of data at once. Many decision makers have moved to using computer-aided decision-making tools to manage and simultaneously consider great volumes of information, a task for which computers are well-suited. These decision-making tools/programs are created using the humans' reasoning and logic; the computer program then enables the great volumes of data to be considered concurrently, executing the programmer's logic and keeping records.

2. Criteria from multiple disciplines, requiring expertise from many areas. Most environmental decisions, including the FKNMS Management Plan, require knowledge from a broad range of topics (i.e., marine biology, zoology, hydrodynamics, chemistry, coastal construction, economics, marine policy, etc.). There is no one field of expertise that can alone determine how best to manage the marine resources. Combining many fields of expertise is necessary, and requires that the information be organized, showing the linkages among the many variables. Structuring and showing interconnections in the information is necessary, so that all experts (and average citizens) can understand how each part fits into the whole. To the greatest extent possible, many people need to understand the whole problem, so they can contribute their knowledge; they need to understand the current or state-of-the-art knowledge so they can determine how their additional knowledge can be utilized within the overall decision and/or how their values can be incorporated.

3. Interdependencies among the variables, including dynamic and cyclical. With environmental decisions and ecological processes, there are many cause and effect links. For example, pesticides used on land effect many marine

organisms; increased ocean temperatures effect coral as well as other marine life. Some linkages are cyclical and dynamic as well (i.e., turbid water causes marine plants to die, which causes greater turbidity and more death). Researchers are constantly discovering new linkages. What is most helpful is to organize all the information that is known in a manner that indicates the linkages, including those that are cyclical and dynamic. Interdependencies among the variables, such as human actions, natural phenomenon and marine biology, need to be made obvious since it is more enlightening to see cause and effect, rather than read long lists of data with no interdependencies specified.

4. Multiple criteria that cannot accurately be reduced to monetary terms. In environmental decisions, some resources can be represented in monetary values, but for many resources, it is difficult and even impossible to determine an equivalent dollar value. For example, what is the value of clean air, clean water, wetlands, oil-free coastal waters, etc.? If all criteria could be reduced to an widely agreed upon dollar value, then all resources could be compared and combined using these dollar equivalents. It would be easy to combine large amounts of information, because there would be a common denominator; all criteria could be simplified into one dollar value. Unfortunately, that is not possible with environmental decisions. It is, though, still necessary to consolidate and combine the many variables, values and judgments so that actions can be taken concerning the resources.

In all complex environmental decisions, the information needs to be well managed, so that 1) large amounts of information can be included; 2) information from many disciplines can be understood by many people and incorporated into the bigger picture; 3) the linkages among the many pieces of information are made obvious; and 4) multiple criteria with dissimilar scalar units can be compared.

## Uncertainty

There are complicating factors that can be described as various types of uncertainty.

1. Uncertainty about cause and effect. Natural processes and living systems are complex, and as stated before, therefore are many inter-linkages. Unfortunately, their are uncertainties about many of the linkages and within many of the subsystems. There may be uncertainty as to the timing, intensity and frequency of events which effect the ecosystem (such as hurricanes and rainfall). There may also be uncertainty as to how certain parts of a subsystem interact (how do toxins affect coral reefs), and there may be uncertainty as to what variables even affect an ecosystem (i.e., scientists probably have not yet

identified all the factors that affect the health of coral reefs). The most advanced research can not predict with 100% certainty the causes and effects of most events in an ecosystem. We can not, though, wait until there is perfect information before making decisions; decisions must be made using the most relevant knowledge currently available, even when there is uncertainty.

### 2. Various ways to consider the time frame of the project.

There is often uncertainty as to the most appropriate time frame for making a decision. When environmental decisions are made, the decision makers must decide whether to consider a time frame of 10 years, 20 years, 50 years or infinity. For example, for renourishing a beach, the cost benefit analysis might be made using a 20-year time frame for the buildings and tourism economics, but the sediments may affect marine species such as sea turtles for 50, 100 or more years. It is often difficult for the decisions makers to determine what is an appropriate time frame, contributing to the uncertainty and lack of consensus in the decision making.

### 3. Various ways to consider the geographical scope of the project.

With environmental decisions, there is often uncertainty in determining the appropriate geographical area within which to measure the effects of a decision. The air and water in an area are fluid and travel outside the region. Since no one fully understands all the biological, chemical and physical processes that occur within the defined geographic 'boundaries' of the affected ecosystem, no one can be sure that effects do not spill over into other geographic regions. (For example, the FKNMS is 2800 sq. nautical miles, but the FKNMS Management Plan is likely to affect marine life in the entire Caribbean Sea. In turn, the FKNMS is affected by events on land and in the surrounding water body, such as rainfall, pollution, etc.) When making environmental decisions, there is uncertainty as to what geographical scope is appropriate.

4. One-time decisions with high stakes. Not only does managing environmental resources typically means making decisions under uncertainty, but often one or more of the possible outcomes could be disastrous. Many environmental decisions are not reversible; the decision can not be made many times over, allowing the decision maker to learn from mistakes or be satisfied with the statistical average of the many outcomes. (While the FKNMS Management Plan will be revised every four years, much of the decisions made in the first version will affect the marine ecosystem for many years. For example, irreversible outcomes may be the extinction of certain marine species). Often environmental decisions affect resources that are one-of-a-kind. If a poor decision is made, it may result in the depletion of an irreplaceable resource, or it may require tens or hundreds of years to replace the resource (as is the case with many fish stocks and coral reefs).



As discussed above, there are many factors which complicate environmental decision-making. There is uncertainty inherent in the relevant variables and in the decision scope; there is a great deal of information and many people's values and judgments that must be included. To make a good decision, it is necessary to distinguish between disagreements concerning the facts vs. differences in values and judgments. If only discussion and debate are employed in making the decision, the distinction between fact and judgments becomes more difficult as the number of factors to consider increases and as the number of people involved in the decision grows. For complicated environmental decisions, more than just discussion and debate need to be employed. Determining what the best decision making processes and tools to use is not insignificant, though.

### Decision-Making Processes and Families of Tools

Studying Decision Theory, it becomes evident that one must first define what it meant by a 'good' decision. One then must realize there are both decision making processes and tools that must be optimized to make a 'good' decision.

#### Determining What Makes a 'Good' Decision

To use a commonly agreed upon definition of a 'good' decision, the definition of an efficient allocation from economic theory was used. The four necessary conditions for an efficient allocation in the Market System were reviewed. They are:

1. Privately owned input and output factors;
2. Perfect information (no uncertainty);
3. Producers and consumers who are all price takers (i.e., no monopolies or oligopolies); and
4. No barriers to entry.

These criteria were scrutinized and to the extent possible, applied to decisions for allocating common property resources. They had to, of course, be altered slightly to be applicable.

1. 'Privately owned input and output factors'—Common property resources by definition do not have privately owned input or output factors. The important part of this criteria is that private ownership enables one party to take control of the resource, to make decisions and take actions upon it. With common property resources, decisions and actions must be made by many people; the decision process must enable multiple decision makers.

2. 'Perfect Information'—There can never be 100% certainty in environmental decisions. Having well informed stakeholders / decision makers gets close to perfect information, though.

3. and 4. 'Producers and consumers who are price takers' and 'no barriers to entry.' These are replaced by 'Preferences of all stakeholders are reflected,' since they essentially mean that there should be no forces which exclude any interested parties from partaking in the allocation decision (see Stancik, 1995 for more details).

#### Decision-Making Processes

Research concerning Decision Theory was reviewed, and the necessary steps for creating a 'good' decision (generically) were borrowed. This was to ensure that the tools chosen for environmental decisions could be used within the generally agreed upon steps of good decision-making. These steps are:

1. Define the Problem, Overall Goal and Objectives;
2. Formulate criteria and detailed variables that affect the problem and goal;
3. Formulate Choices;
4. Execute Sensitivity Analysis;
5. Choose an Option; and
6. Implement

(Keeney and Raiffa, 1976; Goicoechea, 1983; Hwang et al., 1987, Saaty, 1990; Turban, 1988; Stancik, 1995).

The tools and techniques chosen to assist environmental decision making should be used within the generic steps of good decision making to ensure that the best possible decision be made.

#### Families of Tools

There are many methods for allocating resources, whether they be resources which are privately held or common property. Some of these methods are classified as market-based techniques, some as legislative methods and some as decision making tools. To determine which are most appropriate and helpful for creating the best environmental decision, each family should be reviewed, as well as examples of tools within each family. The tools should be scrutinized to determine if they can help accomplish the six steps described above, and if they can help overcome the complicating factors described earlier. The families of tools reviewed are as follows:

##### Market-based methods include:

- *Laissez-Faire* and
- Dollar-based methods—Maximized Net Present Value

##### Regulatory and judicial methods include:

- Command and control

- Judicial actions (i.e., property rules, liability laws)
- Reporting mandates and public pressure
- Financial incentives (i.e., tradable permits, taxes)

#### Methods from Decision Making Theory include:

- Operation Research Tools
- Multi-Criteria Decision Making (MCDM) and Multi-Objective Decision Making tools
- Multi-Attribute Utility Theory
- MCDMs to structure and manage the information
- MCDMs to accommodate uncertainty
- Decisions Support Systems (Hwang et al., 1987)

It is assumed that the reader is familiar with the Market-based techniques, Regulatory and Judicial methods, and Operation Research Tools; for brevity, descriptions will not be provided here. It is also assumed that the reader will be less familiar with Multi-Criteria Decision-Making tools; these are described briefly below.

#### **Multi-Criteria Decision-Making (MCDM)**

MCDM has emerged as a philosophy that integrates common sense with empirical, quantitative, normative, descriptive and value-judgment-based analysis. It is a philosophy supported by advanced systems concepts (i.e., data management procedures, modeling methodologies, optimization and simulation techniques and decision-making approaches) that are grounded in both the arts and sciences for the ultimate purpose of improving the decision making process (Haines, 1984).

Multiple Attribute Utility Theory are decision-making tools that can elicit and combine many people's values and preferences, then summarize them into one chosen alternative. Examples would include Voting, Weighted Preference Methods, the Analytic Hierarchy Process and Conjunctive/Disjunctive Methods.

MCDMs that help manage and structure information can be used with many decision makers and multiple criteria, but do not focus on preferences. Instead, this MCDMs focus on eliciting and recording knowledge, organizing and managing large amounts of information. Examples would be brainstorming, cognitive maps such as Causal Loop Diagrams, and simulations models such as Systems Dynamics.

MCDMs designed to accommodate uncertainty also do not focus on eliciting preferences, but again focus instead on eliciting and recording knowledge. They differ from the MCDMs described above in that they can incorporate uncertainty inherent in the physical and economic aspects of the ecosystems. Examples would be Decision Trees

and Influence Diagrams or simulations models which can incorporate statistical uncertainty, such as Demos.

The criteria for choosing the most applicable, helpful tool(s), was to determine which could overcome the many complicating factors inherent in environmental decision-making. Analyzing in detail the applicability of many tools, it was found that 1) some could not be used because they were incompatible with one or more of the complicating factors. 2) Other tools held more promise; some tools could overcome some of the complicating factors, and were still usable if the unresolved complicating factors remained. Unfortunately, no one tool was found that could overcome all the complicating factors. Below is a condensed version of the applicability of many tools.

Market-based systems, regulatory and judicial methods can not be used alone to improve decision making for common property resources for the following reasons.

#### Market Based System

- *Laissez-Faire*: insufficient due to the 'Tragedy of the Commons'
- Dollar-based methods/Maximized Net Present Value: insufficient since many criteria can not be accurately reduced to a monetary equivalent

#### Regulatory and Judicial Methods

- Command and control: insufficient since it enables only one decision making body
- Judicial actions (i.e., property or liability laws): helpful, but typically post insult, not preventing
- Reporting mandates and public pressure: helpful, but rarely adequate alone
- Financial incentives (i.e., tradable permits, taxes): helpful, but not applicable for all common property resources

#### **Multi-Criteria Decision Making Tools**

It was found that many of the Multi-Criteria Decision-Making tools could be used in combination with other tools. All MCDMs can overcome the complicating factor of inadequate information management by incorporating multiple criteria and variables, non-monetized variables, and variables from a broad range of disciplines. In addition, all MCDMs are designed to be used with many people. MCDMs also allow market based methods such as monetary cost/benefit analysis to be included within MCDM tools, since any variable, monetary or not, can be incorporated.<sup>2</sup> MCDMs can be used in conjunction with various regulatory methods. It was found that by using a number of MCDMs together, and in a specified order (so as to achieve the recommended process), most of the complicating factors could be overcome.

## Using Multi-Criteria Decision-Making tools for the FKNMS Management Plan

This section will discuss the tools found to be most helpful for the creation of the FKNMS Management Plan.

### Analytical Hierarchy Process

A Multi-Attribute Utility Theory tool, was used first and found beneficial in eliciting the participants' initial concerns (Saaty, 1990). The tool showed how the values and judgments identified by the Advisory Council were linked. It also began to show the degree of consensus that existed, as well as the depth of conviction, for some values vs. others. Recording the criteria in a hierarchical manner made it easy for many people to review and add to the concerns identified.

### Causal Loop Diagrams

CLDs were used and found to be helpful in first eliciting and organizing the relevant variables for many of the sub-decisions made. The CLDs were relatively easy to create and understand. The participants used them to educate themselves on what was already known and documented. The CLDs were also helpful when each user tried to determine how their knowledge was applicable and relevant. The CLDs made it easy to identify and record the many relevant variables as well as the interdependencies of the variables.

### Systems Dynamics (Forrester, 1969)

A simulation model was found to be incredibly helpful for eliciting and organizing detailed information, but it could only be used for small pieces of the entire decision. Although it could only be completed for a very small part of the ecosystem, it was powerful in that the mere process of attempting to quantify all the linkages forced the best available information to be drawn out and incorporated. Equally important, the Systems Dynamics model also enabled likely outcomes of various actions to be forecasted for small parts of the ecosystem.

### DEMOS (Morgan and Henrion, 1990)

A simulation model which incorporates uncertainty, was then used to understand the degree of uncertainty in the forecasts made by the Systems Dynamics model. Quantifying the uncertainty of the interdependencies between variables again helped to elicit the best information. The use of DEMOS was illuminating in that it indicated the degree of sensitivity in the various outcomes.

## The Analytical Hierarchy Process

This was used again at the end of the decision making process. The other tools were first used to educate the stakeholders about all known relevant information, and likely outcomes. After they became well informed, AHP was then helpful in eliciting final preferences from the stakeholders.

One commonality among all the tools is that they are all pictorially based, which increases their usefulness in educating many people. Using the tools in the prescribed order above also enables the optimal decision-making process to be followed.

## Conclusions

Creating management plans similar to that made for the FKNMS can be assisted by using certain families of MCDMs in combination with market based and regulatory techniques. The first step in this research was to determine what are typical hindrances in making good and efficient environmental decisions. The next steps required reviewing many disciplines currently used to allocate resources, then determine which would be the most useful for environmental decisions. It is predicted that using the prescribed methodology stated above had been used, the FKNMS Management Plan would have been made in less than half the time. In addition, other benefits would be numerous, including:

- eliciting the best available detailed knowledge from many sources
- forecasting likely future scenarios
- transferring this information to many people
- eliciting detailed preferences
- combining preferences of many people into actions and plans
- recording the decision making process, so it is well-documented, easy to review and defend.

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## ENDNOTES

<sup>1</sup> These included the Exxon Valdez, Boston Harbor, San Francisco Bay, Miami Beach, Chesapeake Bay, Manatee County, and the Florida Keys.

<sup>2</sup> There are many reasons for the increasing interest in MCDMs:

First and most importantly, is the increasing recognition that most decision problems are inherently multi-objective...The reason for the multi-objective nature of these problems is simply that the outcomes associated with the decisions are multi-dimensional...A second, but related, reason for the increasing interest in MCDMs is the recognition of numerous stakeholders in many problems...Finally, a third reason for increasing interest in MCDMs is the enormous improvement over the last 15 years in the speed storage, and feasibility of computing facilities (Evans, 1989).

# HAWAI'I CORAL REEF INITIATIVE: AN INITIAL ASSESSMENT

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**Abstract:** *A group of volunteers is mobilizing an initial assessment of the status of coral reefs in Hawai'i. This effort is the result of a series of scientific and governmental meetings stimulated by the Coral Reef Initiative (CRI) announced by the U.S. at the U.N. Conference on the Sustainable Development of Small Island Developing States in April 1994.*

*The U.S. Coral Reef Initiative got off to a rocky start with strong objections from state and territorial government to another federal initiative designed to manage resources under state and territorial jurisdiction. Following the SIDS conference, officials from American Samoa, Commonwealth of the Northern Mariana Islands, Guam, and Hawai'i organized their own planning effort for an American Flag Pacific Islands CRI that culminated in a planning workshop in December 1994.*

*In late 1994, planning groups consisting of government officials, coral reef scientists, and non-governmental organizations had been formed in each jurisdiction. In November of 1994, coral reef scientists held workshops at the East-West Center in Honolulu, and non-governmental organizations held their own CRI workshop.*

*During 1995, a group of volunteers agreed to develop an initial assessment of the state of coral reef ecosystems in Hawai'i with travel support for the Hawai'i Coastal Zone Management Program. The methodology now being used involves focus groups of scientists, ocean recreation business owners, recreational divers, fishermen, Native Hawaiian community groups, and the general public. Based initially on the Hawai'i Environmental Risk Ranking project method, individuals are being asked to identify coral reef ecosystem "sites" and rank them in terms of their cultural, recreational, economic, and biological importance. Scientists are being asked to identify areas that are being stressed, and, if known, the causes of that stress. Community people are being asked to identify what they believe are threats to the coral reef ecosystems. A database is being developed which will be made available to the general public. The result of the assessment will be used to plan other Coral Reef Initiative activities.*

**Keywords:** *Hawai'i, Coral Reef Initiative, assessment, community volunteers*

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## Origins of the Coral Reef Initiative

The Coral Reef Initiative began as a U.S. Department of State initiative in late 1993. It was formally announced at the U.N. Conference on Sustainable Development in Small Islands Developing States in May, 1994. Following that meeting, the American Flag Pacific Island governments of American Samoa, Commonwealth of the Northern Mariana Islands, Guam and Hawai'i began developing their own Coral Reef Initiative as a grass-roots effort tailored to the needs of each jurisdiction. This was formalized at a meeting convened by the Pacific Basin Development Council in December 1994 involving representatives of the four island governments, non-governmental organizations, and Federal agencies.

In Hawai'i, just prior to the American Flag Pacific Island Coral Reef Initiative Management meeting, coral reef scientists met at the East-West Center in November 1994 to discuss marine and coastal biodiversity. The same month, the Sierra Club Legal Defense Fund and other environmental groups organized a workshop for non-government agencies on Community Involvement in the Management and Protection of Coral Reef Ecosystems. These meetings served to increase interest in improving the management of coral reef ecosystems in Hawai'i and the rest of the Pacific region. They also provided the volunteer organizers of the Hawai'i Coral Reef Initiative with some momentum to begin to develop a truly grass-roots effort.

## Initial Assessment

Early in 1995, the Hawai'i Coastal Zone Management Program asked Dave Raney of the Sierra Club, Mike Hamnett of the Social Science Research Institute, Peter Rappa of the University of Hawaii Sea Grant Program, and Susan Miller, a local environmental consultant, to help facilitate further development of the Hawai'i Coral Reef Initiative on a volunteer basis. In May 1995, this volunteer group organized a coral reef ecosystem assessment and monitoring workshop at the University of Hawai'i. Over 30 people from the academic community, the ocean recreation industry, state and county government agencies, environmental groups, and dive groups attended. Workshop participants concluded that a preliminary assessment of the state of coral reefs in Hawai'i was needed. They also agreed that a preliminary assessment could be done using volunteers.

## Community Initiatives

The Hawai'i CRI "volunteer coordinators," as the group referred to themselves, recognized in early 1995 that despite the initial optimism, they should not depend on

federal funding for a Hawai'i Coral Reef Initiative. They also felt that because state and federal budgets were being cut, a volunteer-based Coral Reef Initiative might become a model for other resource management efforts.

The Hawai'i Coastal Zone Management Program provided grants totaling \$13,500 for logistical support for the Hawai'i Coral Reef Initiative. With donated time and travel funds provided under the grants, community meetings were held at the University of Hawai'i at Hilo and at the UH Cooperative Extension Service offices at Kainalu in Kona. Participants at both meetings included commercial fishermen, ocean recreation industry employees and business owners, recreational divers, members of Hawai'iian and environmental groups, UH faculty and students and citizens concerned about the state of the coral reefs ecosystems in Hawai'i. The CRI volunteer coordinators gave participants some background on the Coral Reef Initiative. Participants discussed the need for an initial assessment and a brain-storm session was facilitated on what people in the community could do to develop their own coral reef initiative.

Participants at the Hilo and Kona workshops talked about activities they had initiated to protect coral reef ecosystems. A presentation was made by Brian Tissot of UH Hilo on the Quantitative Underwater Ecological Survey Technique (QUEST) program being sponsored by the UH Marine Options Program on the Big Islands. Participants at both meetings suggested a wide range of activities they felt should be part of a Hawai'i Coral Reef Initiative. They expressed concern about coral reef areas being threatened off of Kaupulehu, on the west coast of Hawai'i. Participants talked about coalitions between Hawai'iian groups concerned about the ocean and coastal environment being formed to protect coastal ecosystems. They also felt there was a tremendous amount of knowledge among native Hawai'ians about coral reef ecosystems that needs to be documented. Participants felt that people with traditional rights to ocean resources should be involved in managing those resources, and that community-based planning should be an integral part of the Coral Reef Initiative.

### Approach to Initial Coral Reef Assessment

In June 1995, a meeting of scientists was convened to talk about options for conducting the initial assessment. Jim Maragos of East-West Center presented information on the Hawai'i Environmental Risk Ranking (HERR), Project methodology, and participants agreed that this was a simple and workable approach.

The HERR methodology, for those who are not familiar with it, ranks ecosystems in terms of their cultural, economic, recreational, and biological value. It also ranks a

series of "stressors" or threats to those ecosystems. These include nutrients/bio-oxygen demand, earth moving/development, erosion/sedimentation, water diversion/channelization of streams and rivers, heat/thermal pollution, and human activity. These "stressors" are ranked in terms of their severity and frequency as threats to the ecosystems being evaluated by the HERR project.

### Hawai'i Coral Reef Working Group

On October 3, 1995 the Coastal Zone Management Program convened a meeting of the state's Coral Reef Initiative working group to discuss the status of the Hawai'i Coral Reef Initiative. Claire Cappelle of the CZM Program, June Harrigan-Lum of the Environmental Planning Office of Department of Health, Francis Oishi of the Division of Aquatic Resources at the Department of Land and Natural Resources, Jim Maragos of the East-West Center, and the volunteer coordinators discussed the status of the HERR project, work on the CRI assessment methodology, and the loss of Federal funding for the CRI for 1996. Jim Maragos and June Harrigan-Lum informed the group that the HERR project will be scaled back to focus initially on the island of Oahu. The group agreed that work on the CRI assessment should proceed with the plan for state-wide coverage.

The group also agreed that there was considerable interest in developing an education component for the Coral Reef Initiative, and Claire Cappelle agreed to contact people who might be interested in taking the lead on education.

Although Federal funding for the CRI had been cut, the working group agreed work on the initial assessment should move ahead. Considerable community interest had been generated, and, as one participant stated, the Hawai'i Coral Reef Initiative can serve as a model for improving resource management without Federal funding. "We're going to have to learn to do things like the Coral Reef Initiative without grant funds because there aren't going to be any in the future."

### Coral Reef Assessment Methodology Developed, Refined and Used

Chris Evans and Dave Raney developed a prototype CRI assessment methodology that could be used with focus groups for the initial assessment. The methodology developed was compatible with the HERR methodology but better met the anticipated needs of the Coral Reef Initiative, resource managers, and communities. The volunteer coordinators met to review the modified methodology, and further refinements were made.

A series of focus group meetings were planned to test the initial assessment of the state of coral reef ecosystems in Hawai'i. The volunteer coordinator at UH Hilo, Brian Tissot, organized a meeting with UH Hilo faculty on November 3, 1995 to review and discuss the methodology. Brian also organized a community meeting in Hilo on November 4. Some modifications were made in the approach for the community meeting, and the six participants in that meeting identified coral reef sites on the Big Island; evaluated their biological, recreational, cultural, and economic importance; and identified and ranked perceived threats to coral reef ecosystems at those sites. The results of the community meeting were put into a database developed by David Raney who took charge of database development. A report of that meeting was written and distributed to workshop participants.

The assessment instrument that evolved included questions about the location of the coral reef ecosystem site; the person providing the information including the source of their knowledge about the site; the cultural, economic, recreational, and biological value of the site and their "certainty" about their judgment about the site; and information about defining characteristics, changes they have observed, and what makes the site particularly important. For coral reef scientists, an list of stressors was adapted from the Hawai'i Environmental Risk Ranking project was developed. This expanded list included specific human activities known to cause damage including: alien or introduced species, toxic chemical pollution; erosion and sedimentation; fishing and gathering; boat grounding, anchor and diver damage; human waste and garbage; aquarium and shell collecting; human overuse/crowding; natural catastrophies; and dynamite fishing and other use of explosives. For the community workshops, the stressors matrix was not used. Rather, a list of perceived threats suggested by Hilo workshop participants was used. Threats included over-fishing, over-gathering anchor damage, boat fuel spills, turtle harassment, sedimentation, nearby construction, cesspools, pesticides, garbage and others.

UH Manoa faculty and staff including Peter Rappa, Mike Hamnett, Cindy Hunter, and Rick Grigg and Dave Raney of the Sierra Club and Chris Evans of Bay Pacific Consulting organized a workshop for coral reef scientists to assess the state of the reefs on the island of Oahu on December 2, 1995. A total of 15 coral reef scientists from UH Manoa, National Marine Fisheries Service, Hawai'i Pacific University, Aecos, and U.S. Geological Survey took part in the workshop. The methodology was discussed and participants used the Hawai'i Coral Reef Initiative Assessment (for scientists) forms to assess the state of the reefs about which they had knowledge. This was followed by a group assessment, using the Coral Reef Atlas map segments, of the state of the reefs. The results of both the

individual assessments and the group assessment have been edited and a draft report of that meeting has been completed. The data gathered is now being put into a database.

In early February 1996, Sarah Peck, the UH Sea Grant Extension Agent assigned to Kona, organized a community assessment workshop to build on the information gathered about the Kona coast at the Hilo workshops. Dave Raney and Mike Hamnett presented information on the history of the Hawai'i CRI and facilitated the assessment session using the methodology refined at Hilo. Brian Tissot made a presentation on coral reef ecosystems and how they function. Participants provided information on the status of coral reef ecosystems with which they were familiar and identified additional sources of information including log books kept by commercial dive operators.

A community orientation workshop and a coral reef assessment workshop were held on Maui on March 30 and 31, 1996. They were organized by Hannah Bernard of Hui Moana. A total of 30 people attended the orientation workshop which included presentations by Dave Raney and Mike Hamnett. The coral reef assessment workshop included 16 people from the ocean recreation industry, environmental groups, Maui Community College, and the general public. Assessment forms (for community groups) were completed at the assessment workshop and have been put into the database.

A community orientation workshop was held on Kauai on April 18 organized by Don Heacock of the Division of Aquatic Resources of the State Department of Land and Natural Resources. Chris Evans and Peter Rappa gave an overview of Hawai'i CRI and the assessment methodology. A total of six people participated in that workshop and follow-up meetings were discussed.

A follow-up assessment workshop organized by Hannah Bernard was held in Kihei, Maui on May 10, 1996. This workshop drew about 30 people, most of whom did not attend the earlier workshops. Participants included commercial and recreational divers and dive tour operators, members of environmental groups, and individuals concerned with the future of coral reef ecosystems in Hawai'i. In addition to working on the initial assessment during the workshop, Athline Clark of the Department of Business, Economic Development and Tourism (DBEDT) made a presentation on the day-use mooring buoy program organized by DBEDT and The Ocean Recreation Council of Hawai'i through the Malama Kai Foundation.

### **Preliminary Results of the Initial Assessment**

Data gathered during the assessment workshop on the status of coral reef ecosystems in Hawai'i is still be put into

the database developed by Dave Raney. A considerable amount of information about coral reef ecosystem "sites" has been gathered for the more heavily used and studied areas on Oahu, Maui, and on the west coast of the Big Island. As one would expect, the sites rated the most "important" (biologically, economically, recreationally, and culturally) are the sites for which there are the most data. On Oahu, these include Kaneohe Bay, Hanauma Bay, Shark's Cove, Makaha, and Pupukea. On the Big Island, Kealahou Bay, Puakoe, and off of the old Kona Airport. On Maui, sites for which a lot of information was gathered include Molokini, "five graves," Honolua Bay, Olowalu (Coral Gardens), Ahihi, La Perouse Bay, and several other sites on the West Coast.

The scientists meeting on Oahu generated the greatest amount of information from people who have done systematic studies of coral reef ecosystems. The value of using the workshop approach was that it was possible to get a consensus among individual scientists with a range of experience on the status of specific sites. Because of their scientific training and background, many of the participants were able to relay not only information about the status of reef sites but also talk about coastal processes that have contributed to the health or degradation of specific areas. One interesting outcome of the Oahu scientists workshop was that there were several areas on the island that were biologically important because of their biodiversity that did not appear to be threatened by human activity. These areas generally ranked low in terms of their economic and recreational value because they were relatively inaccessible.

The community meetings on Maui and Hawai'i also included coral reef scientists that were able to make the same kind of contribution. They also included recreational divers and commercial dive operators that had a tremendous amount of knowledge of specific sites. In Kona, one dive operator had visited several dive sites near the old Kona airport for over ten years. She and her crew kept detailed logs of each site, and several sites were visited on at least a weekly basis for over a decade. Log sheets included information on individual eels and crabs as well as general changes in the sites as a result of storms and other "unknown" causes. Other dive operators described changes along the entire Kona coast they had observed and documented including crown-of-thorns starfish infestations, a file fish population explosion along the entire coast during one year, and the death of one variety of sea urchin. Several of the dive operators said they did not understand what caused changes they had observed, but they had documented the observed changes in log books.

Participants in the community meetings identified "threats" to specific coral reef ecosystems with which they were familiar. These included anchor damage, "over use," over fishing, "people walking on live coral," "poaching" in marine life conservation districts, polluted runoff from

cesspools, and others. While the measurable impact of many of these threats may require study to prove they are causing degradation, others, like anchor damage, are clearly observable and the dive operators themselves have taken steps to prevent further damage to live corals.

It is going to require several months to input data gathered in the course of both the scientists workshops and the community workshops. Even without any systematic analysis of the data, it seems clear that the assessment has resulted in a list of "hot spots" or areas considered important by scientists and ocean users that are potentially threatened by human activity. Some of these areas have been monitored by government, university scientists, and non-governmental organizations (NGO) scientists for many years. Others are areas that should be monitored as the Hawai'i Coral Reef initiative is further developed.

### Other Results of the Workshops and Initial Assessment

Participants in the community and scientist workshops have shared information about the tremendous number of activities currently going on that contribute to the goals of the coral reef initiative. These include educational programs for children through public and private schools including elementary school classes taught by high school students in the Kona area of the Big Islands; public awareness and educational programs conducted by commercial snorkel and dive operators; exhibits on coral reef habitats done by Bishop Museum and the Waikiki Aquarium; speaker programs and World Wide Web sites on coral reef habitats at the University of Hawai'i at Hilo; training programs on surveying and monitoring coral reef habitats like QUEST; formal monitoring activities by government, university, and NGO scientists including efforts at Department of Land and Natural Resources, the Hawai'i Institute of Marine Biology, the Pacific Whale Foundation, and the University of Hawai'i at Hilo; less formal monitoring done by recreational divers and commercial dive operators; coordination of testimony on dredging projects and shoreline development on the west coast of Hawai'i; the day-use mooring buoy program; the Malama Bay Commission studies of water quality and marine ecosystems on the South Shore of Oahu; and coral cards being developed by Sierra Club and the Hawai'i Humpback Whale Sanctuary program.

As already indicated, a number of new activities beyond the initial coral reef assessment were suggested by workshop participants. Many of the suggestions were for public education/public awareness activities. Because of the range of activities identified by workshop participants, the Coastal Zone Management Program asked Ms. Carol Shea to develop a database on coral reef habitat education programs and materials. A survey instrument was



developed and has been mailed to an initial list of individuals and organizations. The first of the returned survey forms was received at the Pacific Basin Development Council on June 19<sup>th</sup>. At this point, the plan is to continue distributing survey forms and insuring that they are returned through the month of August and publishing the database in September or October.

One other outgrowth of the assessment and community workshops is that Brian Tissot at the University of Hawai'i at Hilo has taken the initiative to apply for funding for a web server for the Hawai'i Coral Reef Initiative. The core group has been discussing options for linking up everyone involved in the activities discussed in this paper and to allow people access to the information gathered in the course of the initial assessment. A newsletter has been produced and the new information gathered during workshops needs to get out to people in the network. The coral reef assessment and education databases can be printed and published, and additional data can be gathered and incorporated. However, the technology of the internet seems ideal for what the volunteers involved Hawai'i Coral Reef Initiative want to accomplish.

# THE ECONOMIC VALUE OF U.S. BEACHES

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**Abstract:** *The paper discusses the value of beaches to the U.S. national economy. Few realize that travel and tourism is already America's largest industry, employer, creator of new jobs, and earner of foreign exchange. Although computers, information highways, and other high-tech industries grab the news, travel and tourism has been providing the economic growth, jobs, and foreign exchange that makes the U.S. increasingly competitive in a world economy.*

*Beaches are key to U.S. tourism, since they are the leading tourist destination with historical sites and parks being second most popular and other destination choices minor by comparison. Coastal states receive about 85 percent of U.S. tourist-related revenues largely because of the tremendous popularity of beaches. For example, a single beach, Miami Beach, has more annual tourist visits than combined visits to Yellowstone, the Grand Canyon, and Yosemite National Parks.*

*Many countries recognize travel and tourism's importance to economic growth and international competitiveness. Examples are given of countries spending far more than the U.S. on beaches, including a massive program in Spain to restore existing beaches and develop completely new ones.*

*The return on investment of beach restoration is discussed with Miami Beach as an example. Tourist beach visits at Miami Beach almost tripled over five years following beach restoration. Annual spending just by foreign tourists at Miami Beach is 700 times the restoration's capitalized cost. Federal taxes from these foreign tourists at Miami Beach are more than the U.S. spends nationally on shore protection and restoration.*

**Keywords:** *beaches, tourism, beach restoration*

## Introduction

Travel and tourism are becoming an increasingly important industry in the modern world economy. Few realize that the travel and tourism segment is already America's largest industry, employer, creator of new jobs, and earner of foreign exchange. Although computers, information highways, and other high-tech industries grab the news, travel and tourism has been providing the economic growth, jobs, and foreign exchange making the U.S. increasingly competitive in a world economy. Since beaches are the number one tourist destination in the U.S., they play a key role in U.S. travel and tourism.

## Largest Industry

Travel and tourism is the largest industry in the U.S. and world with world-wide revenues of \$2.9 trillion (Miller, 1993). It is a huge industry with the U.S. being the only country with a Gross National Product exceeding world-wide travel and tourism revenues. Travel and tourism contributes \$746 billion to America's Gross Domestic Product (GDP) (Wall Street Journal, 1995). This is over 10% of U.S. output and makes travel and tourism the second largest contributor to GDP just behind combined wholesale and retail trade (Wall Street Journal, 1995) (or the largest contributor with wholesale and retail trade separated).

Travel and tourism also produces significant tax revenues to all levels of government with annual revenues of \$58 billion (Borcover, 1995). Foreign tourism alone produces annual U.S. tax revenues of about \$7.5 billion (U.S. Travel and Tourism Administration 1995a). The majority of these tax revenues (about 53% or \$4 billion) go to the Federal Government (U.S. Travel and Tourism Administration, 1994). Local Governments that provide most tourist-support infrastructure receive only 14.3% of the tax revenue from foreign tourists (U.S. Travel and Tourist Administration, 1994).

Travel and tourism is by far America's largest employer, employing 14.4 million people (Wall Street Journal, 1995). In contrast, all U.S. manufacturing industries from IBM to General Motors to Intel employ only 18 million people (World Almanac, 1994). In addition, travel and tourism employment is increasing rapidly, whereas manufacturing employment is declining. In 1994, tourism-related jobs increased by 343,000 (Business Week, 1994). This has more than compensated for an average annual decline in the U.S. over the past decade of 200,000 manufacturing jobs due to increases in manufacturing productivity.

The rapid increase in travel and tourism jobs and decline in traditional manufacturing is largely unrecognized by local and state governments in the U.S. that still compete to attract manufacturing jobs. Their efforts often target high-technology industries that are reducing employment as rapidly as other manufacturing industries. Even Florida, with remarkable competitive advantages in travel and tourism, concentrates on attracting high-technology industries. Part of this benign neglect of travel and tourism may be due to perceptions that this industry has low-wage jobs. However, per-capita wages for travel and tourism jobs in the U.S. average \$34,300, slightly ahead of average U.S. industry wages (Wall Street Journal, 1995). Switzerland provides a good example of high wages in tourism, since it depends on tourism more than any developed country yet has one of the world's highest per-capita incomes.

The waning importance of manufacturing and increasing economic importance of travel and tourism is illustrated by the steel industry. In the early 1960s, a dispute between the Kennedy Administration and steel industry over price increases contributed to the economy sliding into recession. Today the relative decline in economic importance of the steel industry makes a similar event unlikely. Instead, news of drive-by shootings of foreign tourists in the U.S. is likely to have greater economic impact than steel-price increases, since spending by foreign tourists supports about ten times more jobs than the steel industry (World Almanac, 1994; Business Week, 1994).

### Key to International Competitiveness

"There is probably no country in the world that has a greater comparative advantage in tourism than the United States" (U.S. Travel and Tourism Administration, 1993). Although domestic tourism is sometimes thought to provide local or regional rather than national benefits, foreign tourism in the U.S. provides clear national benefits important to America's position in a competitive world economy. In fact, travel and tourism is one of a handful of developed-world industries that the U.S. dominates. The U.S. receives over 45% of the developed world's travel-and-tourism revenues and 60% of its profits (Wall Street Journal, 1994). The U.S. runs a large merchandise trade deficit, but has a trade surplus in services with travel and tourism providing the largest and fastest growing segment of this surplus. Foreign visitors spend about \$80 billion a year in the U.S. and were expected to produce a \$26 billion U.S. trade surplus in 1995 in travel and tourism (Wall Street Journal, 1995; Business Week, 1994). This surplus is greater than the entire U.S. trade surplus for agricultural products.

U.S. employment relating to international tourism grew at an annual rate of 17.7% from 1990 to 1995. This compares with an annual 4.5-percent loss of U.S. manufacturing jobs over the same period due to increased manufacturing productivity (U.S. Travel and Tourism Administration, 1995a). U.S. employment in international tourism is projected to increase by 18.1% annually from 1995 to 2000 (U.S. Travel and Tourism Administration, 1995a). This growth rate will double international-tourism employment in the U.S. every four years. The benefits of this rapid growth will be spread throughout the U.S. economy since there are 1.4 million tourism-related businesses in the U.S., and 98% of them are classified as small businesses (U.S. Travel and Tourism Administration, 1995a). Foreign tourist spending in the U.S. is projected to rise to \$132 billion in the year 2000 (U.S. Travel and Tourism Administration, 1993).

### Beaches Key to U.S. Tourism

Beaches are the key element of U.S. tourism, since they are the leading tourist destination with historical sites and parks being the second most popular and other destination choices minor by comparison (USA Today, 1993). Coastal states receive about 85% of tourist-related revenues in the U.S., largely because beaches are tremendously popular (World Almanac, 1994). Foreign tourists are even more attracted to U.S. coastal states with over 90% of foreign-tourist spending in coastal states (U.S. Travel and Tourism Administration, 1994). Although there are many interior attractions in the U.S. from Yellowstone to the Grand Canyon and from Las Vegas to Branson, Missouri; the popularity of beaches dominates tourism. For example, a single beach location, Miami Beach, reported more tourist visits (21 million) than were made to any U.S. National Park Service property (Wiegel, 1992; World Almanac, 1994). Miami Beach has more tourist visits than twice the combined number of tourist visits to Yellowstone (2.6 million), the Grand Canyon (4.0 million), and Yosemite (3.3 million) (World Almanac, 1994). Miami Beach alone had more than a third the number of recreation visits made to all U.S. Bureau of Land Management public lands (270 million acres) (World Almanac, 1994). There are likely more recreation visits to beaches than to lands of the National Park Service and Bureau of Land Management combined. Beaches are America's playland and economic heartland with beach tourism contributing about \$170 billion annually to the economy (Houston, 1995). Beach erosion is the number one concern about beaches that Americans have who visit beaches (Hall and Staumer, 1995).

### World-wide Competition Facing U.S.

The importance of travel and tourism's importance to world economies, employment, and international competitiveness has not been lost on America's economic competitors. For example, Germany and Japan have outspent the U.S. in infrastructure investment for decades including spending freely to maintain their beaches as infrastructure investments (Houston, 1995). For example, Germany has spent about \$3.3 billion over 40 years on shore protection and restoration with most spending in recent decades on beach nourishment (Kellerat, 1992). This is about five times corresponding U.S. expenditures over the same period and about 25 to 50 times a greater share of GDP (Houston, 1995). These expenditures were made to protect a coastline less than 5% the length of the U.S. coast. Japan's budget for shore protection and restoration has topped \$1.5 billion in a single year (Marine Facilities Panel, 1991). This is more spent on shore protection and restoration in a single year than the U.S. has spent in over 40 years (U.S. Army Corps of Engineers, 1994). Spain with its extensive beaches is a major U.S.

competitor in attracting international tourism, especially beach tourism. Spain is conducting a 5-year program to both restore its eroded beaches and build completely new beaches. This Spanish beach-restoration program is spending more in five years from 1993 to 1998 than the U.S. has spent on beach restoration over the past 40 years (Ministerio de Obras Publicas y Transportes, 1993). Spain also is the world's leading advertiser for international tourists, spending ten times as much as the U.S. (Washington Post, 1995). The U.S. ranks 31st in the world in advertising to attract international tourists (Washington Post, 1995).

Over the past four decades the U.S. has spent only \$15 million annually on shore protection and restoration (\$34 million in 1993 dollars) (U.S. Army Corps of Engineers, 1994). This compares with annual U.S. subsidies of \$61 million for mohair wool (mohair value of \$13 million), \$134 million for wool (\$53 million value), and \$199 million for rice production in a single state (Houston, 1995). U.S. spending on beach restoration has been less than 0.1% of U.S. spending for crop subsidies or foreign aid.

### **Economic Return of Beach Nourishment**

Beach nourishment at Miami Beach is a good example of the economic benefits of beach restoration. Miami Beach had virtually no beach by the mid-1970s due to erosion. As a result facilities were run down, and Miami Beach was not the place to visit. Beach nourishment in the late 1970s rejuvenated Miami Beach and opened its beach to the public. Beach attendance, based on lifeguard counts and aerial surveys, increased from 8 million in 1978 to 21 million in 1983 (Wiegel, 1992). Miami Beach now has over two million foreign visitors who spend more than \$2 billion annually (Cobb, 1992). Annual foreign revenue alone is about 40 times the \$52 million cost of this beach-nourishment project that has lasted over 15 years (Houston, 1995). The capitalized project cost is about \$3 million per year just over its current life. With foreign revenues of \$2 billion a year at Miami Beach, every \$1 invested annually to nourish the beach returns \$700 annually in foreign exchange. This compares with a return of little more than \$1 in agricultural-trade surplus for each \$1 of crop subsidy (World Almanac, 1994). If the Miami Beach experience of a \$700 return in foreign exchange for every \$1 invested in beach renourishment were successfully repeated through beach restorations around the U.S., an investment of less than 1% of the annual crop subsidy or foreign-aid spending would wipe out most of the U.S. trade deficit of over \$100 billion.

It is instructive to compare annual federal tax revenues of \$7.5 billion just from foreign tourists with expenditures on beach infrastructure (beach nourishment) needed to attract foreign tourists. From 1950–1993 the federal government

and its cost-sharing partners spent an average of \$15 million (or \$34 million in 1993 dollars) annually on beach nourishment (U.S. Army Corps of Engineers, 1994). The Federal Government share of these expenditures was about \$10 million annually (or \$22 million in 1993 dollars). Therefore, the federal government annually receives tax revenues from foreign tourists (\$7.5 billion) that are about 180 times its expenditures (1993 dollars) restoring the Nation's beaches. Of course, tax revenues from domestic tourists far exceed the \$7.5 billion from foreign tourists.

The greatest tax revenues from foreign tourists are collected in Florida with annual revenues of \$1.43 billion (U.S. Travel and Tourism Administration, 1994). The federal government receives about \$754 million of these revenues with local governments receiving only \$98 million (U.S. Travel and Tourist Administration, 1994). Annual Federal tax revenues just from foreign tourists visiting Florida have been about 75 times annual Federal spending on beach nourishment in Florida. Federal tax revenues from foreign tourists visiting Miami Beach, Florida, are over \$130 million a year, or about 65 times the Federal share of the capitalized annual cost of the Miami Beach beach-nourishment project (Houston, 1995; U.S. Travel and Tourist Administration, 1994). In fact, the Federal Government receives about six times as much tax revenue annually from foreign-tourist spending at Miami Beach than it spends to restore the entire Nation's beaches! Clearly, the Federal Government is receiving a huge return on its beach-nourishment investment just from foreign-tourist taxes and not including taxes from domestic tourists nor reduction of storm damage and resulting emergency-relief spending.

### **U.S. Beginning to Lose Lead**

Abundant natural attractions, including the world's most extensive beaches, make the U.S. attractive to tourists. However, there is a world economy in tourism that gives consumers ample choices and produces stiff world-wide competition for tourists. If beaches in Florida and other states become run down, German tourists can choose Spanish beaches. If Hawaiian and Californian beaches decline, Japanese tourists can choose Australia's Gold Coast beaches. This world-wide competition is well recognized outside the U.S. For example, Australia has established a cabinet-level tourism minister to aid competition for foreign tourists (Carroll, 1992). Canada recently launched a \$99 million ad campaign to attract tourists. In contrast, the U.S. spends just \$16.3 million advertising tourism to its international tourist markets (Sharp, 1995).

There are signs that the U.S. is starting to lose in the international competition for tourists. The stiff competition for international tourists has resulted in a

steady decline in the 1990s in the U.S. market share of world tourism receipts, and this decline is expected to continue for the remainder of the decade (U.S. Travel and Tourism Administration, 1995a). In just the past two years the U.S. has lost 16% of its market share of international tourists. If the U.S. had simply maintained its share of two years ago, 170,000 more Americans would be employed today (U.S. Travel and Tourism Administration, 1995b).

## Conclusions

With travel and tourism being the largest industry, employer, and foreign-revenue earner in the U.S. and beaches the leading tourist destination, beach tourism plays a pivotal role in the U.S. economy. However, few Americans realize that beaches are a key driver of America's economy and its competition in a world economy. Foreign tourism clearly provides significant national benefits since it provides the Nation's largest trade surplus. Foreign tourism is one of the fastest growing industries in the U.S. and world. However, it is very competitive, and the U.S. lead in attracting foreign tourism has been eroding. With over 90% of foreign-tourist spending concentrated in coastal states and with beaches the leading U.S. tourist destination, the state of America's beaches is key to maintaining the U.S. share of international tourism. Local, state, and the federal governments receive far more in tax revenues than they spend maintaining and restoring the nation's beaches. Without a paradigm shift in attitudes toward the economic significance of travel and tourism and necessary infrastructure investment to maintain and restore beaches, the U.S. will relinquish a dominant world-wide lead in its most important industry.

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# ZONING STRATEGIES IN CORAL REEF MANAGEMENT

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**Abstract:** *Zoning offers an effective means for managing coral reef ecosystems for multiple conflicting ecotourism uses. This paper describes various zoning strategies, discusses the direct costs and potential benefits from zoning, and mentions lessons learned in early experiences of coral reef zoning.*

**Keywords:** *coral reef management, zoning, economics, multiple uses, conservation, preservation*

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In managing a reef ecosystem for public use, traditional economic culture would dictate taxing each use at a rate equal to the cost imposed on society in terms of reef degradation, crowding, and general imposition on other uses. The reduction in use as a result of the tax would improve reef conditions so as to increase the total value of the reef for all uses. In reality, institutional, political, and physical barriers make implementation of an optimal tax policy highly impractical. Taxes are costly to implement and difficult to enforce. Furthermore, determining the "correct" tax to charge would be problematic at best. This paper describes some alternative policies, then demonstrates how zoning strategies can be applied to ameliorate some of the losses from overuse and conflicts in use.

## Second-best Strategies

An alternative to individual use taxes is a flat tax. A flat tax is simpler to collect and, if high enough, will reduce crowding and overuse problems. Its disadvantage is that it fails to target the most imposing uses and therefore would likely exclude more uses than a more discriminating, individual tax. An alternative to taxation is eliminating one or more of the most degrading uses, coral harvesting for example. In popular diving areas, coral harvesting and fishing have been disallowed to help maintain natural ecosystem populations and species diversity. In less restrictive areas, fishing is allowed, but catch rates are limited or gear restrictions are imposed. In large managed areas with conflicting activities such as nature diving and fishing, zoning is used to separate diverse activities. Zoning allows areas to be managed for multiple uses. In this way, conflicts are reduced and overall use value is higher.

## Benefits and Costs of Conservation Zoning

Zones can be used to separate competing uses and reduce conflicts between uses. With zoning, preservation and conservation areas can be designated to reduce or eliminate primary sources of stress. Preservation and conservation zones in coral reef ecosystems offer a number of direct benefits:

1. Higher quality nature dives in conservation zones and around preservation zones.
2. Scientific baseline for research.
3. Source of increased biomass to help restock coral and fish populations.
4. Source of biological diversity providing a genetic bank for non-preservation areas.
5. Reliable means of protecting unique habitats, threatened ecosystems, and endangered species.

In developing an effective zoning management plan, a full accounting of costs is requisite and should include the following:

1. The loss from displaced uses.
2. Outlays for maintenance and enforcement.
3. Expenditures for data collection to monitor zoning effectiveness.

## Zoning Cores and Buffers

Consider a pristine area of the reef to be protected as a preservation area and designate it the *core*. To protect the *core* at its boundaries, a *buffer* with compatible uses (such as nature snorkeling and diving) will surround the core. With cores and buffers, a zoning management plan will require simultaneous determination of the following variables:

1. Number of core zones.
2. Location and size of each core.
3. Uses allowed in each core.
4. Location and size of the buffer zones.
5. Uses allowed in each buffer.

Multiple *core* zones have the advantage of reducing the risk of loss from a natural disaster or unforeseen event. Multiple cores may also help to reduce public opposition to zones by achieving similar results with multiple small cores versus a single large core and by providing spatial separation between multiple conflicting uses.

Basic zoning management can be improved with more sophisticated strategies. *Dynamic* cores, for example, are zones that change location with natural migration patterns of animals or ocean currents. *Malleable* cores are zones that change size, shape, or use, as new scientific information becomes available or as economic circumstances change. The zoning strategies described here are illustrated in Figures 1 through 6.

**Problems and Recommendations**

Managers may encounter the following problems in the process of implementing and enforcing conservation zones as part of an overall reef management strategy:

1. Public opposition from displaced groups.
2. Maintaining and enforcing zones at the borders.
3. Poaching and other illegal uses within the zones.

To alleviate some of the problems of zone management, the following guidelines are recommended:

1. Develop a zoning plan that is as *simple* as possible.
2. Define zones that are *consistent* with ongoing activities and existing regulations.
3. Use *buffers* to alleviate pressure at borders of the core.
4. Clearly delineate zones using geographical features where possible.

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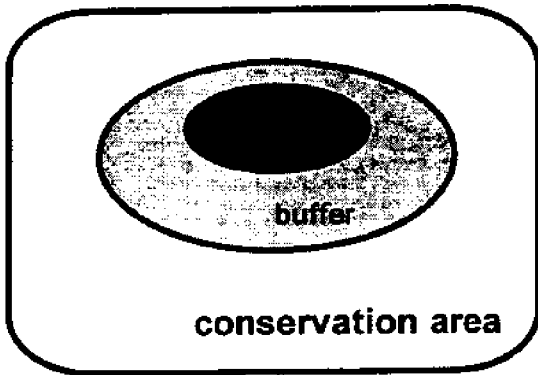


Figure 1. Core with buffer zone.

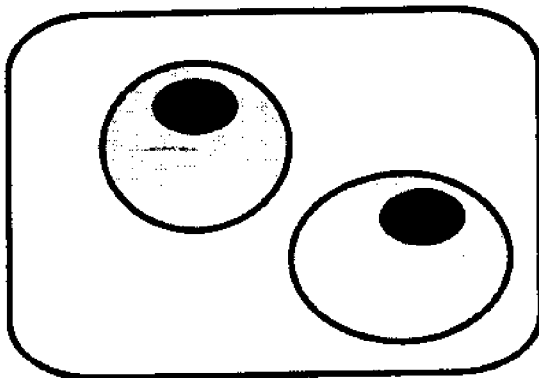


Figure 2. Multiple cores.

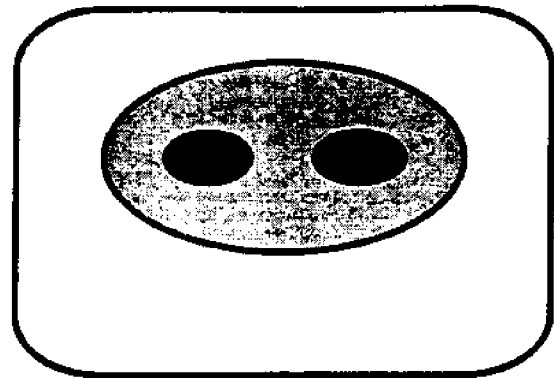


Figure 3. Multiple cores with single buffer zone.

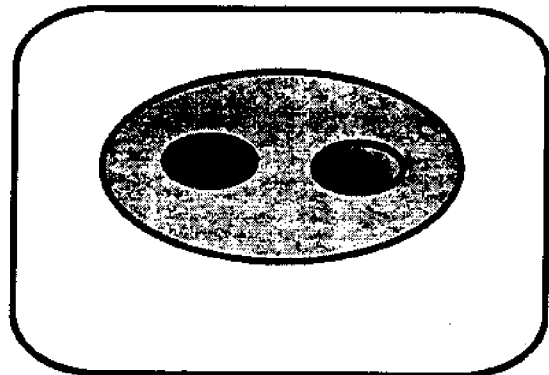


Figure 4. Multiple differentiated cores with single buffer zone.

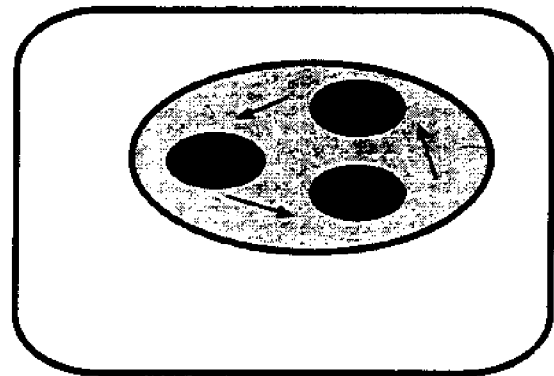


Figure 5. Shifting or rotating core

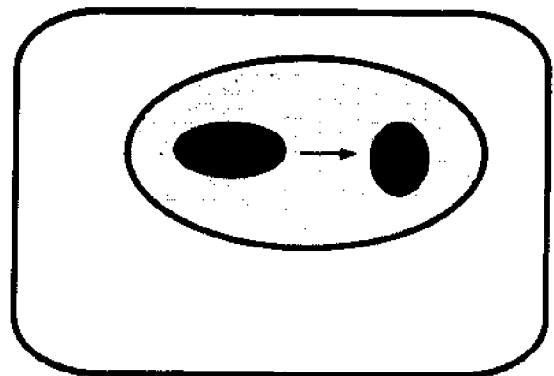


Figure 6. Malleable core.

# ECONOMIC IMPACTS OF CRUISE TOURISM IN AUSTRALIA

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**Abstract** *Recognising the potential of cruise shipping, the Australian government set aside funding in its 1993–94 budget to examine what must be done by government and industry to help develop Australia as a more attractive and competitive cruising destination. The resulting report, a National Cruise Shipping Strategy, examines the nation's current position in the world cruise market, the opportunities that exist to increase market share and the impediments to growth.*

*Using a framework of analysis developed by the authors, this paper provides some tentative estimates of the economic impact of cruise tourism in Australia. The direct expenditure impact of cruising includes passenger expenditures during the cruise and on tours, meals and shopping in Australia as well as some pre- and post-cruise air travel and accommodation. Operator expenditure on ship stores, food and beverages, water, fuel and maintenance can also be substantial. Governments and port authorities also receive revenue through the range of federal, state and territory taxes and port charges applying to the passage of vessels in Australian waters. Two examples are provided to illustrate the potential benefit to Australia from growth in cruise tourism. The first example involve a purely coastal cruise with two visits to stopover ports and one to a home port. The second example involves an eleven day cruise in international waters departing from Sydney with stopovers in Vila and Suva.*

*One finding of the paper is that cruise tourists are higher yield tourists, spending, on average, much higher amounts per day than other categories of international tourists. Another is that home-porting cruise ships in Australia, with a marketing emphasis on fly-cruise packages for inbound tourists, has the greatest potential for generating large expenditure inflows to the nation. The economic impacts will, however be reduced to the extent that foreign visitors simply switch from a land-based Australian holiday to cruise tourism and where Australian residents take a cruise rather than a domestic holiday.*

*While the empirical rely on Australian data, the theoretical issues discussed in the paper are of generic importance. The framework developed by the authors can be employed by researchers and policy makers to develop greater understanding of the economic impact of cruise tourism.*

**Keywords:** *cruise tourism, economic impacts, Australia*

## Introduction<sup>1</sup>

Cruise tourism is one of the major growth areas of world tourism. Recognising its potential significance to Australia, the federal government set aside funding in its 1993–94 budget to examine how to develop the nation as a more attractive and competitive cruising destination. The resulting report, a National Cruise Shipping Strategy, examines Australia's current position in the world cruise market, the opportunities that exist to increase market share and the impediments to growth (Commonwealth Department of Tourism, 1995).

The paper will proceed as follows: firstly, it will identify the types of economic impacts resulting from cruise tourism, distinguishing between categories of expenditure associated with this market, and identifying those impacts which are primarily relevant to a stopover or home port area and those which are broader or national in scope. Secondly, it provides estimates of expenditure injected into Australia for two types of cruises—a purely coastal cruise in Australian waters with two visits to a stopover port and one to a home port, and an eleven-day cruise in international waters departing Sydney with stopovers in Vila and Suva. Because of leakages due to foreign ownership and foreign sourcing of inputs, the average expenditure per passenger per cruise injected into the Australian economy is twice as great for the coastal compared to the international cruise. In both cases, injected expenditure is greater when cruise tourists include an add-on, pre or post cruise holiday in Australia. In the final section of the paper there is a discussion of some policy implications of the findings. Three issues are addressed, all of which relate to the marketing of Australia as a cruise destination. These are: cost/price reductions resulting from more efficient delivery of services, new product development, and promotion of cruise tourism. The discussion highlights the possibility that a proportion of the increased demand for cruise tourism to Australia may be at the expense of growth in existing tourism markets and thus reduce the net foreign exchange earnings to the nation from this newly emerging market. The discussion draws out the implications for further research in the area of cruise tourism.

## Economic Impact of Cruise Tourism in Australia

### Regional & National Impacts of Cruise Tourism Expenditure

Cruise tourism expenditure has direct, indirect and induced effects on the economy and regions within. The direct effect is on suppliers who sell goods and services directly to tourists or cruise operators. Tourist expenditure is received as revenue by food and beverage suppliers, fuel suppliers, hotels, restaurants, tour and transport companies, shops, entertainment venues, etc. In the process of satisfying tourist demand value added



accrues to the employees as wages, to the owners as profits, or to the government as tax revenue (thus constituting a source of development financing). Indirect effects result from 'flow on' when direct suppliers purchase inputs from other firms which in turn purchase inputs from other firms and so on. The induced effects arise when the recipients of the direct and indirect expenditure—firms and their employees—spend their increased incomes which in turn sets off a process of successive rounds of purchases by supplying industries and further induced consumption. These effects are often analysed using multipliers derived from input-output models, but increasingly, the advantages of using computable general equilibrium models are being recognised (Dwyer & Forsyth, 1993 and 1994).

Cruise tourism expenditure can conveniently be divided into passenger purchases and operator purchases. It is assumed that the operator is a foreign company reflecting the reality of the cruise ship sector of Australian tourism. Thus, only expenditure on goods and services sourced in Australia is relevant to assessing the economic significance of cruise tourism to the nation.

The main categories of cruise tourism expenditure, with a comment on the primacy of regional or national impact appears in Table 1.

Passenger expenditure includes that incurred as part of the cruise (port visit expenditure) and also that which is associated with making the cruise. Thus it includes air fares to/from Australia—some of this expenditure, though not all, will be paid to Australian-owned airlines. There is also internal travel within Australia—this is mainly done by air, though not exclusively. Australian-owned airlines will obtain a share of international air fares paid by people joining cruises. Most of this expenditure will be effectively dispersed throughout the economy—only a small proportion of it, associated with servicing international flights, will be spent at the regional level—a base port will have flights in and out, and some expenditure will be incurred on supporting these. Some add-on expenditure is essential for the cruise; for example accommodation in port before the cruise begins. The regional share of add-on expenditure will be significant, since there will be an unavoidable minimum that must be incurred in association with the cruise (local transport, accommodation before/after the cruise). The proportion will depend on how much add-on expenditure the cruise generates—if it is significant, the proportion is likely to be low, as tourists take the opportunity to visit other regions. In a sense, this expenditure can be regarded as being 'generated' by the cruise, and it is unlikely to have been made, at least to

the same extent, if the cruise had not taken place. Cruise passengers also make direct expenditures, on excursions, attractions and shopping while on the cruise.

Cruise operators make a range of expenditures. They pay charges associated with the use of the port. These include state government charges, which are levied to cover the cost of navigational services. There are charges levied by the port authority, and these will include charges for the terminal used. Towing charges will be paid to private operators for services provided, as will stevedoring charges. Port charges, towing and stevedoring will be mainly for services that are supplied in the region and thus the expenditure will be incurred within the region. The operator will purchase goods and services to provision the vessel. These will include stores and provisioning, fuel, and services to enable ship operation, such as waste disposal and electricity.

There will be some local component due to the services in actually supplying the fuel. Where the vessel is provided with stores, etc. there will be both local and national expenditure. Services purchased (e.g., waste disposal, electricity) are likely to come mainly from the region. While some fuel may be produced within a region, most of it will not be. Even if the local firms were paid for fuel, they will pass on most of their receipts to others outside.

Two forms of crew expenditure will result in expenditure on goods and services in Australia. The first of these is hiring Australian crew, all of the cost of this will be expenditure "in Australia." In addition, the operator will hire foreign crew—only what they spend in port will be expenditure in Australia. Typically only a small proportion of the total crew will be Australian.

Expenditure associated with the employment of Australian crew is likely to be national, though there may be a bias towards the region. People who obtain employment on cruise vessels are likely to live in home ports and spend their incomes there. Expenditure by foreign crew is likely to be mainly on goods and services produced in the region of the port. Apart from these expenditures, the operator will make expenditures on ship maintenance. Ship maintenance is likely to be regional, and marketing/business expenses are likely to have regional and national components.

The cruise operator will also have business expenditures in Australia—these will include costs of operating an office, and also some marketing expenditure in Australia. (It would be necessary to exclude any costs of marketing cruises elsewhere in the world—e.g., Cunard markets cruises in Alaska as well as Australia within Australia).

Finally, taxes may be levied on cruise operators. These include income taxes—some operators will be exempt, due to the operations of tax agreements and the nature of their cruises. There may be customs duties payable, and departure taxes will

Table 1: Cruise Expenditure and Regional and National Effect (Source: Forsyth & Dwyer 1995 p13; Commonwealth Department of Tourism 1995 Table 3.)

Type of Expenditure	Item Purchases	Impact
<b>PASSENGER</b>		
Airfares to/from Australia	-	national
Internal travel	road, rail, air	national: significant regional share
Add-on expenditure	accommodation, meals.	national: significant regional share
(before and after cruise)	excursions, shopping	-
Port expenditure	meals, excursions and travel, shopping	mainly port region
<b>OPERATOR</b>		
Port expenditure	State Government port charges towage stevedoring	regional and State regional regional regional
Provedoring	bunkering stores services (waste disposal, water)	national, small regional regional and national regional
Crewing	Australian crew	national, significant regional
	port expenditure by foreign crew	regional
Ship maintenance	-	regional
Marketing in Australia	-	national and regional
Taxes	income tax, customs duty and departure tax	national

be levied. It should be noted that apart from direct taxes on cruises, there will be indirect taxes. These would include fuel taxes, and it is possible that state government charges would include a tax element. To the extent that the charges are for navigational facilities, and these are in the region, expenditure will come back to the region. Most taxes however, are likely to mainly go outside the region. Most of the taxes will be collected by the Commonwealth, and to a lesser extent, state governments. There may be a flow back of some taxes; for example taxes such as departure taxes which are charged for services performed.

### Cruise Tourism Expenditure Patterns

There is very little empirical information available on which to estimate the economic impacts of cruise tourism to Australia. Cruises differ considerably amongst themselves and there is no 'typical' cruise. Such data that do exist are in a form which does not easily translate into the framework as exhibited above. Thus the following results must be regarded as tentative and be treated with caution.

Table 2 provides estimates of expenditure within Australia for two types of cruises. The coastal cruise is a six-day cruise in Australian waters with a Sydney-Brisbane-Townsville-Cairns itinerary. The costs associated with the Sydney and Cairns visits are averaged over two cruises, since these are turnaround ports. Thus this cruise is taken as a three visit cruise, with two visits to stopover ports, and one to a home port.

Assuming all passengers are foreigners, the coastal cruise is estimated to inject \$755,867 of foreign exchange into Australia per cruise. Passenger and Crew expenditure injection is approximately \$239,000. The bulk of ship operating costs is for provedoring, followed by port charges, fuel and taxes. Taking all expenditure into account the average expenditure within Australia generated by the cruise is \$825 per passenger.

With respect to the International Cruise, only expenditure in the home port (Sydney) is relevant to assessing its economic impact on Australia. The international cruise is estimated to inject only \$367,000 expenditure per visit. Passenger and crew expenditure injection is approximately \$172,000 while ship operating costs total approximately \$195,000.

While total fuel and provedoring costs to the ship owner would be greater than for the coastal cruise, given the longer journey involved, there is no liability for fuel excise or direct taxes for international cruises. As a result, and because of the lower port charges away

from Australia, the ship operating costs for the international cruise are substantially lower than for the coastal cruise.

On the same assumptions that all passengers on the international cruise are foreigners the average foreign exchange injection into Australia is \$401 per passenger per cruise. This is less than half of the corresponding figure for coastal cruising.

### Additional Cruise Generated Expenditure

Additional economic impacts would result from expenditure of cruise passengers who combine their cruise, with other tourism in Australia. To the extent that such 'add-on' expenditure would not have occurred without the cruise it may be considered as cruise associated expenditure.

Estimates of expenditure in Australia for different types of cruise passenger appear in Table 3. Included in these estimates are passenger expenditure, crew expenditure in Australia, ship operating expenditure in Australia and 'add-on' holiday expenditure. For the 'add-on' component it is assumed that average daily expenditure equals the average for all holiday visitors to Australia. This was \$95 per day in 1994 (Bureau of Tourism Research, 1995).

In terms of aggregate expenditure per international visitor the largest injection of foreign exchange comes from those tourists who fly to Australia and undertake a six-day coastal cruise with a seven-day add-on. However, these visitors spend the lowest amount per day, on average. Conversely, those visitors who fly to Australia and undertake an 11-day foreign cruise spend the least amount in aggregate (\$401) but the largest amount per day (\$401). For each type of cruise tourism passenger, however, the average expenditure per day exceeds the estimated \$79 per day for all visitors to Australia (Bureau of Tourism Research, 1995). Compared with other international visitors to Australia, cruise tourism results in more direct expenditure per visitor day (Commonwealth Department of Tourism, 1995).

### Marketing Australia as a Tourism Destination

The above results have a bearing on policy to maximise the economic significance of cruise tourism to Australia. A number of specific policy recommendations appear in the National Cruise Shipping Strategy covering areas such as the operating environment, non-port facilities, the regulatory environment, the natural environment and issues concerning the marketing of Australia as a cruise tourism destination (Commonwealth of Australia, 1995). The underlying premise on which the National Cruise Shipping Strategy is based is that there is significant potential for Australia to further develop as a cruising destination and that there are enormous benefits for all stakeholders in doing so (Commonwealth of Australia, 1995). There are however a number of issues which need

**Table 2: Estimated Expenditure within Australia: Coastal vs International Cruises**

Coastal Cruise		Foreign Cruise
Type of Expenditure	Expenditure per Cruise (\$)	Expenditure per Cruise (\$)
	Home Port & Stopovers	Home Port (Sydney) only
<b>1. Passenger &amp; Crew Expenditure</b>		
Passenger Expenditure <sup>1</sup>	475,404	158,468
Crew Expenditure <sup>1</sup>	41,220	13,470
Sub-Total	\$ 516,624	\$ 172, 208
<b>2. Ship Operating Costs</b>		
Fuel <sup>2</sup>	50,510	50,000
Port Charges <sup>3</sup>	55,403	29,303
Service Costs <sup>4</sup>	92,344	115,820
• water	1,130	297
• garbage	4,474	492
• agency	10,500	5,031
• provedoring	76,240	110,000
Tax <sup>5</sup>	40,986	
Sub-Total	\$ 239,243	\$ 195,125
<b>3. Total</b>	<b>\$ 755,867</b>	<b>\$ 367,333</b>
Average Expenditure/passenger/cruise	825	401

## Notes:

- Passenger & Crew Expenditure:  
Assumes 916 passengers (ie. full capacity) and 304 crew.  
Average expenditure per port per passenger \$173 and average expenditure per port per crew member \$45 (Ramis Corporation 1995).
- Fuel Costs (TCS 1994 schedule 2)  
Coastal Cruise estimated \$50,510  
International Cruise estimated \$69,424 total expenditure on fuel \$50,000 of which is purchased in Sydney.
- Port Charges (TCS 1994 schedule 2)  
Coastal Cruises estimated \$55,403 port charges (total for Sydney, Brisbane, Townsville & Cairns).  
International Cruise estimated \$29,303 covers Sydney only.
- Servicing Costs  
Coastal Cruise: estimates of water, garbage, agency, provedoring costs based on TCS 1994 schedule 2.  
International Cruise: one third of water & garbage costs allocated to home port of Sydney.  
All agency costs represent home port expenditure.  
Provedoring purchases estimated at \$131,440 (TCS 1994 schedule 2). Most provedoring purchased in home port and estimated to be \$110,000.
- Tax  
Coastal Cruise: estimated company taxes paid to Federal and State governments. (TCS 1994 schedule 2).  
International Cruise: Foreign cruise operator does not pay direct taxes and fuel is not taxed.

**Table 3: Expenditure in Australia by Passenger Type**

Types of Passenger	Estimated Expenditure Per Passenger (\$)	Per Passenger Day in Australia (\$)
1. Stopover Passenger on International Cruise	206.00	206.00
2. Fly/Cruise Passenger on Coastal (Australia only) Cruise	825.00	137.50
3. Fly/Cruise Passenger on Coastal Cruise with 7 day add-on	1,399.00	107.60
4. Fly/Cruise Passenger on International Cruise	401.00	401.00
5. Fly/Cruise Passenger on International Cruise with 7 day add-on	1,066.00	133.90

## Notes:

- Assumes one day stopover.
- As per Table 2 for 6 day cruise.
- As per Table 2, \$825 for 6 day cruise plus 7 day add-on at \$95 per day.
- As per Table 2 for 11 day cruise with only one day in home port, Sydney.
- As per Table 2, \$401 for one day in home port, Sydney, plus 7 day add-on at \$95 per day.

careful consideration in the quest to market Australia as a cruise ship destination. These issues will now be addressed in the context of three broad strategies to increase expenditure in Australia from cruise tourism. These strategies involve cost/price reductions resulting from more efficient delivery of services, new product development and promotion of cruise tourism.

### Cost/Price Reductions

The National Strategy recommends actions to reduce costs of delivering cruise tourism services through, *inter alia*, the development of nationally consistent policies in relation to the application of regulations; innovative approaches and efficient pricing of port services; improved terminal facilities; improved passenger border clearance arrangements; easing constraints on operators obtaining voyage permits (Commonwealth Department of Tourism, 1995). Increased efficiencies in cruise tourism operations can result in cost savings which can be passed on to some extent, to passengers in the form of lower fares.

Lower fares may generate additional demand for cruise tourism from both foreigners as well as Australian residents. To the extent that some proportion of foreign visitors substitute a cruise holiday for a land-based holiday in Australia, the nation will receive less expenditure than otherwise. The expenditure gains to Australia from the additional demand for cruise tourism encompass only the visitation to Australia that would not otherwise have occurred.

While lower fares may generate increased foreign visitation associated with cruise tourism it may also generate additional demand by Australian residents. Where more domestic tourists take Australian based cruises, there will be an impact on domestic expenditures and foreign exchange. To the extent that domestic tourists substitute from foreign trips, there will be a net gain or loss in expenditures, dependent on how much such tourists would have spent. Foreign exchange effects will normally be positive; the saving in holiday costs will reduce foreign exchange expenditures, but the net foreign component of the cruise cost (cruise price less amount spent per person in Australia) will be a foreign expenditure. Because of this latter amount, the net impact is likely to be a net gain in domestic expenditure. When the domestic tourist substitutes from domestic expenditure, whether on tourism or other goods and services, there will be a reduction in terms of domestic expenditure, and a foreign exchange loss.

The impact on total expenditure within Australia depends critically on the extent to which encouraging cruises, by lowering price, results in a shift from shore-

based to cruise holidays. Since the proportion of expenditure on Australian goods and services of a cruise holiday is small the chances of shifts from shore to cruise holidays outweighing, in expenditure terms, the expenditure gains from additional foreign cruise passengers, are quite high. A significant proportion of the cost of the cruise is for foreign supplied goods and services. Over 70% of the cost of the cruise is for fixed operating costs (including crew and capital costs). Virtually none of these would be on goods and services supplied by the Australian economy. Even for a cruise that did not travel outside Australian waters, less than 30% of the total costs are likely to represent expenditure in Australia. Most cruises visit one or two foreign ports—the Australian component of a typical cruise's expenditure is likely to be between 10% and 20% (Forsyth and Dwyer, 1995). In short, even successful attempts to encourage the growth of the cruise shipping tourism sector could well result in a reduction in expenditure and benefits for Australia. Clearly it is important to know more about the extent cruises are a substitute for shore-based holidays.

### New Product Development

New product development to broaden cruise appeal includes development of creature and diverse itineraries that encompass a variety of ports and anchorages, packaging cruise and land options, development of quality shore excursions and add on tours.

New cruise tourism products can be developed within the context of marketing other forms of 'special interest' tourism with high growth rates. These could include ecotourism whereby visitors seek educative nature based experiences, 'adventure cruising' with potential for use of sailing ships and development of expedition style itineraries, development of cruise-trek-safari type packages and development of meetings and incentives cruises (Commonwealth Department of Tourism, 1995).

If the quality of cruises is improved, there will be more cruise passengers. Governments can improve the quality through providing better facilities (e.g., terminals for ports lacking adequate facilities), more tourism infrastructure in port cities and improved navigation facilities such as channels. These will have a cost. Their effects will be similar to those of price reductions. It will, however, be even more difficult to obtain information on sensitivity of cruise passenger numbers to quality variables than to price.

### Promotion of Cruise Tourism

Overseas promotion may encourage foreign visitors to take Australian cruises. Some of these visitors would have taken non-cruise trips to Australia. Thus the impact on expenditure and benefits will be less than the net additional receipts of the cruise visitors would indicate. To the extent that visitors are switching from other Australian visits, there will be a reduction

in spending in Australia which must be deducted. If the Australian component of a cruise visit's expenditure is much less than that of a non-cruise visit, there could even be a net reduction in overall expenditure in Australia and consequent benefits.

The National Cruise Shipping Strategy acknowledging this problem, recommends targeting of international tourists who would not otherwise visit Australia. The difficulty here, of course, is to determine which market niches will involve minimal 'switching effects.' A market which may meet this criteria may be that of experienced cruise tourists seeking new destinations. In any case, opportunities to increase levels of pre- and post-cruise touring should be continually explored (Commonwealth of Australia, 1995)

## Conclusions

While data are insufficient to make a precise assessment of the current contribution of the cruise shipping sector, the development of Australia's cruise shipping industry has the potential to add an important product to the range of tourism opportunities in Australia.

The paper has sought, firstly, to categorise the main components of cruise tourism expenditure, distinguishing carefully between expenditure of passengers, crew and operators. It then proceeded to discuss the extent to which the expenditure components impacted primarily on the region of the home or stopover port or had a broader, national impact. The discussion provides potentially useful information to the different stakeholders in the evolving cruise tourism industry, particularly regarding expected (private or social) returns on investment.

Given the paucity of information with which to estimate the net foreign exchange earnings from cruise tourism in Australia, expenditure estimates were made for two types of cruises—a coastal cruise and an international cruise. Assuming that all the passengers are foreign, the coastal cruise yields average injected passenger expenditure of \$825, compared to \$401 for the international cruise. Additional expenditure per passenger will result if pre or post cruise add-on holidays are taken. Compared with other international visitors to Australia, cruise tourism generates substantially greater foreign exchange earnings per visitor day.

The policy implications of the results were explored in the context of the marketing of Australian cruise tourism so as to maximise the foreign exchange

earnings from this market. Price reductions resulting from greater efficiencies in the delivery of services, new product development and promotion of cruise tourism can all result in increased growth of cruise tourism in Australia. To the extent that a proportion of foreign visitors simply 'switch' from a land-based holiday in Australia to a cruise tourism holiday aggregate foreign exchange earnings from tourism will be reduced. To the extent also that Australian resident switch from a domestically-based holiday to a cruise tourism holiday, less of their expenditure will be retained by Australian industry. Such 'switching' possibilities must be taken into account in estimating expected net foreign exchange earnings from marketing Australia as a cruise tourism destination. While the potential economic significance of an expansion of cruise tourism in Australia does appear to be high, more research on the extent of possible switched expenditure needs to be undertaken.

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## ENDNOTES

- 1 The issues addressed in this paper arose from the author's contribution to the development of a National Cruise Shipping Strategy on behalf of the Australian Department of Tourism. Permission from the Department of Tourism to publish this material is gratefully acknowledged.

# ENHANCING MARINE INTERPRETATION THROUGH BETTER UNDERSTANDING VISITORS

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**Abstract:** According to Lane (1991) ecologically sustainable tourism is tourism that provides visitors to a destination with "an in-depth understanding and knowledge of the area, its landscapes and peoples" (p. 2). Such an understanding should result in tourists who are concerned about and protective of the destination area. Hall and McArthur (1993) make a similar argument.

*We argue that by providing high-quality experiences which satisfy visitor expectations, motivations, and needs, we can modify and influence the behaviour of visitors in such a way as to ensure that the values of the heritage resource are maintained (Hall and McArthur, 1993, p. 13).*

*This quote suggests at least two ways in which interpretation contributes to visitor management. The first is the encouragement of positive conservation attitudes which should result in support for management activities and a desire to behave in ways which will minimise impacts. Interpretation also provides the information on appropriate behaviours and can ease congestion and assist in the management of use density by providing information on alternative sites and activities. The second important function of interpretation referred to in the quote is the enhancement of visitor experiences. For managers enhanced experiences contribute to conservation support, while for tourism operators enhanced experiences are central to the success of their product. Clearly there is value in improving the quality of interpretation for both managers and tour operators in coastal and marine settings.*

*This paper provides a review of key principles for ensuring effective interpretation derived from research and theory in persuasive communication and tourism. The aim is to provide background information for a workshop on designing marine interpretation.*

**Keywords:** interpretation, mindfulness, sustainable tourism

## Introduction

Tourism has attracted much criticism, mostly concerned with the negative consequences of tourism for the places and people who act as hosts. Jafari (1990) in his history of research into tourism notes that the predominance of a "reactionary platform" which refers to a large and vocal group of writers and researchers who have focused attention on the negative social, cultural, economic and environmental impacts of tourism. This criticism of tourism has not come only from within the world of

academic researchers and cultural commentators but also from communities, various interest groups within communities and from the world of government and policy makers. The results for travelers have ranged from suffering the hostility of angry residents to the loss of opportunities when communities chose not to develop facilities or infrastructure to allow tourism.

Certainly the present tourism world, like the rest of the worlds in which we live, is changing at an ever accelerating pace. More and more people can and do travel including large numbers of people from the rapidly developing Asia Pacific rim region. Further, all travelers are becoming more sophisticated, older, wiser, stronger and more concerned with travel as an integral part of their lives. In more technical terms we see increasing differentiation in travelers, more and varied market segments and a move away from mass tourism back to independent, individual travelers. Urry (1990) outlines this change in a broader social context and suggests that correspondingly there is a greater differentiation of travel products. There are also new frontiers, new places to travel with the opening of Eastern Europe and the development of tourism in more remote and harsh places such as Antarctica. Although we should note that as some places become more open to travel others are closed. Some of these places are closed because of hostility, such as in the Middle East, but others have been closed, or restricted, because of fears of destruction by tourism.

In addition to new travelers and new places to travel there are also new ways to travel. Technology has had a remarkable impact on tourism, allowing for easier and more interesting transport options and for development in a variety of places. Technology though can also work against tourism offering better leisure experiences that people can have in their own homes. This new reality, virtual reality, could give the phrase arm chair traveler a whole new meaning (Shafer and Moeller, 1989). Indeed in a popular Arnold Schwarzenegger film, *Total Recall*, the plot revolves around the ability to buy a holiday experience which is implanted in your brain. In this *Total Recall* vision of the future travelers can go nowhere to have great experiences. For those of us who earn our living from tourism, it was heartening to note, that these implanted holidays had the potential to go horribly wrong!

What then is the essential element in tourism? The answer is a simple one—we can't have tourism without an experience. Even in the *Total Recall* world the traveler bought an experience. The challenge for marine tourism is to ensure that travel experiences offered are rewarding and sustainable for both the destination and its guests. The core of this paper will be concerned with proposing some principles for ensuring that the marine tourism industry of the future has these rewarding and sustainable travel experiences. In particular the paper will discuss key

principles for making the travel experience rewarding for visitors through the provision of effective interpretation.

### Creating Mindful Marine Visitors

To be successful sustainable travel experiences must produce visitors who are mindful of where they are and what they are doing. The use of the word mindful is a deliberate one as this label has been used by Ellen Langer (1989), professor of psychology at Harvard University, in a number of settings to propose a series of principles for the improvement of human experience. This work begins with the assumption that in any given situation humans can be either mindful or mindless. Mindless individuals operate according to pre-existing routines and pay only minimal attention to the world around them. A classic example of mindless behaviour is that of colleague who drives the same route everyday to his office. One day he is asked to take his infant son to daycare on his way to work. He leaves home happily, arrives at his office, reaches into the back of the car for his briefcase and comes face to face with his son, still in the car. Once he started on the routine drive to work he forgot to change the pattern and go to the child care centre. A tourism example is that of travelers on a organised two-week guided tour of Europe. Everyday has the same routine: breakfast, on the bus, drive to a church or museum, short visit back on the bus. After a few days the participants quickly learn the routine and find it difficult to remember where they are, where they've been or what they've seen. Langer has demonstrated that people can act mindlessly in all spheres of life including in business, in health care, and in education. The contrasting state of mindfulness is based on people developing their own routines for behaviour, paying attention to the world around them and learning from their experiences.

Table 1 summarises the key features of this mindfulness/mindlessness distinction. This table lists the conditions that contribute to mindlessness including lack of control, routine and repetition, and the dismissal of an activity or information as irrelevant or unimportant. The outcomes of mindlessness are also listed and these include poor memory of events, limited ability to respond to problems, and feelings of helplessness and dissatisfaction. Mindful people, however, are open to learning and have good recall of places and events, they are able to anticipate problems and change their behaviour to respond to the requirements of the setting, they feel in control and thus are more likely to be happy and satisfied with their experiences and to gain a feeling of personal achievement.

### Interpretation Principles to Encourage Mindfulness

So how can we ensure that marine interpretation encourages mindfulness? The next step then is to consider some principles to help those who manage destinations and their attractions in this task of creating mindful activities for guests. The five key elements necessary for a mindful experience are variety, control, personal relevance, interaction or participation and clear structures for information (Moscardo, 1996).

#### Variety

In a study of visitors to Singapore, Lew (1987) found that what visitors actually did was often not well matched with what they wanted or expected to do. He further demonstrated that this mismatch was correlated with dissatisfaction with the travel experience. This story clearly warns us not to mistake quantity with quality. Lew's results also highlight the point that visitors to a region can only chose from the activities that are available. Marine tourism managers and operators need to carefully consider the range and quality of the activities that they make available for their guests. Destinations must provide a variety of activities from which guests can choose. Activities can be varied according to:

- where they are conducted (interpretive talks on the boat are very different those given on the beach),
- when they are conducted (beach walks at night are very different to those conducted in the day),
- the level of physical effort required,
- the level of mental effort required (an interactive activity where visitors have to answer questions is a different experience to sitting listening to a marine biology talk),
- who they are with, and
- the themes they pursue (a fishy, glass bottom boat tour of a reef is different to a tour of the same area which concentrates on corals and sponges).

These are just a few of the dimensions that can be varied to provide a range of interpretive activities. Individual activities also need to provide variety and this can be provided using many of the same dimensions listed above. A guide in charge of a beach tour can change the pace of the tour, ask questions instead of only answering them, focus the tour on different features of the beach, or focus on different members of the group. The guide could get the group to do things, touch things, smell things, as well as look at things.

#### Control

To make the most of the varied and quality activities that a destination can offer the guest has to know what the



activities are and how to get to them. Weary travelers are not mindful travelers and nothing is more tiring than being lost or spending large amounts of time seeking basic information. Tourists need good information and good maps. Questions that need to be asked include, is there a uniform system of signs, who monitors the information given to guests, and how easy is it to find out if baby would be better in a backpack or stroller for a reef trip? Information gives guests the power to exercise choice and control.

### Personal Relevance

To provide activities which guests will see as personally relevant requires action on several fronts. In the first instance we must better understand guests and their goals and motives and this means high quality, systematic and on-going market research into visitors. It is not good enough to simply monitor numbers of visitors, where they are from and where they go. It is essential to know why they have come and what they are seeking. Tourists come to destinations with different motives or goals for their travel experience. Some may wish to enjoy time with their families, while others may see their travel as providing a sense of self development and achievement. A better understanding of visitor motives in general will assist greatly in the design and development of interpretive activities. The provision of a wide variety of activities is another way to encourage personal relevance as it allows visitors to find activities which match their personal interests.

### Interaction/Participation

Opportunities for interaction or participation also encourage visitors to be mindful. Getting involved in an activity, rather than observing someone else, encourages a sense of control as most activities require decisions and choices. Getting involved can also build personal connections. Marine interpreters can encourage visitor participation in a number of ways. They can ask the visitors questions and give them the clues to help them find the answers. Visitors can be asked to assist in the preparation of interpretive activities or in aspects of marine research. Interactive marine interpretation can also be developed with the assistance of computer technology. Interactive marine information programs allow visitors to pursue their own interests. Participation can also be done with the simplest of tools. A popular exhibit in an Australian Maritime museum consists of a pin board, desk, some note paper and a sign asking visitor to write their experiences of being seasick. This simple idea is built upon personal experience and the exhibit is virtually recreated every day by the visitors. The key to interaction is allowing the visitors to have some input into the interpretive activity.

### Clear, Organised Structures

Even the most mindful marine visitor will not be able to gain an understanding of their environment if they cannot understand the information being provided. Much research evidence supports the need to have a clear structure or organisation to the information presented (Moscardo, 1996). Using themes and telling stories are much more effective than listing facts. Anecdotes work better than abstract principles and metaphors and analogies work better than statistics. Rand (1990) provides us with some examples of metaphors and analogies for marine interpretation including "Like vultures, scavenging hagfish keep order on the floor" and "Orcas are the wolves of the sea." Anecdotes, metaphors and stories bring the information back to the personal experience of the visitor. According to Wurman,

Facts are only meaningful when they relate to a concept that you can grasp. If I say an acre is 43,560 square feet, that is factual, but it doesn't tell you what an acre is. On the other hand, if I tell you that an acre is about the size of an American football field without the end zones, it is not as accurate, but I have made it understandable. (1989: 172)

### Summary

Marine interpreters can play a critical role in achieving sustainability. Interpretation provides an opportunity "to make people aware of the importance of building bonds between nature and culture, between the past and the future, and between different cultures" (von Droste Silk and Rossler 1992). For many people the interpretation they encounter when they are at leisure may offer their only opportunity to learn about their bonds to their environment, history and culture. Just as sustainability is concerned with the quality of life on this planet, so too should marine interpreters be concerned with the quality of the experiences they provide.

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**Table 1. Key Features of Mindfulness and Mindlessness**

<b>Mindfulness</b>	<b>Mindlessness</b>
<i>Key Features</i>	
Open to learning	Use of existing routines
Attention to the setting	Little attention to the setting
Development of new routines	No learning
<i>Conditions</i>	
New and different settings	Familiar settings
Varied and changing situations	Repetitive situations
Control and choice	Little control, few choices
Personal relevance	No personal relevance
<i>Outcomes</i>	
Learning and recall	No learning, poor recall
Feelings of control	Feelings of helplessness
Ability to deal with problems	Limited ability to deal with problems
Feelings of achievement	Feelings of incompetence
Feelings of satisfaction	Feelings of dissatisfaction

# WORKSHOP ON MARINE TOURISM AND MARINE PROTECTED AREAS: UNDERSTANDING THE LINKAGE AND OPTIMISING THE BENEFITS

**Paul Holthus**

*IUCN - The World Conservation Union (Switzerland)*

*Abstract: not available*

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## Background

IUCN, The World Conservation Union, is the oldest international conservation organization (established 1948) and is a unique membership union of over 70 governments, 120 government agencies and 600 NGOs from around the world. In addition, IUCN consists of a global system of offices and programmes and a series of global conservation networks involving thousands of experts in the IUCN Commissions, e.g., on species survival and on protected areas.

The Marine and Coastal Programme of IUCN provides leadership for the World Conservation Union on marine and coastal issues by serving as a focal point and hub for the Union on marine and coastal issues, by catalysing interaction and coordination on marine and coastal issues, and by operationalising the IUCN role on marine and coastal issues. The conservation of the marine and coastal environment through sustainable development in partnership with the private sector is one of the priority themes for the IUCN Marine and Coastal Programme and the tourism sector is a primary focus of this effort.

The Marine and Coastal Programme of IUCN is beginning a project which seeks to document and demonstrate the links between marine tourism and marine biodiversity conservation, especially the linkage between marine tourism and Marine Protected Areas (MPAs). The project will compile case studies, distill out the lessons learned and the approaches which optimise the benefits of the interaction of marine tourism and marine biodiversity conservation. This information will be compiled and put to work in demonstration projects as a means to foster and expand the knowledge and experience in linking marine tourism and marine biodiversity conservation for the benefit of both. The geographic and thematic focus project will be on several developing country areas, especially those with coral reefs and small islands.

## CMT '96 Workshop Purpose

The Marine and Coastal Programme of IUCN convened an informal Workshop on Marine Tourism and Marine Protected Areas at CMT '96 in order to assist with the development of global efforts towards the conservation of marine biodiversity in partnership with the tourism sector. The specific aims of the workshop were:

To initiate development of an informal network on the links between marine tourism and marine biodiversity conservation which involves both the tourism industry and conservation sectors.

To begin to identify the most useful outputs of the project by considering the following kinds of questions:

- What are the critical issues of the linkage between tourism and MPAs for the various parties, i.e., the tourism industry, local communities, and MPA planners/managers?
- What kind of information and materials would best assist these groups to optimise the benefits and minimise the problems of this interaction?
- How can tourism contribute to the sustainability of MPAs (financial and ecological) and vice-versa?
- Are there examples of beneficial interaction, or of non-beneficial interaction, between marine tourism and marine biodiversity conservation which would serve as good case studies?
- Is it more important to focus on the interaction between marine tourism and marine biodiversity conservation inside MPAs or outside MPAs?

## Results of Workshop Discussions

### Overview

The three-hour workshop was attended by over 50 participants of the CMT conference. After an introduction to the IUCN Marine and Coastal Programme and the upcoming project on tourism and Marine Protected Areas, the bulk of the workshop time was spent identifying key issues within the nexus of MPAs and tourism and possible approaches to addressing these issues. Below is a synthesis of the discussions.

### Economic Aspects of MPAs and the Link Between MPAs and Tourism

The need to understand the economic aspects of the MPA and tourism linkage was identified as particularly important as a basis for optimising the interaction. The primary issues discussed were the need to understand:

- the added value that legal conservation status gives to an area,

- the gains and losses among various stakeholders resulting from the MPA and the tourism,
- who receives the gains and losses and what is the overall net benefit,
- how assets are distributed or re-distributed among stakeholders, and
- how stakeholders that gain can contribute towards supporting the MPA, e.g., training of park personnel.

However it was noted that economic and environmental analysis must be appropriate to the local context and that in general there was a need for greater economic literacy and understanding of economic analysis techniques amongst those dealing with MPAs.

### **MPA/Tourism Design and Planning**

The need to evaluate whether tourism is appropriate in each MPA was stressed, i.e., to determine whether tourism was a legitimate, priority activity which was compatible with the other values of the MPA. This depends to a large extent on the kinds of MPA, the kind of tourism and interactions involved. If tourism was to be integrated into the design and plans for an MPA, then serious planning, which involved all stakeholders was required. When planning for tourism operations in relation to MPAs, it was noted that it is critical to fully consider the social, cultural, economic, and other trade-offs that will result and that this need to be based on a full understanding of how tourism works in general and in the specific context under evaluation.

Zoning is a particularly important tourism management planning tool, e.g., buffer zones to focus tourism away from core biodiversity areas, with a variety of variables in zoning that create options for MPA design and planning, e.g., zone separation, number of zone types, degrees of use in each zone. It is important that the target of the tourist activities is clear, e.g., recreational divers, beach tourists, etc. Based on this, an understanding of potential tourism impacts and management planning needs can be developed and to be applied to each MPA, perhaps in relation to existing MPA classifications by IUCN.

### **MPA/Tourism Management and Operations**

A critical need was identified for a process to identify and work with local stakeholders, including local tourist operators, to ensure community involvement in management and operations. On a functional level, the need is for the MPA managers to get to know the tourist operators, work directly with them and integrate them into the MPA management. In this respect, it is important to know who the management bodies and what the management jurisdictions are that influence the tourism sector in that location. An important issue is also the fact that the MPA is, or often becomes, a tourism attraction. This creates a challenge for managing the protected area

values, but also an opportunity and mechanism for managing existing tourism in the area inside and outside the MPA. There may be a need to identify alternatives or set up additional attractions to reduce pressure on the MPA itself when the MPA is created or when pressure become to great. Overall, this calls for appropriate decision making tools for planning and operations, tools which should be practical and locally applicable. Management oriented research and monitoring is crucial to understanding some of these issues and providing options and management information, e.g., by monitoring effects of tourism on resources.

### **Communications and Information**

There is a need to ensure that existing information is known, circulated and used. However, this much be done in the context of optimising the use of existing networks, information sources and communications channels. There are numerous global, regional and national groups relevant to marine tourism and conservation, e.g., World Tourism and Travel Council (WITC), The Ecotourism Society, Caribbean Tourism Association (CTA). There are numerous major sources of information of tourism information, e.g., University of Hawaii Travel Industry Management library. It would be useful to develop and circulate an ongoing bibliography on marine tourism and conservation. In particular, the need for case histories of MPAs and MPA systems which successfully integrate tourism was noted. There are several communications networks to facilitate interaction and dialogue on marine tourism and conservation, e.g., Tri-Net, the proposed Coastal Marine Tourism list server.

## **Workshop Outputs and Suggestions**

### **Overall Workshop Outputs**

- The initial identification of critical issues which need to be addressed regarding the links between tourism and MPAs and marine biodiversity conservation.
- The beginning of the development of a network of professionals on the links between tourism and MPAs and marine biodiversity conservation.

### **Workshop Suggestions**

The workshop suggested that IUCN would be well placed to develop a Network on the links between tourism and marine biodiversity conservation and facilitate interaction and communications of Network members. In particular, IUCN could perhaps serve as a clearinghouse for information and facilitate or undertake development of a bibliography on these issues and that interested individuals could send relevant documents to IUCN to begin a bibliographic database.

## **APPENDIX 1: CONGRESS PROGRAM**

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### *Editors' Notes:*

*This version of the program takes into account a small number of speaker substitutions made at the time of the meetings. Several adjustments aside, papers in the Proceedings are organized to correspond with presentations in the program.*

*Asterisks (\*) in the program indicate that papers are unavailable for selected presentations and, therefore, do not appear in the Proceedings. However, abstracts of the presentations are found in alphabetical order by author in Appendix 2.*

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### **Tuesday, June 18 1996**

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**3:00 p.m.**      **REGISTRATION BEGINS** at the Pacific Ballroom, Ilikai Hotel

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### **Wednesday, June 19 1996**

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**7:30 a.m.**      **REGISTRATION** at the Pacific Ballroom, Ilikai Hotel

**8:30 a.m.**      **WELCOMING ADDRESS**

Moderator: Dr. Jan Auyong, Oregon Sea Grant

#### **SPEAKERS**

Mike Wilson, Director, Hawaii Department of Land and Natural Resources  
Ian McPhail, Great Barrier Marine Park Authority, Australia  
George Stankey, U.S.D.A. Forest Service

**9:30 a.m.**      **THEME SESSION: CAN SUSTAINABLE TOURISM BE ATTAINED?**

Moderator: George Stankey, U.S.D.A. Forest Service

#### **SPONSOR:**

People and Natural Resources Program, Pacific Northwest Research Station, U.S.D.A. Forest Service—  
Roger Clark, Program Manager

**Stephen McCool, U.S.A.**—Searching for Sustainability: A Difficult Course, An Uncertain Outcome

**Roger Clark, U.S.A.**—The Concept and Practice of Integrated Resource Management: Opportunities and Barriers for Coastal and Marine Tourism\*

**Conner Bailey, U.S.A.**—Sustainable Community Development Through Coastal and Marine Tourism: Opportunities and Constraints

**12:00 p.m.**      **LUNCH BREAK (no speaker)**

**1:00 p.m.**      **FRAMEWORKS FOR TOURISM AND RECREATION**

Moderator: Jan Auyong, Oregon Sea Grant

**Michael Vanderzee, Australia**—Managing for Ecologically Sustainable Tourism Use of the Great Barrier Reef World Heritage Area

**John Tower, Australia**—Recreation Coastal Management in Victoria, Australia: Reviews Leading to Actions?

**Roger Clark and George Stankey, U.S.A.**—Recreation Site Attributes: A Framework for Identification and Assessment for Coastal Tourism Management

**Athline Clark and Craig MacDonald, U.S.A.**—Regulatory Surfeit: A Case Study of Hawaii's Permit Structure for Commercial Ocean Recreation

**Pieter Bekker, Canada**—Using British Columbia's Coastal Tourism Resource Inventory in Land Use and Tourism Planning

**Ian Dutton, J. Duff, and S.P. Ginting, Indonesia**—A GIS-Based Approach to Integrated Marine Tourism Planning

**Annie AuBanal, French Polynesia**—Management of a Fragile and Coveted Tropical Isle Ecosystem: Moorea (French Polynesia)\*

3:15 p.m.

**PARTNERSHIPS FOR SUSTAINABLE TOURISM**

Moderator: Sharon Ziegler, Pacific Island Network

**Don Alcock, Australia**—Tourism: The Key Player in the Ecologically sustainable Development of the Great Barrier Reef

**Robyn Bushell, Bruce Simmons, and Judy Reizes, Australia**—Community, Environment, and Tourism: A Sustainable Partnership

**Noe Yalap, Republic of Palau**—The Palau Conservation Society: Environmental NGO Working in Partnership with Local Communities, Agencies, and Academia\*

**Bruce De Young and Pat Kight, U.S.A.**—Surfing for Sustainability: A Difficult Course, an Uncertain Outcome

4:15 p.m.

**SUSTAINABLE TOURISM: ECONOMIC PERSPECTIVES AND APPLICATIONS**

Moderator: Jim Roumasset, University of Hawaii at Manoa

**James Roumasset, U. of Hawaii Economics Dept., U.S.A.**—Sustainable Resource Management and the Role of Government in Facilitating Ecotourism\*

**Jim Moncur, U. of Hawaii Economics Dept., U.S.A.**—Political Economy of Managing Recreational Resources: The Case of Hanauma Bay\*

**Donna Lee, U. Florida Food and Resource Economics, U.S.A.**—Managing Coral Reefs for Ecotourism

8:15 p.m.

**CMT '96 RECEPTION Moonlight cruise aboard Dream Cruises, departing Kewalo Basin**

Thursday, June 20 1996

7:30 a.m.

**REGISTRATION**

8:00 a.m.

**CONCURRENT FIELD-BASED WORKSHOPS**

**OPTION 1—DEVELOPING COASTAL/MARINE ENTERPRISES**

**Leader:** Athline Clark, Volunteer Coordinator, Hawaii Department of Land and Natural Resources

**Resource:** Terry O'Halloran, Director of Project Development, Atlantis Submarines

**Activity:** 1) 8:00 a.m.—Hilton's Reef Lagoon Project with partner The EnterOcean Group (a proposed set of snorkeling types of activities in an aquarium-like setting in the remodeled lagoon) or  
2) 7:30 a.m.—Atlantis Submarine Offshore Submarine Tour at Hilton Hawaiian Village

**Workshop:** Focusing on requirements for developing new attraction, or expanding existing attractions, particularly permitting, community concerns, and marketability

**Site:** Ilikai Hotel, Molokai meeting room and nearby destinations

**Site Assistant:** Nina Hadley, U. of Washington, School of Marine Affairs

**OPTION 2—MARINA ENVIRONMENTS AND COMMUNITIES**

**Leaders:** Vickie Gaynor, Community and Government Affairs Manager, Ewa Marina/Haseko, Inc.

Christina Kemmer, Executive Director, Office for Waikiki Development

**Activity:** Tour of Ala Wai Yacht Harbor and Canal on foot, potential boat shuttle

**Workshop:** Focusing on community involvement, economic development opportunities, and environmental and cultural concerns in the planning of marina facilities

**Site Assistant:** Ellen Tong, U. of Hawaii, Marine Option Program

**OPTION 3—REVITALIZATION OF SMALL AND LARGE WATERFRONTS**

**Leader:** Robert Goodwin, Washington Sea Grant Program  
**Resource:** Terry White, Publisher, Hawaii Ocean Industry and Shipping News  
**Activity:** Tour of the Honolulu waterfront, including the Aloha Tower Marketplace at Honolulu Harbor and the Hawaii Maritime Museum  
**Workshop:** Focusing on those characteristics which indicate feasibility of revitalization and readiness of a community to undertake such an enterprise  
**Site:** Hawaii Maritime Museum (co-sponsor of this workshop)  
**Site Assistant:** Chris Woolaway, Hawaii Sea Grant  
**Sponsor:** National Coastal Resources Research and Development Institute

**OPTION 4—COASTAL EROSION AND SUSTAINABLE COASTAL DEVELOPMENT**

**Leader:** Dr. Charles Fletcher, University of Hawaii, Hawaii Institute of Geophysics  
**Resources:** Rob Mullane, Hawaii Sea Grant  
 Eric Grossman, U.S. Geological Survey  
 Bruce Richmond, U.S. Geological Survey  
**Activity:** Waikiki Beachfront, beach profiling technology  
**Workshop:** Focusing on erosion issues and sustainable coastal development  
**Site:** Ilikai Hotel, Pacific Ballroom-Room A, (before field trip)  
**Site Assistant:** Liz Kumabe, Hawaii Sea Grant, Pacific Island Network

**OPTION 5—STRATEGIC PLANNING FOR SURVIVAL AND PROFITABILITY OF COASTAL ATTRACTIONS: DOING MORE WITH SHRINKING DOLLARS**

**Leaders:** Thomas Dowling, Oregon State University, College of Business  
 Bruce DeYoung, Oregon Sea Grant/OSU, College of Business (co-sponsor of this workshop)  
**Resource:** Bruce Carlson, Waikiki Aquarium  
**Activity:** Coastal Attractions (including tour of Waikiki Aquarium)  
**Site:** Waikiki Aquarium (co-sponsor of this workshop)  
**Site Assistant:** Ray Tabata, Hawaii Sea Grant

12:00 p.m. **LUNCH BREAK (on your own)**

1:00 p.m. **WATERBORNE TOURISM ACTIVITIES**  
 Moderator: Bob Bacon, South Carolina Sea Grant Consortium

**Terry O'Halloran, U.S.A.**—Atlantis Adventures Development of Undersea Tourism Attractions\*

**Thomas Bauer, Australia**—An Evaluation of Coastal Tourism Activities in the Antarctic Peninsula Region

**Ron Stone, U.S.A.**—The Important Place of Marinas in Nautical Tourism and the Challenges to Finding Places for Them

**Bruce DeYoung and Pat Corcoran, U.S.A.**—Those Ignoring the Rudder Shall Answer to the Rocks: A Case Study of Columbia River Boating Access

**John Donaldson, U.S.A.**—Shore-Based Recreational Livery (Rental) Business Development: Business, Safety and Regulatory Components

**Jerry Wylie and Howard Rice, U.S.A.**—Sea Kayaks as Vehicles for Sustainable Development of Coastal Marine Tourism

**John Grey, Thailand**—SeaCanoe Thailand: Lessons and Observations

**Lisa King, Republic of Palau**—Paddling Palau: Developing Kayaking as a Visitor Activity in the Republic of Palau

4:00 p.m.

**THE BUSINESS OF COASTAL TOURISM AND RECREATION**

Moderator: Bruce DeYoung, Oregon State University, College of Business

**Robert Bacon and Tamela Kibler, U.S.A.**—Nature-Based Tourism in South Carolina: Development and Outcomes**Susan McKegg, Keith Probert, Karen Baird, and John Bell, New Zealand**—Marine Tourism in New Zealand: Environmental Issues and Options**Mike Markrich, U.S.A.**—Coastal Marine Policy in Hawaii: 1986–1996 Crisis-Failure-Opportunity\***Martin Lancaster, U.S.A.**—Coastal Tourism and the Federal Budget\***Kenji Hotta, Tetsuya Nakagawa, and Yasutaka Kamata, Japan**—A Study on Physiological Effects Caused by Coastal Ultrasonic Wave Influences to Human Brain Waves

4:00 p.m.

**WHAT VISITORS TELL US**

Moderator: John Schwartz, Michigan Sea Grant

Room B (upstairs)

**Rick Rollins, Canada**—Using Social Science Research in the Management of Coastal Wilderness Settings**Gianna Moscardo, Australia**—Understanding Patterns of Travel in the Great Barrier Reef Region: Implications for Management of Coastal and Marine Tourism**Diane Kuehn, U.S.A.**—Using Interpretation to Manage Visitor Behaviors in Fragile Coastal Areas**Kenneth Backman and Sheila Backman, U.S.A.**—Using Advertising Effectiveness and Visitor Satisfaction Information for Market Planning\*

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 Friday, June 21 1996
 

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7:30 a.m.

**REGISTRATION**

8:00 a.m.

**TOURISM, CONSERVATION AND COMMUNITIES**

Moderator: Paul Holthus, IUCN Marine and Coastal Programme

**Elizabeth Halpenny, Canada**—Tourism in Pulau Seribu Marine Park, Indonesia**Stephen Wearing, Australia**—Joint Management of Marine Parks in Australia: A Community-Based Perspective**Jenny Wong, Malaysia**—Marine Parks Malaysia: Tourism, Impacts, and Conservation Awareness**Jennifer McCann, U.S.A.**—Presentation and Paper titles not available**J. Walter Milon, Daniel Suman, and Donna Lee, U.S.A.**—User Group Perceptions of Marine Reserves in the Florida Keys National Marine Sanctuary\***Coralie Mackie, Canada**—The Oceans Blue Foundation: A Vancouver Response to Sustainable Tourism\*

10:15 a.m.

**INTERACTING WITH MARINE WILDLIFE**

Moderator: Sherwood Maynard, University of Hawaii, Marine Option Program

**Derrin Davis and Clem Tisdale, Australia**—Managing Marine Tourism Resources in Ningaloo Marine Park, Western Australia**Mark Orams, New Zealand**—Improving Effectiveness of an Education Program in Managing Marine Tourism**Verna Amante-Helweg, Graham Vaughan, and Cleve Barlow, New Zealand**—Cultural Perspectives of Dolphins by Ecotourists in a "Swim with Dolphins" Program**Eva Willmann de Donlea, Australia**—Whale and Dolphin Watching in Australia



- 11:15 a.m. PROMOTING SUSTAINABILITY IN TOURISM BUSINESSES**  
Moderator: Ray Tabata, Hawaii Sea Grant
- Anamarija Frankic and Maurice Lynch, U.S.A.—ECOSTAR: A Program for Identifying Ecotourism Activities that Support Sustainable Development in Coastal Regions**  
**Kimberely Moffit, U.S.A.—Hotel Environmentalism: A Lucrative Proposition**
- 12:00 p.m. LUNCH BREAK (no speaker)**
- 12:30 p.m. SEA GRANT AND ECOTOURISM**  
(Jim Falk, Delaware Sea Grant, moderator)
- James Falk, Delaware  
Bob Bacon, South Carolina  
John Schwartz, Michigan  
Ray Tabata, Hawaii
- 3:00 p.m. CONCURRENT WORKSHOPS AND PANELS**
- PANEL/WORKSHOP: THE U.S. NATIONAL MARINE SANCTUARY PROGRAM: A MODEL FOR PROVIDING ACCESS AND PROTECTION?**  
Moderator: Jodi Cassell, University of California Sea Grant, U.S.A.  
Room A
- WORKSHOP: ENHANCING MARINE INTERPRETATION THROUGH BETTER UNDERSTANDING OF VISITORS**  
Workshop Leader: Gianna Moscardo, James Cook University, Australia  
Room B
- WORKSHOP: MARINE TOURISM AND MARINE PROTECTED AREAS: UNDERSTANDING THE LINKAGE AND MAXIMIZING THE BENEFITS**  
Workshop Leader: Paul Hothus, IUCN Marine and Coastal Programme, Switzerland  
Room C
- 5:30 p.m. NO HOST COCKTAILS**
- 6:30 p.m. BANQUET—Speaker: Howard Rice, U.S.A., “Teaching Responsible Coastal and Marine Tourism: A Strategy for the Future”**

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**Saturday, June 22 1996**

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- 8:30 a.m. COMMUNITY AND TOURISM**  
Moderator: Robyn Bushel, University of Western Sydney, Hawkesbury
- Juanita Liu, U.S.A.—Perception of Ecotourism by Pacific Islanders\***  
**Jane Gallen, Federated States of Micronesia—Ecotourism in Pohnpei\***  
**Greg Ringer, U.S.A.—Sustainable Ecotourism and Island Communities: A Geographic Perspective**  
**William Trousdale, Canada—Coastal Tourism Planning Using Multiple Objective Techniques: The Guimaras, Philippines Experience**  
**Sophie Van der Meer, United Kingdom—Marine Eco-Tourism: Problems and Potential: A Case Study from Madagascar\***  
**Helge Vogt, Philippines—Ecotourism and Marine Reserves in Negros Oriental (Philippines): A Sustainable Source of Income for Fishing Communities?**

- 10:30 a.m. CONCEPTS IN FACILITY DESIGN**  
Moderator: Kit Dahl, Pacific Island Network
- Stanley Selengut, U.S.A.—From Trash to Treasure\***  
**Tsuyoshi Kobayashi, Japan—Advanced Age Society of Japan: Needs, Trends, and Future of Barrier-Free Marine Recreational Facility for Ecotourism**  
**Moo Hyung Chung, Byung Tac Oh, and Jong Soo Ahn, Korea—Marina Design at Admiral Lee's City\***
- 12:00 p.m. LUNCH BREAK—Speaker: Stanley Selengut, U.S.A., "A Holistic Approach to Sustainable Community-Based Tourism"**
- 1:30 p.m. MANAGEMENT OF TOURISM GROWTH**  
Moderator: Jan Auyong, Oregon Sea Grant
- Ratu Ralogaivau, Fiji—Tourism in Fiji**  
**M. Mahbub Alam and M. Niamul Naser, Bangladesh—Prospects of Coastal Development in Bangladesh**  
**Judith Culkier, Canada—Tourism Employment and the Urbanization of Coastal Bali**  
**Jerome McElroy and Klaus Albuquerque, U.S.A.—Coastal Decline in Antigua-Barbuda**  
**Anita van Brede, U.S.A.—Vanuatu: Managing Coastal Tourism: A Case Study**  
**Donna Wilkie, U.S.A.—Tourism Growth and the Makah Tribe\***
- 3:30 p.m. TOOLS FOR THE VALUATION OF COASTAL TOURISM**  
Moderator: James Falk, Delaware Sea Grant
- M. Mahbub Alam and M. Niamul Naser, Bangladesh—Environmental Carrying Capacity vs. Economic Priority: Hard Choice in Decision-Making of Tourism Development**  
**Issa Mlingoti, Tanzania, East Africa—Participatory Rapid Rural Assessment in Zanzibar: Development and Protection Options on Small Islets\***  
**Maureen Stancik, U.S.A.—Combining Tools and Processes to Facilitate Coastal Environmental Decisions which Reflect Well-Informed Societal Preferences**  
**Mike Hamnet, David Raney, and Peter Rapa, U.S.A.—Hawaii's Coral Reef Initiative: An Initial Assessment**  
**J. Walter Milon and Donna Lee, U.S.A.—Coastal Resource Valuation and the National Estuary Program\***  
**James Houston, U.S.A.—The Economic Value of Beaches**  
**Donna Lee, U.S.A.—Zoning Strategies in Coral Reef Management**  
**Larry Dwyer and Peter Forsyth, Australia—Economic Impacts of Cruise Tourism in Australia**

## ***APPENDIX 2: ABSTRACTS OF PRESENTATIONS SANS PAPERS***

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*Editors' Note: The following are abstracts of presentations given at the Congress and appear in alphabetical order by author.*

### **MANAGEMENT OF A FRAGILE AND COVETED TROPICAL ISLE ECOSYSTEM: MOOREA (FRENCH POLYNESIA)**

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Situated in the Society Archipelago, the island of Moorea has a surface area of 134 km<sup>2</sup>, a littoral plain of 23 km<sup>2</sup> containing 10,000 inhabitants, a lagoon of 49 km<sup>2</sup>, and a 70 km coastline. Human activity is concentrated on the north face (1/3 of the coastline) of the island.

In spite of a certain degree of environmental deterioration due to rapid and anarchic development, the natural beauty of the island is incontestable, and tourism remains the principal motor for the economy. Although a specific zone for tourism has not been designated, hotels are concentrated on the north side and accommodate 90,000 tourists annually. Fishing within the lagoon supports at least 100 families and is an undissociable component of Polynesia lifestyle.

In order to assure the perennity of resources while guaranteeing environmental protection, and to provide for management of potential conflicts between different use activities, a Maritime Space Management Plan, covering a zone extending from the barrier reef to the shoreline, is in preparation. A multidisciplinary group from diverse government services has drafted a preliminary plan after a three-year preparatory phase, characterized by numerous meetings with representatives of the diverse activity sectors concerned. Composed of proposed activity use maps and regulations, it represents the result of confrontation between scientific, economic, and social constraints and considerations. It will be submitted to the general public for advice before final approval and adoption by the government.

An implementation time frame of three years is intended with the principal anticipated obstacle being acceptance of new constraints by an insular population whose origins, values, and sensitivities are different.

### **USING ADVERTISING EFFECTIVENESS AND VISITOR SATISFACTION INFORMATION FOR MARKET PLANNING**

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Nature-based tourism and science tourism are among some of the growth areas of the tourism industry. According to the WTTTC (1992) nature-based tourism accounted for 7% or \$14 billion of worldwide travel expenditures. This sector of the industry is projected to grow at the rate of 20–25% in the near future.

As competition for nature-based tourism increases between states, regions, or destinations as a means of stimulating economic development, information related to the effectiveness of destination advertising will become key to the development of promotional campaigns. Also, information related to visitors' satisfaction with their nature-based vacations is important information for managers to have as they modify or terminate aspects of their nature-based tourist product. The paper uses the findings from two applied nature-based tourism research projects conducted in coastal South Carolina. The first project examined the impact of a newspaper advertisement and brochure on respondents' awareness of, interest in, and intention to visit the South Carolina coast. The second project investigated the visitors' perception of quality and value of three coastal nature-based experiences. This session will provide attendees with the opportunity to learn about (a) media placement, (b) effectiveness measurement, and (c) methods to retain customers.

## THE CONCEPT AND PRACTICE OF INTEGRATED RESOURCE MANAGEMENT: OPPORTUNITIES AND BARRIERS FOR COASTAL AND MARINE TOURISM

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A key word found in recent literature about natural resource management is *integration*. Although the word appears to have broad acceptance and appeal, it often is used with multiple meanings and expectations, some of which may be in conflict. This problem is particularly significant with respect to human values and uses.

The discussion of integration is timely because of the ongoing debate about the role of humans and diverse societal values in ecosystem management. Basically the debate centers around the question: are humans "a part of" or "apart from" ecosystems? This question is as relevant for marine settings as it is for upland forests. Regardless of one's perspective, a basic concern facing policy makers, managers, researchers, and citizens is how we can improve our ability to understand, identify, measure, evaluate, and incorporate into decision making society's diverse perspectives on the values and uses of natural resources. Numerous critics of past management frameworks and tools suggest that ecosystem management will be successful only insofar as these values are fully integrated at multiple scales, and in perpetuity.

This presentation explores the concept and meanings of integration with particular emphasis on fostering better understanding of the social, cultural, and economic considerations. It summarizes the literature and presents different perspectives on what integration is and is not, and it examines some apparent barriers and offers an approach for improving our capacity for effective integration, both in the short and long run. Integration is not just an issue of natural resource management in the U.S. Although different words have been used, the concept has been in the literature for many years. And the situation we face in our country is not unique; in fact, it is not even unusual. Many countries and cultures are struggling with the same basic issues and questions—some with greater, others with lesser success than we. We have much to learn from one another.

## ECOTOURISM IN POHNPEI

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The author spent five months on her home island of Pohnpei working with The Nature Conservancy, Pohnpei Office of Tourism and Parks, and Pohnpei Division of Forestry to develop a database of existing and potential ecotourism sites of Pohnpei. The researcher evaluated ecotourism sites in communities via survey questionnaires, interviewed site owners or operators, and researched legends and history behind each site. Information collected was compiled into a database, and then compiled, with drawings rendered from pictures taken by the author, into a Pohnpei ecotourism guidebook. This informational and educational guidebook offers information on site locations, accessibility, and contact names, as well as cultural guidelines and environmental insights for visitors.

This project revealed some interesting findings which highlight ecotourism's potential in Pohnpei and some of the problems that need to be addressed when developing such sites. These include the lack of familiarity of local operators with the concepts of ecotourism, the lack of skilled tour guides and interpreters, and environmental degradation problems such as litter. The author describes some of the approaches needed to address these issues.

## PERCEPTIONS OF ECOTOURISM BY PACIFIC ISLANDERS

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Ecotourism has become a generic term for all ecologically responsible tourism. However, it seems as though there are as many definitions for ecotourism as there are researchers and practitioners in the field. For the purist, "ecotourism" means a form of tourism that leaves the environment relatively undisturbed, whereas to others it may appear as though "ecotourism" is merely a trendy way to sell more mass tourism. Furthermore, there may be cross-cultural differences in the way ecotourism is viewed. It is clear that in order for the objectives of environmental protection,

cultural preservation, economic sustainability, and educational value to be accomplished in ecotourism, there must be a consensus on what ecotourism is.

This study attempts to determine how Pacific islanders perceive ecotourism with respect to its definition; what are their island's tourism assets, benefits of ecotourism, and obstacles to ecotourism; and what is needed in order to implement ecotourism. To this end, two surveys were conducted. The first involved 24 participants who attended the Pacific 2000 Conference on responsible economic growth, co-sponsored by the U.S. Economic Development Agency and the Commonwealth of the Northern Mariana Islands, held in Saipan in May 1993. The second involved 23 participants of the Executive Development Institute for tourism held at the University of Hawaii School of Travel Industry Management in June 1993.

The results indicated that responses depended on the stage of tourism development and familiarity with the ecotourism concept. Although there was unanimous support for ecotourism development on all islands, with the main impetus being environmental protection, the less-developed economies were relatively more concerned about cultural preservation than economic sustainability. Other findings include the importance of economic and cultural benefits, the need to overcome politics, and the critical role of education in implementing ecotourism.

## **THE OCEANS BLUE FOUNDATION: A VANCOUVER RESPONSE TO SUSTAINABLE TOURISM**

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On June 14, 1992, Canada joined 172 other governments at the Earth Summit in Rio de Janeiro, Brazil to achieve something remarkable. At the United Nations Conference on Environment and Development (UNCED), people put aside economics, religious, cultural, and political differences to unanimously adopt Agenda 21.

Since then, the Greater Vancouver Regional District (GVRD) has approved a 25-year "Livable Region Strategic Plan." In November 1995, the GVRD and the Greater Vancouver Convention and Visitors Bureau (Tourism Vancouver) organized a forum in which city, port, and regional planners, and tourism industry professionals

discussed a tourism development strategy for Greater Vancouver. Working together, GVRD and Tourism Vancouver intend to adopt sustainable development principles that appear in the World Travel and Tourism Council, World Travel Organization, and the Earth Council document, "Agenda 21 for the Travel and Tourism Industry."

One action being taken is the ongoing development of Oceans Blue Foundation. Oceans Blue is a Vancouver-based, non-profit foundation committed to establishing sustainable tourism and community development in the world's port cities. Underpinned by a philosophy of putting "Local Loyalty and Local Responsibility" first, the foundation aspires to be a leader in the efforts to make global tourism a sustainable industry.

Oceans Blue will provide leadership in four areas based on the developing Vancouver model including community programs, strategic planning, measurable standards, and responsible education. Specific initiatives within these four areas include actions and practices for tourism businesses.

Oceans Blue will develop a series of practical actions that individuals, communities, and companies can take toward achieving sustainability by using tourism as both the focus and catalyst for positive change.

## **COASTAL MARINE POLICY IN HAWAII 1986-1996 CRISIS-FAILURE-OPPORTUNITY**

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During the past decade, coastal tourism in Hawaii tripled in size and allowed individuals to put commercial claims on ocean space that traditionally had been open to all. As a result of these free-market pressures, coastal communities have been driven by tremendous demographic and economic change. Examples include Hanauma Bay, where long-time residents of Honolulu were displaced from a popular local beach park by commercial tour groups. Their complaints led to action by the city government to protect the environment there from unrestricted tourism.

In response to problems such as this, individual coastal communities began to call on government to provide direction. Government officials found themselves balancing the conflicting demands of economic development, resource allocation, and resource protection.

For guidance, the counties, the state government and federal agencies spent millions on studies such as the Main Hawaii Marine Resource Investigation, the Governor's Taskforce on Ocean Tourism, the Marnala Bay Study, the State Ocean Management Plan, and the "Sea Grant Studies in Marine Economics" Series.

These studies generated much useful information and many worthy recommendations. Unfortunately, there was little political will to implement them. Consequently, the studies were set aside and government policies toward ocean resource management came to be defined by controversial single issues in isolated areas or multiple conflicts within single areas. The result is that most problems have festered. In the few areas where there has been resolution of problems, such as at Hanauma Bay or Molokini on Maui, the answers have come from the user community.

This paper provides an overview of the historical background during this 10-year period. It presents ideas on how responses to these problems might be structured in the future.

included economic studies of value producing activities associated with the estuary or the effects of action plans on economic values derived from the estuary. This paper presents a review of these economic studies and summarizes the results of an extensive resource valuation study conducted for the Indian River Lagoon National Estuary Program. The study addressed both direct and passive use values using travel cost-demand models, fishery productivity models, property value analysis, and the contingent valuation method. The total annual economic value for the natural assets of the lagoon were estimated to be more than \$730 million in 1995. Results from the economic analysis have played an important role in the selection of action plans to correct water quality and habitat degradation problems in the lagoon. In addition, the identification of economic benefits attributable to estuary management has been a major feature of the campaign to convince the public of the need to implement the recommended action plans. The concluding section of the paper provides some discussion on the advantages and disadvantages of including resource valuation studies in estuary management planning and future NEP site evaluations.

## **COASTAL RESOURCE VALUATION AND THE NATIONAL ESTUARY PROGRAM**

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The National Estuary Program (NEP) was established by Congress in 1987 as part of the Clean Water Act. The primary objective of the Program is to bring together local governmental units to identify estuary-related problems and to recommend corrective action plans. While baseline hydrological and biological studies have played prominent roles in the planning process for most NEP's, few have

## **USER GROUP PERCEPTIONS OF MARINE RESERVES IN THE FLORIDA KEYS NATIONAL MARINE SANCTUARY**

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The merits of marine reserves to manage fishery stocks and sustain marine biodiversity have been extensively debated in the scientific literature, yet there have been few studies on the perceptions of user groups to marine reserve proposals. This study examines commercial and recreational user groups' perceptions of marine reserves for the Florida Keys National Marine Sanctuary. The Florida Keys contain the only living coral reef tract in the continental U.S., and receives more than 2.5 million tourists annually. The U.S. Congress designated the Keys as a national marine sanctuary in 1990, and a final management plan that includes marine reserves is expected in late 1996. Personal and mail interviews were used in this study to identify user groups' perceptions of the planning process for these reserves and expected outcomes. Results indicate that perceptions vary considerably across the user groups, with commercial fishing groups expressing strong opposition while recreational diving interests generally support the plans. Various factors, including participation in the planning process, perceived fairness of the process, and expected compliance with regulations to enforce a

reserve zone, influenced these perceptions. This paper discusses the implications of these findings for establishing and managing marine reserves in the Florida Keys and other coastal areas.

## **PARTICIPATORY RAPID RURAL ASSESSMENT IN ZANZIBAR: DEVELOPMENT AND PROTECTION OPTIONS ON SMALL ISLETS**

**Issa Mlingoti**  
**Barbara A. Koth**  
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**PO Box 1410**  
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On this Indian Ocean island off the African coast, the experience from small islets leased to private investors resulted in the exclusion of local fishermen from traditional seasonal fishing camps, unreasonable compensation, and habitat destruction. This caused considerable hardship and resentment in coastal communities which cited these cases as the key reason for opposing further hotel construction. A land allocation moratorium was imposed pending collection of additional biophysical and sociocultural information for input-to-development decision making.

Training was organized to provide knowledge and techniques of participatory rapid rural assessment (PRRA) in assessing the available resources and public opinion. A total of 20 staff (three women) representing four ministries participated: Commission for Tourism, Department of Environment, Integrated Land Use Planning unit, Investment Promotion Agency, Fisheries Department, and Forestry Department. The practical toolkit included semi-structured interviews (boatmen, women, leaders, farmers); seasonal calendars; mapping; transects; wealth ranking; and public meetings.

Three interdisciplinary teams implemented three to six day studies on 12 islets with investor interest or high tourism potential; reports were formally presented to the government. As part of institution-strengthening initiatives, the nine-month process was jointly funded by a bilateral donor (FINNIDA) and the World Bank at a cost of \$8,000 U.S.

(1) Islet inhabitants and users, generally poor, are faced with limited economic alternatives. Agricultural and fishing resources are at capacity. Tourism could benefit environmental conservation by diversification of villagers' income source and enhanced monitoring of the resource base. (2) Many villages, despite remoteness, have direct experience with tourists—mostly day visits by scuba or deep-sea fishing parties. Even at very low levels, sociocultural impacts (e.g., dress code, cultural violations) are evident, leading to negative perceptions and skepticism. (3) The main constraint on village-level development was seen to be a complete lack of information and little local awareness of their tourism options: community-investor contracts, employment, or the right of regular consultation. (4) Villagers mention water supply, schools, and health care as the anticipated contribution of tourism before their own involvement in tourism. (5) Villagers are willing to make site tradeoffs—giving up one beach if access rights to other beaches are guaranteed. (6) Day use or small lodging properties are acceptable in some locations. Villagers would expect to organize boat trips, run a small restaurant, or sell handicrafts, although this expertise, equipment, or capital does not exist presently.

### **MARINE ECOTOURISM: PROBLEMS AND POTENTIAL, A CASE STUDY FROM MADAGASCAR**

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This paper examines the problems of and potential for ecotourism in under-exploited coastal areas.

Anthropological field research I completed in 1993 in S.W. Madagascar shows the risks of ad hoc tourism both for environmental conservation and for local communities. This is a coastal area with a variety of ecosystems including coral reefs, dunes, beaches, and a hinterland with unique fauna and flora. The traditionally seminomadic Vezo fishermen have no concept of customary marine tenure. Increasing inland demand for fish, coupled with marketing opportunities and new fishing technologies, have already led to substantial infiltration of the coastal area by non-Vezo, including trading monopolies and entrepreneurs buying coastal land for tourist hotels.

The issues are how to conserve the coastal areas and reefs (a) as environments and (b) as a sustainable resource for indigenous fisheries and ecotourism.

The problems considered are how to develop management systems to minimize conflict between competing resource users, such as tourist agencies, tourists, local fisheries, entrepreneurs, and others. Solutions are put forward for discussion on this and on how to channel tourism profits through local community management structures with built-in research and conservation for sustainable use.

The Madagascar situation is discussed in the context of experience from other areas, including Sri Lanka, the Kenyan coast, Belize, and Panama. Its relevance, however, lies as much in its parallels with Torres Strait and some South Pacific Islands.

### **ATLANTIS ADVENTURES: DEVELOPMENT OF UNDERSEA TOURISM ATTRACTIONS**

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In the 1980s when Atlantis Submarines pioneered the first passenger submersible operation, underwater tourism was limited primarily to snorkeling and scuba diving. Passenger submarines opened the undersea world to the average person and created a vast new market. Over the past decade, underwater tourism has been a rapidly growing market segment of world tourism. Increasing interest in the undersea world, steady growth of world living standards, and the amount of leisure time have created a more sophisticated market that is searching for new experiences. Meeting the needs of this market, as well as the challenges of a successful start up and sustaining an operation, takes innovation, planning, analysis, and development of an appropriate marketing portfolio.

Marine tourism products, or activities, are varied, and careful analysis must be made to ensure the right product or mix of products for an existing market. As an example, Atlantis considers site selection as a crucial component to success. Three major categories are considered in evaluating potential operating sites: 1) operational considerations; 2) market trends and potential; and 3) political, economic, and business environment. Each



product or activity is evaluated independently, and once a site is selected and infrastructure established, other activities can easily be added later as the market allows.

Submarine tours are the core business of Atlantis; however, like many other operators, we recognized the need to diversify in order to meet the demands of today's market. For example, last year we launched Atlantis Adventures, which embodies a collection of products that meet different market needs. The products that Atlantis has introduced require less capital investment and fewer guests to ensure their success. Marketing synergism, economy of scale, and increased retail potential are achieved when a site has more than one product to offer.

## FROM TRASH TO TREASURE

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## MAKAH TRIBE'S PRESENTATION ON COASTAL AND ECOTOURISM DEVELOPMENT

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The Makah Nation is located on the most northwest tip of Washington's Olympic Peninsula. In recent years visitation to Neah Bay and Ozette has been on a steady increase. The Tribe recognizes the need for change to accommodate these increases. Surveys have been taken to develop community awareness and opinion. The surveys revealed that the community is supportive of the tourism increase where it links to tribal artisans and business development. The surveys also indicate that there is an urgent need for more food services, lodging and campground development.

The Tribe organized the Makah Visitor Bureau which represents the tribal and business communities. The Visitors Bureau is responsible for disseminating tourism information

and informing the community on tourism plans and developments, as well as encouraging beautification of neighborhoods and enhancing highways, trails and beaches. Through this organization the tribe is networking with nearby Chambers of Commerce by attending meetings and education, by sharing brochures and information on the history and culture of the Makah Tribe. The Tribe also hired Dean Runyan Associates of Portland, Oregon to complete a tourism study of Neah Bay and the Ozette archaeological site. The purpose of the study was to answer questions such as how many and what type of tourists visit the area? Are these type of visitors economically beneficial? Do we need to change focus to attract other types of tourists or should we discourage tourism growth? The Tribe is responding by sharing the results with the community, surveying their opinions and by developing trails, improving on and off reservation signage and planning tourism facilities.

A main factor that has led to the increase in tourist visits is the 1970s discovery of the Ozette archaeological site of an ancient Makah whaling village which was perfectly preserved in a mud slide. This was followed by the 1980 construction of a world class museum to house the thousands of artifacts recovered in the archaeological site. In 1991 the National Geographic Magazine featured a story on the "Ancient Makah Whaling Society." In 1994 a public television video was released called "Gift from the Past." This is a documentary of modern Makah society and the relationship to the Ozette archaeological discovery.

Other factors for the increased outside interest are that Neah Bay and Ozette are located adjacent to the Olympic National Park and the Cape Flattery Wildlife Refuge. In 1995 the designation of the Olympic Coast Marine Sanctuary, a NOAA program, which begins in Neah Bay has sparked new interest in the coastal waters and reefs. We are also members of the North Olympic Visitor & Conventional Bureau of Port Angeles, WA. The Olympic Bureaus are very supportive in terms of advertising to the ecotourist. There is also an increased interest in and curiosity about the culture and traditions of Native American Tribes by foreign and U.S. tourists.

The Tribe has planned for increased growth by constructing infrastructure. Developing entrepreneurial training is now being offered to tribal members. This will assist members in preparation for secondary businesses that will develop from increased growth. Growth management plans include constructing a year round safe harbor marina with 200+ boat slips, to be completed in 1997. Regulatory guidelines for land and development are being documented. The Makah Tribal Council has appointed a Land Use Development Team responsible to identify land for business, industrial and home site development. The Tribe has developed an environmental program and is in the process of adopting environmental policy and regulations. A transportation

planner has recently been hired to assist in planning for intermodal transportation and land use development.

In conclusion, the Makah Nation has considerable potential for marine and ecotourism development. According to the response of surveys, the general opinion is that the tourism growth should be gradual with limited impact to the communities. Most importantly, tourism growth rates should not infringe upon tribal sovereignty.

## **THE PALAU CONSERVATION SOCIETY: ENVIRONMENTAL NGO WORKING IN PARTERSHIP WITH LOCAL COMMUNITIES, AGENCIES, AND ACADEMIA**

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After years of exploration, discussion, and work by a group of environmentally concerned and active citizens, Palau Conservation Society (PCS) was incorporated in 1994. The mission of PCS is to work with the local community to preserve the nation's unique environment, and to perpetuate its conservation ethic for the economic and social benefit of present and future generations of all Palauans and for the enjoyment and education of all who visit our island. This new non-governmental organization is committed to protecting Palau's environment through public awareness, research, and the promotion of sustainable development policies. The accomplishments of PCS can be traced to its non-confrontational approach and to its strong partnerships with local communities, government agencies, and the international scientific community. While not directly involved with tourism, PCS is helping to build a solid environmental approach in development efforts that will lend itself to more responsible tourism in Palau. An example is the grouper aggregation project. Through this research and education project, PCS is helping the local community define sustainable economic development options for their area. PCS is educating the community about the special ecological importance of their waters as a spawning area for groupers and other popular fish. Consequently, a fishing-oriented type of tourism would not be appropriate, but perhaps an educational or "wildlife-viewing" type of tourism might be more suitable. This presentation will cover some of the methods used, the role of this NGO in the development process, and decisions made.

## **APPENDIX 3: PAPER SUBMITTED BUT NOT PRESENTED AT THE CONGRESS**

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### **OLD MICHU VILLAGE COMMUNITY PROJECT: ISLANDER ECOTOURISM AND COMMUNITY CONSERVATION**

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**Abstract** *Ecotourism has become a key component in the growing tourism industry of the South Pacific, but with the customs and traditions of this Region it requires careful consideration before it can be effectively developed. A number of NGO's such as World Wide Fund for Nature are seeking to develop community based approaches that effectively enable the community to determine the outcomes. The belief that ecotourism can be the economic saviour for countries such as the Solomon Islands has seen rapid growth of ecotourism in circumstances where often there is a lack of understanding of the socio-political structures of the country particularly at local level. Development problems facing ecotourism are largely similar to those experienced in agriculture and most forms of urban and rural land use. In the Solomon Islands development planning of any kind is not a traditional activity.*

*In order to understand the present issues facing the development of ecotourism in the Solomon Islands a review is provided here of a local project in Marovo, Western Province, Solomon Islands. The Old Michu village Community Project (Rapita Lodge) is a community-based project which provides some insights into the socio-political realities of ecotourism at the community level. Tourism development is a prime consumer of a community's valuable land resources as are the products associated with it. Such changes often involve a transfer of power relationships, particularly where this is exercised locally through control over land and its use. The reactions to this within these communities can vary greatly but the impacts on them and their often delicately balanced socio-cultural relationships presents problems for all those involved in the process of ecotourism development. This paper presents a case study of the process; community control and reactions while providing suggestions for obtaining successful outcomes that are consistent with best practice in ecotourism management.*

**Keywords:** *Solomon Islands, ecotourism, community-based development*

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In 1992 the Tobakokorapa Association of northern Vanunu Island in the Solomon Islands wished to establish a small tourism project which offered overseas visitors the opportunity to enjoy Marovo Lagoon and learn about the

natural environment and the culture of the local people. The idea for the project developed through the collaboration of a range of organisations and particularly from the Association's engagement in WWF's community Resource Conservation Project. The proposed tourism project seeks to draw together and enable the community to address many of the resource management, community development and income generation issues raised in the planning process. It is also an attempt to provide stability for the community through an ecotourism project, which would provide sustainable economic land-use alternatives for the community.

With the world's attention focused on the South Pacific and preservation and conservation—one of the top priorities for this region tourism offers local communities in the South Pacific the opportunity to overcome two main problems deforestation and unemployment. The project seeks to address these points and represents a major step towards the future. Historically, the local environment had been depleted because of the villages need to derive an income from various land and marine uses. A variety of unique activities are being designed to enable villages to share with visitors their detailed traditional knowledge and uses of their land and sea resources. In addition, visitors will be able to view first-hand how they are responding to rapid social change brought on by contemporary western influences. Through close contact with village people, visitors will learn how Tobakokorapa is trying to control negative economic, social and environmental impacts sometimes associated with such change, by blending traditional and modern ideas in the sustainable use, management and conservation of their resources.

The Tobakokorapa community lives on northern Vanunu Island within the Western Province of the Solomon Islands. This community wished to establish a small tourism venture and a unique opportunity for visitors to the Solomon Islands to enjoy beautiful Marovo Lagoon and learn about the natural environment and the culture of the local Marovo people.

Marovo society is made up of at least twenty names. Kinship groups are called butubutu. Each butubutu controls a defined land and sea area. The cultural history and social structure of each butubutu is inextricably linked with its land and sea area.

The Tobakokorapa Association is composed of three butubutu, claiming customary right to land and sea areas extending from the mainland hill slopes of northern Vanunu seaward to include several barrier islands of eastern Marovo Lagoon. The main settlement is Michi Village on mainland Vanunu. The estimated village population is 137 persons. It is estimated that an additional 100 people who are members of this butubutu live outside, in Honiara, for employment purposes.

Within the Association there is a recognised need for some income-generating activity for individual households, as well as for community development purposes including improved housing, water supply, health care, education and sanitation.

The project builds on the traditional close association of the people and their culture with the natural environment and how this relationship is changing to meet the challenges of the 1990s. The planned facilities and activities will allow visitors to partake in a tourism and educational experience unlike any offered elsewhere in the Solomon Islands. This paper examines many of the concerns raised by local communities about protected area management and associated tourism. The concerns and conflicts that exist in communities such as those in the Marova Lagoon generally fall into a number of interrelated categories. The first is the lack of opportunities for involvement in decision making relating to protected area management and tourism. The second arises from what these communities regard as inadequate responses from governments, the tourism industry and NGO's to assist them in controlling tourism and its benefits and impacts. The third relates to the lack of financial, social and vocational benefits flowing to these communities from projects that commercially exploit what they regard as their resources. The fourth relates to the need to establish better tools for evaluating socio-cultural impacts and ensuring this is completed in conjunction with the more emphasised environmental impacts on the natural environments which are usually of more interest to outside investors and conservation groups.

If all these communities participating in ecotourism can have an understanding of where they fit within the broader framework of the tourism and conservation sectors, there is a better chance that the focus of protected areas fostering host communities values while providing education for outsiders will be successful (Kutay, 1990:38). The variety of organisations involved with ecotourism and their approaches are an essential part of what ecotourism is. Ecotourism has caught the imagination of many local communities in the South Pacific, and this has generating interest from the government and international

organisations operating in these countries. There is current worldwide much debate concerning the benefits and costs of ecotourism (Cater and Lowman, 1994). As it does, more interest is generated in the potential of ecotourism for village based communities. It is increasingly being seen as a way to promote sustainable tourism while still earning valuable income for these communities. However Campbell (1981) observes profit can become an end in-itself, and that the profit objective has led to the exclusion of many local communities from the benefits of this type of tourism.

In order to understand the role ecotourism can play, it is important to refocus the approaches to creating infrastructure for tourism, awareness of the differing needs of local communities, while also aligning ecotourism with national conservation and development strategies. It is suggested that the preparation of national conservation strategy is "...designed to demonstrate to sectoral interests and how they inter-relate with other sectors, thereby revealing new opportunities for conservation and development to work together" (McNeely and Thorsell, 1989). With local communities as the focus these different sectors government, private enterprise, conservation and non-governmental organisations, and international institutions can then reorientate their approach to conservation through tourism.

For the people of Tobakokorapa the proposed ecotourism development will do several things. The venture will provide:

- an Association-owned and managed project to enhance traditional community cohesion and supporting mechanisms;
- a vital source of income for the community to meet basic social welfare needs, as an alternative to non-sustainable forms of resource use currently being promoted in the region;
- a demonstration of properly managed resource use integrated with a development project, for the whole of the Tobakokarapa community and other villages within the region;
- an opportunity to enhance youth understanding and appreciation of traditional culture and knowledge of local resources; and
- essential skill training and employment opportunities for men, women and the youth of the Michi village.

While a variety of definitions of ecotourism exist one definition that would appear to be in popular usage is that of The Ecotourism Society in the USA which defines it as "responsible travel that conserves natural environments and sustains the well-being of local people." Although this

is not as encompassing as other definitions it provides a focus for the elements discussed in this paper.

Boo (1990:11) identified a number of economic benefits that can accrue from tourism. Generally tourism as a growth industry can increase the exchange earnings and therefore improve the balance of payments and in its role as part of the expanding service sector can generate employment. Specifically ecotourism creates investment for infrastructure development, it helps to diversify the economy and remove the reliance on a small number of exports. Finally it can help stimulate economic activity and growth in isolated areas. Within rural communities ecotourism also provides an economic alternative and may slow down deforestation (Boo, 1990:17). Valentine (1987:17) indicated that capital investments and operational expenditure would be multiplied throughout the economy because of the 'trickle down effect' or multiplier. The more control that can be vested in the local community the more opportunity there is to ensure a significant return for the community.

The Tobakokorapa Association has sort to involve the entire community in the management and to organise the day-to-day running of the operation. In the planning and establishment stages a WWF Field Adviser worked closely with the Tobakokorapa project staff and local community, assisting them in all aspects of project planning and training of local people. After establishment of the facility, WWF staff, through the existing Community Resource Conservation project, has provided additional technical expertise as required, and continue to monitor the progress of the operation. Revenue generated from the enterprise is expected to be modest, particularly in the first years of operation the majority of it will stay within the community. Modest wages will be paid to the individuals running different parts of the venture (business, housekeeping, guides, etc). After running costs are met, the remaining profit will be put into a community development fund which will support village projects, improving health care, education, water supply, family housing and sanitation.

While it is generally accepted that only a minor percentage of tourist expenditure remains in the region or country (Ascher, 1985; Lea, 1988; 1993; Trask, 1991) and profits are further reduced through the importation of specialised goods and services, it is felt that ecotourism can redress this imbalance. The community functions largely on subsistence terms and partially on cash income. Subsistence production derives from gardening, fishing, collection of shellfish and some forest products, and occasional hunting for wild game. Cash income in recent years has been generated from the harvest and local sale of shell, beche-de-mer, some timber, and local produce.

There has been intense pressure in recent years on this community to sell their timber resources to overseas logging interests. The community, however, has decided that such an enterprise is not in the best interest of their future development. The objective here is to use as much of the locally produced products to develop and sustain the project.

Hong (1985:25) contextualises this further and suggests international tourism requires high capital investment and expensive infrastructure necessitating heavy borrowing for developing nations, to finance these projects which must come from outside the local economy. In the South Pacific foreign investors can in some cases invest in tourist hotels enjoying tax exemption, import all building materials and equipment duty free and have also been beneficiaries of aid money to help establish business. Ecotourism is often being established within this context and often governments aid large overseas corporations who they need to establish this infrastructure but who siphon and divert precious resources which could have been used to improve the quality of life of the local people (Hong, 1985:21).

### Alternative Direction

To date, the community's commercial undertakings engaged in, have all been based on the harvest of marine or forest products. Unfortunately, levels or methods of harvest of these resources have frequently not been viable or sustainable ecologically or economically. The Tobakokorapa Association has recognised this and since late 1991 have tried to address this problem through participation in the WWF Community Resource Conservation (CRC) project.

The CRC project provides assistance to local landholding groups interested in the long-term conservation of their resources. Through this project and with the assistance of technical specialists from WWF, members of Tobakokorapa have been going through a community resource planning and management exercise. The planning exercise encourages the local community to:

- take stock of their resource base;
- examine the ecological, cultural and economic values of those resources;
- access the traditional and contemporary use of resources and the implications of changing use patterns on their community; and
- establish community development goals.

A major output of this plan is to outline Tobakokorapa policy and guidelines for the management of their terrestrial and marine resources. As a natural progression of planning activities undertaken by communities, the CRC Project aims to assist a number of community groups to design, implement, manage and monitor specific development or conservation projects. These projects are to be important demonstrations within the region of economically and ecologically sustainable and socially appropriate enterprises.

The other side of this is the social/cultural impacts are those "influences that come to bear upon the host society a result of tourist contact" (Prasad, 1987:10) and these impacts can benefit the community and also impose costs on the community. In the Tobakokorapa case one of the benefits stem from contacts the visitor may have with the host culture as given the longer duration of the stay of the ecotourist. This understanding is more deep-seated. Travis (1982:260) also suggests that this contact can lead to improved reputation and visibility of the host community and introduce to the ecotourist new ideas, new values and new ways of life. Given advanced industrial societies need to explore less resource expensive approaches to lifestyle the contact can only be beneficial and as Cater (1987:221) suggests creates a wider understanding and possible removal of prejudices.

The dynamic state of culture according to Cater (1987:221) means that change is inevitable, however, tourism accelerates these changes and Butler (1990:44) suggests that as ecotourism penetrates deeper into the host cultures and as a long term development has the greatest impact on the host culture. In the Tobakokorapa case this has to be weighed up against the fact that without some shift in the economic base of the community from sea and forest harvesting many may have had to leave the area to find work, thereby destroying the structure and stability of the local community.

The initiative and interest shown by Tobakokorapa in the CRC project have particularly encouraged WWF. In addition to be preparation of a community resource plan, members of the Association have built a community resource centre to house resource management information materials and provide a venue for community and regional meetings on resource management and conservation issues. The enthusiasm and level of organisation shown by Tobakokorapa has given WWF confidence in their ability to capably undertake this tourism venture and provide one of the first demonstration projects in the Marovo Region.

The Michi Village project has given the local people power of control and the opportunity to share the gains of the project. In contrast, Boo (1990:119) found that the impact on local economies was small and often inadequate to pay for managing and protecting these areas. In the Tobakokorapa case the communities have been instructed in the necessary requirements for the ongoing management of the project and the money raised from the project will go directly back into the community.

## Project Setting

Marovo Lagoon is a region of magnificent island, lagoon and sea scenery. The lagoon is a large, ecologically diverse area of variable water depth and movements with many coral reefs and small islands backed by the "high" islands of Vanunu and New Georgia. The lagoon is a dominating physical link for the islands. It also represents the core of existence for Marovo people and a symbol of their identity. In the central Marovo area, and within the area owned by Tobakokorapa, forested hill slopes gradually give way to broad floodplains supporting rich freshwater swamp forests and extensive mangrove systems. Small coral reef islands supporting both rainforest and mangrove are scattered throughout the inner lagoon. Along the eastern edge of the lagoon are outer barrier islands, or toba in Marovo language. The island formations are the result of uplifts forming a raised reef complex. Outcrops of limestone reach up to 60 metres in height off parts of New Georgia. The toba support mostly virgin rainforest of high diversity containing scientifically interesting species and structure. Just as there is a high degree of ecological diversity within Marovo Lagoon, there are cultural distinctions between the separate butubutu which inhabit the area. Five different dialects are spoken in the region and traditions and patterns of resource use can vary considerably depending on the history and local environment of the customary landholding groups.

The scenic beauty, ecological and cultural diversity of the Marovo Lagoon area have been recognised for many years as having high value for the Solomon Islands. Recent actions by the Solomon Island and New Zealand Governments to consider nomination of this area to the World Heritage List support this recognition.

## Existing Tourism Activities

The diversity of natural environments and cultural tradition within the Marovo region provides a rich resource for the development of different tourist markets.

Existing tourism facilities present within the Lagoon include:

- Uepi Island Resort on the eastern outer barrier of the lagoon which caters for overseas divers;
- Matakuri Island offers modest thatch guest house accommodation;
- the charter boat "MV Bilikiki" regularly visits a number of dive sites within the lagoon; and
- the charter boat "MV Spirit of Solomons", a general cruise vessel has recently begun tours in Marovo Lagoon and the Russell Islands.

Private yachts travelling through the Solomon Islands of Charapoana Island near Uepi Resort, which is within the sea boundaries of the Tobakokorapa Association. However, there are no moorings available or facilities that cater specifically for this market.

There is a proposal for a game and sport fishing lodge on one of the toba off eastern Vanunu (Matiu Island).

The Solomon Island Tourism Development Plan 1991–2000 views the country's ecotourism, adventure and cultural tour potential as being untapped. In Marovo, there are few opportunities to enjoy the area's culture and natural history.

In the last year Uepi Resort has decided to broaden its market and offer guests visits to the mainland of nearby New Georgia and Marovo Island. To date, development of these new activities has been limited. Matakuri Lodge provides informal activities such as fishing, snorkeling, bushwalks or river trips in response to guest requests, but provides little opportunity for visitors to interact with local people other than lodge staff.

### Location and Access

Old Michi Village will be located on Michi Island, a small raised coral islet, less than an acre in size, and surrounded by the calm, clear waters of a shallow inshore lagoon. The island lies within an easy canoe paddle to a cluster of other small islets to the east and to mainland Vanunu to the south. Michi Island, although it has not been inhabited for some 20 years, was one of the original settlement sites of Tobakokorapa people. These people now reside in new Michi Village, 400 metres away on a peninsula of Vanunu Island.

At present there remains little sign of the old village, with only the odd pile of coral rubble indicating the location of a past house site. During its occupation most of the islands

original vegetation was cleared. With the occupation most of the islands original vegetation was cleared. With the exception of a large Casuarina, the island now mostly supports mature coconut palms scattered among patches of secondary regrowth and strandline shrubs. A narrow strip of mangroves fringes the islands northern edge. There is a sandy beach at the southern entrance to the island.

Michi Island is approximately a 30 minute motorised canoe ride from Seghe on New Georgia. Solomon Air provides regular services between Seghe airstrip and Honiara five days a week. Tobakokorapa will provide guest transfer from Seghe to Old Michi.

Boat transfer from Honiara is also available once a week via the "MV Uminao." This ship picks up and unloads passengers in the village of Patutiva, approximately 20 minutes canoe ride west of Old Michi, and at Marovo Island, 20 minutes to the east.

### Facilities and Services

The guest house facility has been designed and constructed to recreate the image of the original Old Michi Village. Visitors are accommodated in comfortable yet modest, traditional-style houses of thatch construction, raised on poles and perched out over the waters of the lagoon with boardwalks linking them to the island. From this facility, guesthouse visitors can easily view the houses and activities of Tobakokorapa people within Michi Village only some 400 metres away.

In total, four guest huts and a communal leisure and dining area are to be available over the water around the periphery of the island. This style of house and village settlement is characteristic of Marovo lagoon; blending well into the tropical backdrop, and offering much exotic charm. Each house will be carefully positioned to take advantage of the afternoon sea breezes and scenic views of Vanunu and New Georgia Islands. Each guest hut will be able to sleep up to four persons and include a small sitting room which opens up to a verandah overlooking the water. Inside walls will be tastefully lined with traditional woven mats. Furnishings will include tables and chairs, beds and linen, mosquito nets, kerosene pressure lanterns, and floor mats. The rooms will be further decorated with tropical plants, local carvings and baskets of fresh flowers.

A communal open living area will provide a comfortable setting for groups to eat their meals, and a place for group meetings or presentations, to display local products, or for just general leisure activities.

On the island there will be three sets of toilet and shower facilities located in small thatch huts with raised wooden slat floors. Selection of an environmentally sound method of waste treatment will be made after further site evaluation.

Also on the island a kitchen and food preparation area will be constructed. The task and responsibility for preparing visitor meals, cleaning, and laundry services is to be contracted to the local women's group. Laundry will be done in Michi Village.

Tin roofs on communal living area, kitchen and laundry will collect rainwater for the facility and be stored in four 1,000-gallon water tanks located on the island.

## Activities

On and close around the island, visitors will be able to walk, swim, snorkel and use small paddle canoes for fish and bird watching and photography.

Activities will be designed to enable visitors to experience a diversity of natural habitats, and appreciate both their high conservation values and the traditional and contemporary significance of these resources to the culture of the local people. Visitors will be transported to and from activities by two canoes with outboard motors.

Scientific interpretation of the habitats explored and their ecological importance will be provided in the materials prepared by the Tobakokorapa Association with assistance from WWF. Together these activities and materials provide insights into the concerns and opportunities which confront South Pacific people in conserving their traditional culture and resources in modern times.

## Market

This project aims to attract visitors from overseas oriented towards natural history appreciation, adventure and a cultural learning experience. Important components of the visitor's holiday will include:

- visiting unspoiled natural environments which have high international conservation significance;
- sharing and participating in a lifestyle quite different from their own; and
- being provided with an opportunity to engage in a quality learning experience.

Such visitors are usually quite happy with limited accommodation and comfort in exchange for the opportunity to experience a unique setting. At the same time, however, it is important that prospective visitors are told what facilities and services are provided, so that their expectations are in keeping with the experience being offered.

As part of project development, a detailed marketing strategy will be prepared. In developing this strategy several different market sectors will be investigated and targeted for development.

It is expected that a key part of this strategy will be the development of special guided tour packages. These may be linked to overseas adventure travel specialists, conservation, or natural history organisations that provide specialist tours. These include WWF national organisations. At present at least two specialist tour agents are providing adventure tours into the Western Province and investigating opportunities for establishment within Marovo Lagoon.

A second potential market is that of visitors entering the area on cruising yachts. Old Michi Village will be located along the main route for cruising yachts, which travel through the Solomon Islands via Marovo Lagoon. Yachts commonly anchor in the protected shallows of Charapoana Island off Uepi Resort. The guesthouse facility and activities could be published to the cruising yacht market. Brochures advertising the operation to cruising yachts could be made available at important points of entry such as Customs Offices in Honiara, Gizo and at Bili Passage.

Providing additional visitor opportunities for existing tourism will also be examined. For example, Uepi Island Resort has progressively expanded its range of guest activities to include visits to mainland rivers and some villages. At present the activities to be offered by Tobakokorapa are not provided by other neighbouring butubutu to the Resort. Charter boat operations, such as the MV Spirit of Solomons, which wish to offer more visitor interaction with local villages within the Western Province, are also expanding.

A further potential market to be cultivated, which can build upon the resource conservation activities of Tobakokorapa, is that of educational groups interested in tropical resource management and sustainable development issues at the community level. This could include students from overseas universities, and other South Pacific countries, as well as from within the Solomons.



## Project Management

The proposed tourism venture is a community project. The project does not follow common development models based on individual or family entrepreneurial activity. It is the opinion of the Association that entrepreneurial models too often result in community conflict from the inequitable distribution of benefits and disputes over resource ownership and are inappropriate for this community.

It is recognised that projects undertaken by a community group can be more complicated. To avoid this, the role and responsibilities of various players, and communication and decision-making links, needs to be clearly defined. The important organisational elements of project management as proposed for this project are listed below:

### Tobakokorapa Association and WWF Joint Management Agreement

The project is to be managed by the Tobakokorapa Association with the assistance of WWF. An agreement will be prepared between the Association and WWF outlining the project responsibilities of both agents.

In the planning and development phase, both parties will ensure necessary tasks are undertaken so that at all stages the project is financially accountable, the project works run as close as possible to the timetable outlined, and that the standard of facility construction, community training and preparation is high quality.

A project account is to be established into which funds for the planning and development phase of the operation will be entered. Both agents will be joint signatories to this account.

### Project Management Board

A Project Management Board will be established with representatives of the Association's Executive and Advisory group. WWF will be an ex officio member of the Board. The Board will meet at regular intervals and be responsible for reviewing project progress and the performance of Tobakokorapa project staff, and the WWF Field Adviser. The Board will have the overall authority for making decisions on project direction and activities and to appoint or dismiss staff.

### WWF Field Adviser

A WWF Field Adviser will be contracted to work with the Association in the development of the venture over a 12-

month period. This person will have skills in project management and administration, and in planning, operation and training, for tourism and natural area management.

The Adviser will be responsible for training of the Tobakokorapa project staff and providing technical expertise in the planning and development of the facility and its operations. The WWF Field Adviser will report regularly to the Management Board and to the Michi project.

### Tobakokorapa Operations Management

The Management Board will contract an Operations Manager and Managing Assistant to head up responsibility for the establishment and operation of the venture. These persons will have the following duties:

- to work with the WWF Field Adviser and community in project planning;
- to establish and maintain financial accounts and supervise project administration;
- to co-ordinate working groups;
- to supervise the establishment, operation and maintenance of the facility; and
- to liaise with tourist agents regarding visitor bookings.

To encourage and promote women in development and leadership roles, Tobakokorapa is proposing to have the positions filled by two women. There are several women belonging to Tobakokorapa who have held positions within the tourism industry in Honiara and whose past experience qualifies them to take on this role.

In the development phase of the project, one woman will work closely with and be trained by the WWF Field Adviser. A second woman will undertake further study and complete a certificate course at SICHE in tourism. At the completion of this course she will share management responsibilities and provide necessary administration and marketing support to this position.

## Planning Requirements

Two important principles are fundamental to the CRC approach in assisting communities with development initiatives. Firstly, all stages of the establishment and execution of the project must conform to sound environmental and social practices. For example, where timber or bush materials must be obtained, the way in which harvesting occurs must minimise environmental damage and should not result in village shortages or disruption to necessary village tasks. In order to ensure

this criterion is met, careful planning is required, including the assessment of resource stocks, temporal availability, project and community demands, methods of procurement, and replenishment needs.

Secondly, to make the project benefits more extensive, the planning process is carried out with full involvement of the community. Therefore, planning skills are transferred and may be applied to other development projects in the future.

Preparation of project action plans was one of the first tasks undertaken. These plans were developed by Tobakokorapa project staff and the working groups with the assistance of the WWF Field Adviser. Required project plans include:

- an overall business and marketing plan;
- a project development plan detailing how working groups are to be co-ordinated and their individual activity schedules (including training activities).

## Training

A number of training opportunities were built into this project. These are:

- SICHE tourism certificate course for a staff member in operations management;
- a study tour for select staff and members of the Association's Executive focusing on nature tourism activities and resource management in Australia;
- community training over a 12 month period by the WWF Field Adviser in all aspects of the design, establishment and operation of facility and services;
- Further "in service" training at intervals over the first four years of operation by CRC staff.

The project's organisational structure and intended mode of implementation will ensure that training benefits will be provided to both women and men, and persons representing a range of age groups.

## Project Evaluation

Monitoring and evaluation activities will be carried out with CRC project assistance for the first four years. An important output of the CRC project is the communication of project results and examples of sound community resource use and conservation to other communities, non-government and government organisations within the Solomon Islands and Melanesia. This is partly achieved through the compilation of a series of community case studies on sustainable development. The progress of

Tobakokorapa in resource planning, the undertaking of the community tourism project, and results of its operation are expected to be documented in this series. Case study material would take into account evaluations by the Management Board, WWF Field Adviser and other CRC Staff, and include a number of surveys of community attitudes, expectations and perception of development at various stages of the project.

## Social and Environmental Considerations

Although it is the primary focus of activity, the development and operation of a small tourism facility is not the sole purpose of this project. In many ways, the development of the tourist facility is a vehicle to achieving a broader and more far-reaching set of objectives. The direct and obvious benefits from the venture are the generation of community income and employment, but other equally significant social and environmental benefits are anticipated. These benefits will apply across sectors, touch all aspects of village life, and influence the current and future use of this community's resources.

Through the CRC project, Tobakokorapa Association has put in place specific policies for the overall management of their resources. This tourism project is expected to help the achievement of conservation objectives set out in their policy statement.

As can be seen in Table 1 the application of new skills learned through project working groups should enhance Tobakokorapa's resource management capabilities and result in improved quality of life for the whole of the village. Project activities will further reinforce the discussions and exercises introduced in the CRC planning process and the holistic approach to resource management. The planning and development of the facility will require the examination of a range of resources and their uses, and are likely to result in the adaptation of additional conservation measures. For example, the Association has already decided to take the following actions to enhance the area's tourism values:

- set up a system of reserves for protecting significant areas of forest, islands and reef, which will be visited by guests;
- placing controls on the commercial exploitation of some marine resources. For example, the harvest of these shellfish as a tourism activity would provide a better return and help secure this as long-term food source for villagers;
- adapt environmental guidelines in the harvesting of timber for the facility;

**Table 1: Examples of project benefits to community resource management capabilities and village life.**

Working Group	Skills acquired in Tourism Project	Application of Skills in Community Resource Management and Village Life
Setting and Grounds Management	<ul style="list-style-type: none"> <li>• Village amenity and landscaping</li> <li>• Village waste management</li> </ul>	<ul style="list-style-type: none"> <li>• Review water supply</li> <li>• New village site plan</li> </ul>
Facility Design, Construction and Maintenance	<ul style="list-style-type: none"> <li>• Inventory of Bush resources</li> <li>• Regeneration of resources (e.g. tree planting)</li> </ul>	<ul style="list-style-type: none"> <li>• Guidelines for sustainable harvest of materials</li> </ul>
Food Production and Preparation	<ul style="list-style-type: none"> <li>• Inventory of wild and cultivated foods</li> <li>• Recognition of value of local food (nutritionally and economically)</li> </ul>	<ul style="list-style-type: none"> <li>• Improved garden techniques and management</li> <li>• Increased range of food crops</li> <li>• Improvement of nutrition and village health</li> </ul>
Cleaning/Laundry Services	<ul style="list-style-type: none"> <li>• Planning of water consumption and quality</li> </ul>	<ul style="list-style-type: none"> <li>• Village hygiene</li> </ul>
Activities, Interpretation, and Transport	<ul style="list-style-type: none"> <li>• Recording of traditional uses of plant and marine products, custom stories, and songs, Butubutu history and genealogy</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthening of community identity and cohesion</li> </ul>
Visitor Health	<ul style="list-style-type: none"> <li>• Establishment of village first aid post with trained staff</li> </ul>	<ul style="list-style-type: none"> <li>• Village mosquito control</li> </ul>

- construct properly constructed storage sites for outboard fuel to prevent the pollution of reef waters.

There are very rich ties between local culture and natural resources and substantial conservation value in maintaining these links. The protection of traditional culture will be enhanced by the documentation of traditional uses of plant and animals, custom stories and song required as part of the development of activities and interpretative materials. Youth particularly will be encouraged to undertake this activity, improving the transfer of traditional knowledge and skills, which are currently being lost.

As opposed to many development activities, this project expects that there will be increased self esteem of village people and enhancement of community integrity from the successful, co-operative development and operation of this facility.

### Controlling the Impacts

With respect to environmental management and in keeping with Tobakokorapa policy, the tourism facility and activities are to be designed, constructed, operated and managed so as to minimise environmental damage or pollution to land and sea areas. Visitors also will be requested to follow certain guidelines such as not littering, removing forest or reef products, etc. to ensure environmental protection.

The two main areas from which adverse social impacts are commonly generated in a development project are (1) community conflicts on the allocation of resources and distribution of project benefits; and (2) disruption of traditional culture with the uncontrolled introduction of western values, ideas and behaviour.

The former has been addressed so that the project will be structured and managed. The organisational structure delineates project authority. The responsibilities and activities of management and staff provide a mechanism for resolving disputes. Community-ownership of the facility will direct income towards community development from which all families will receive benefit. Project tasks provide training and employment opportunities for women and men and a variety of age groups.

Sections of the tourism industry, conservation groups and host communities have embraced the concept of ecotourism as a way of renegotiating the existing power structures within this industry the Michi project in a small way has demonstrated some of the possibilities. However the caution must be taken to ensure it does not just a

vehicle for perpetuating another form of neo-colonialist capitalism. Greenwood (1989:179) succinctly describes the way in which culture is turned into a commodity in stating "Culture is being packaged, priced and sold like...fast food and room service, as the tourism industry inexorably extends its grasp" and these cultural traditions and natural environments simply represent another resource.

All resources have a price and Western tourists can afford the prices charged in the global economic periphery. While acculturation, which is an anthropological theory, explains that when two cultures come into contact, each borrows from the other. Tourists from the developing country are less likely to borrow from their hosts in the periphery than their hosts are from them, such that a system of symmetrical borrowing develops (Nunez, 1989:266). This has far-reaching consequences for the society and culture of the hosts as societal models demonstrate that changing one aspect of a social system is likely to change other aspects (Nunez, 1989:266). It is through this process that Western consumerism and other aspects of the world's dominant cultures have infiltrated the South Pacific communities who now are looking to adapt to a changing way of life.

Ecotourism seeks to reverse or change some of the practices of tourism at the operational level. However, it is clear that we live in a world of limited natural and environmental resources and that human kind must restrain the exploitation of the resources that has become so characteristic of the collective needs of developed countries. There is a conflict between the individual needs of people to protect the environment and the market's needs for production of profit. As such organisations operating under the banner of ecotourism must accept regulations to protect natural environments from the exploitative attitudes of the free market society and these regulations need to be established through a process that gives host communities control.

The Michi project in some ways represents what Crocker (in Encel and Encel, 1991:150) maintains is participatory Eco-development, being made up of some aspects of the co-operative, self-management (autogestion), co-management (cogestion) and solidarity (solidarism) movements. While it is recognised by most in developing nations that the old economic models do not work and benefit only the developed nations who end up controlling the economy there are other models currently offered by this type of project. Two important models, seen by Crocker, are free market liberalism and a renovated social-democratic paradigm. Both have benefits which contribute to the ideas behind his participatory eco-development model dealing with satisfaction of human needs,

democratic, self-determination, respect for nature, to negotiate conflicts of moral principles and provide a real opportunity for personal development (Crocker in Encel and Encel, 1991:150).

Some authors have labeled ecotourism as being green imperialism and eco-missionaries (Dowden, 1992) eco-colonialism (Carter, 1992) and eco-imperialism (Hall in Cater and Lowman, 1994). Ecotourism development is however not that different from other forms of development and generally falls into the consumption philosophy which Weber describes as the construction of economic status as a goal by the dominant hegemonies responsible for shaping advanced capitalist nations. If the Michi project is able to motivate the tourist, tourism operator, or local community to become active in the conservation of natural resources then it has made a valuable contribution.

The Michi project raises the potential for change and answers some of the political and economic questions which are now being raised about sustainable development, particularly in the South Pacific. Originally, in both ecotourism and biodiversity debates, conservation issues were foremost and the local community element was neglected. However it has become increasingly obvious that biodiversity cannot be conserved without the involvement of local resident communities. While it is necessary to recognise national parks and protected areas as integral to biodiversity and ecotourism, ecotourism must also stress the importance of concerns raised by local communities about protected area management, lack of opportunities for involvement, benefits and socio-cultural impacts.

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