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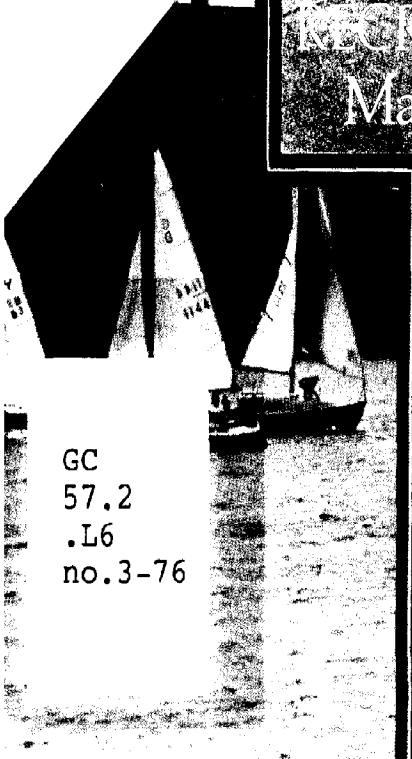
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Recreation —

Marine Promise

Susan H. Anderson
Editor

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Proceedings, Discussion, and Overview
of the National Conference on Marine Recreation

Held in Newport Beach, California,
October 2-4, 1975

U. S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

GC 57.2 .L6 no. 3-76

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APR 28 1997

The National Conference on Marine Recreation was sponsored by The National Oceanic and Atmospheric Administration Office of Marine Resources of the United States Department of Commerce, under Contract No. 6-35138 to the University of Southern California Sea Grant Institutional Program. Financial support for this publication was provided by the NOAA Office of Sea Grant, under Department of Commerce Grant No. 04-6-158-44020 to the University of Southern California. The U.S. Government is authorized to produce and distribute reprints for governmental purposes notwithstanding any copyright notation that may appear hereon.

USC-SG-3-76

CONFERENCE PLANNING COMMITTEE

Phillip M. Roedel, Conference Chairman—NOAA Coordinator of Marine Recreation Programs, Office of Marine Resources

Susan H. Anderson, Conference Coordinator — Marine Recreation Specialist, University of Southern California Sea Grant Program

Robert B. Ditton — Department of Parks and Recreation, Texas A & M University

Dick Fitzgerald — Director, Department of Beaches, Los Angeles County

Herbert R. Kameon — Architect and member of the National Coalition for Marine Conservation

Nancy Pearlman — Executive Director, Ecology Center of California

William Schultz — Southern California Marine Association

Byron J. Washom — former Coordinator for USC Sea Grant Advisory Program

George W. Webber — Deputy Regional Director, Bureau of Outdoor Recreation, Pacific Southwest Regional Office

assisted in Washington by:

Alexander B. Bigler — Alexander B. Bigler Associates, Alexandria, Virginia

John S. Gottschalk — Executive Vice President, International Association of Game, Fish, and Conservation Commissions

Robert Hutton — Office of Marine Resources, NOAA

Fred L. Jones — Assistant Director, Federal Programs and Planning, Department of the Interior

Richard H. Stroud — Executive Director, Sport Fishing Institute

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PREFACE

Throughout history, with growing populations and improving technologies, our interaction with the marine environment has increased. It is no surprise then that the marine environment has become increasingly popular for recreation, both along the shoreline and in coastal and offshore waters. And with the growth of recreation has come a booming marine recreation industry, providing us with goods and services to enhance our recreational opportunities.

A variety of people were attracted into the marine recreation business, from those entrepreneurs with a strong business acumen who recognized the potential clientele but often knew little of the marine environment to those who had grown up with the marine environment and hoped to find the opportunity to work closely with the environment they loved so well.

The results were increased recreational opportunities and the introduction of increasing numbers of people to the marine environment, through a combination of highly commercialized facilities, shoestring operations and the range of everything in between. For the most part, until the 1960's the private market appeared to meet the growing demands for marine recreation.

For many decades, acres of inland resources in the United States have been set aside for public enjoyment through the establishment of national parks and wildlife management areas, administered by the government. Probably because the ocean was still considered to be infinitely able to accommodate new uses and to assimilate our waters, few opportunities were taken to set aside portions of the land/sea interface for public enjoyment. As increasing amounts of coastal lands became private property, areas traditionally open for public recreation were closed. There was little concern for who was not being afforded an opportunity to enjoy the marine environment.

In the 1960's, we in the United States finally began to reassess our coastal environment to realize the damage that we were doing to it and to confront the need to manage conflicting uses of it. In 1966, the Marine Resources and Engineering Development Act made a first attempt to focus on the critical needs of

the coastal zone. From this Act came the widely recognized Stratton Commission Report discussing 'Our Nation and the Sea', which was the impetus for more than 60 bills submitted to the Ninety-first Congress, in January 1969,¹ dealing with management of our coastal resources. Other complementary studies were also generated at this time to provide further justification for strengthening the national effort to improve management of coastal land, water, and related resources. Finally, in the Fall of 1972, the Coastal Zone Management Act was passed, providing impetus to each coastal state to develop a detailed management plan for their coastal areas.

But recreation, as only one of our coastal uses, seems to be frequently under-evaluated and considered as an afterthought in coastal planning. In reality, recreation "ranks at least a close second to the offshore oil and gas industry in economic importance in marine areas."² Furthermore, its contribution to our mental well-being and our quality of life makes recreation of prime importance in our planning for present and future coastal use. Because recreation occupies our leisure time, we, understandably, have a particular dislike for outside intervention in what we choose to do or how we choose to do it. We are often not very responsive to those asking us questions about our recreational uses of the coastal areas.

But all kinds of information must be gathered to help us appropriately assess the experience of coastal recreation, to provide us with information on the ingredients needed to provide a variety of recreational opportunities within the constraints of a limited resource. We need to learn more about our recreational interaction with the marine environment, and our impacts on it. We need to better evaluate the recreational experience so that it will receive full consideration in coastal planning and management.

Recently, the Sea Grant Program, now part of NOAA, has responded to public need for recreational research and information through several of the Sea Grant College and Institutional Programs that now have full-time recreational specialists within their advisory service staffs. However, funding for recreational research lags behind the identified needs. Recreation research funded by other institutions across the nation seldom ties to the marine environment, nor does it meet the standards of research needed to gain a place for recreation alongside scientific inquiry of other disciplines.

The Sport Fishing Institute and the Boating Industry of America have concerned themselves with the tools of creating boating accessways in a series of bi-annual conferences held around the country where boating has been popular. During the past five years, a cooperative group of institutions including the University of Rhode Island Sea Grant Program have sponsored a New England Regional Conference on Marine Recreation to discuss a variety of specific issues pertinent to the marine recreation industry in that area. In the spring of 1975, the Bureau of Outdoor Recreation held a Southeast Regional Conference on Coastal Recreation to review an understanding of what the demand is for coastal recreation, and what roles are being taken by federal and state authorities to meet those needs.

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NOAA, with the major national responsibility for the oceans and the land-sea interface, recognized the need to come to grips with what must be done to ensure

recreational opportunities in the unique coastal and marine environments. As Coordinator of Marine Recreation for the NOAA Office of Marine Resources, Phil Roedel called on the University of Southern California Sea Grant Institutional Program to assist with development and management of the first National Conference on Marine Recreation. The conference format, objectives, topics, and speakers were developed with the help of a steering committee representing marine industry, sport fishing, ecology, beach use, research, and BOR and NOAA.

Thus RECREATION—MARINE PROMISE was born. Its purpose was to establish a national focal point for marine recreation in NOAA, to identify this federal administrative body as one prepared to commit for marine recreation. It was the goal of the conference to identify critical recreational issues that must be considered in planning and managing the marine environment, to develop recommendations for national policy, and to determine guidelines for action at all levels to enhance recreational opportunities in the marine environment.

In selecting speakers and panelists, we carefully considered individual expertise, regional perspective, and activity represented. Because it was the first national calling together of those interested in the broad total perspective of marine recreation, we tried to reach a complete cross section of interested individuals and those we believed should be interested. We contacted state and local directors of parks and recreation departments, many of whom have not focused on coastal recreation needs in the past; harbor and port managers, beach and marine safety department personnel and lifeguards. We contacted regional BOR directors, National Marine Fisheries Service directors, state fish and game department directors. We contacted sportfishing groups, fishing resource managers, leaders of the boating industry, and presidents of boating organizations. We invited owners of marinas and of commercial support services for recreational boating, and leaders of SCUBA and surfing organizations. We invited environmentalists, environmental engineers and consultants, and landscape architects. And we invited marine oriented lawyers, researchers, and those interested in marine education.

It was a big undertaking and the conference, which took place in Newport Beach California, October 2, 3 and 4, 1975, was only the beginning in identifying what must be done to ensure continued opportunities for marine recreation amidst the increasing pressures for multiple use of our shoreline and marine environment. While the format of the conference tried to present ideas in distinct units, there are tremendous overlapping ideas, perhaps because of the nature of the topic. Surprisingly (and much to the credit of where we are going) many similar concepts were expressed by those from very different occupations and backgrounds.

We were not handed recommendations on a silver platter, but scattered throughout the papers and discussions of the conference are many carefully thought out ideas to be considered in the formulation of policy for encouraging the future enhancement of our marine recreational opportunities. The proceedings, which follow, include recommendations developed from the conference, a conferee revision of the two policy statements submitted by NOAA, and a conference overview to summarize the presentations and discussions by topic. They include all of the submitted papers and moderator overviews, as well as the rapporteurs' summaries developed for the final session. These submitted papers are arranged

according to the agenda. The final chapter is an edited selected transcript of the discussion from the summary session.

It is my hope, as one of the managers of the conference, that this document will provide useful insights to the needs of marine recreation management and research and will be used to construct national policy and guidelines to enhance the future of marine recreational opportunities.

Susan H. Anderson

¹Ed Wenk, *The Politics of the Ocean*, University of Washington Press, Seattle and London, 1972, p. 158.

²Commission on Marine Science, Engineering and Resources, *Marine Resources and Legal-Political Arrangements for Their Development*, Panel Report Volume 3, Government Printing Office, Washington, D.C. 1969, p. VII 235.

RECOMMENDATIONS

Some basic concepts were reiterated throughout the conference that reflect the goals of the assembled conferees.

We must maintain the quality and integrity of the natural ocean environment from the coastal lands, across the water's edge and into the waters themselves, and protect the visual, cultural, historic, and open space aspects of this natural resource base.

We must develop a strong marine education program and increase our public understanding of the marine environment to establish a constituency for coastal zone management.

We must develop public awareness of the importance of recreation as a prime use of the marine environment, and of the need to achieve a balanced and objective approach to coastal development decision making that takes into account the valid concerns of the growth and no growth proponents.

We must reassess our attitudes about the oceans and change our view that technology has infinite power to resolve all problems. We must change our perspective and begin to recognize the limitations posed because the resource is finite.

We must increase public access to the water's edge and to the coastal waters, if we are to have quality recreational opportunities.

As a first step at the conference, the conferees examined existing processes for marine recreational planning to determine where recreation needs can be best addressed. Within that framework, the above goals are the foundation for the following recommendations concerning policy, action, research, and education.

NATIONAL RESPONSIBILITY

The National Oceanic and Atmospheric Administration (NOAA) should assume national leadership, policy resolution and agency coordination in effecting a new thrust and new understanding of recreation in the marine environment.

Under the direction of the Administrator of NOAA, the Office of the Marine Recreation Coordinator should be strengthened and appropriately funded, ranked, and staffed to provide coordination and review for activities of all main line components of NOAA dealing with marine recreation and provide an information and coordination center for all marine recreational program interests.

NOAA should create a Marine Recreation Advisory Committee (MAREC) composed of representatives from a wide cross section of interests similar to those represented at the conference and chaired by the coordinator to provide input to the office of marine recreation coordinator in NOAA and to serve in an inter-agency capacity, ensuring review and coordination of efforts outside of NOAA.

MAREC should coordinate research and education efforts on a nationwide basis. It should especially encourage the increase of research and advisory services in marine recreational activities of SCUBA, surfing, swimming, tidepool observations and general beach use.

NOAA should support continued and increased research concerning marine recreational activities. Sport fisheries research should be supported by strengthening the recreational research component of NOAA National Marine Fisheries Service. Increased research on other marine recreational activities and associated socio-economic research should be supported by the Sea Grant Program.

NOAA should establish an office of technology assessment for marine recreation, particularly to evaluate new technologies in terms of avoidance of conflict.

NOAA should hold a series of workshops as the next step in developing the national focus on marine recreation. These should be regional and should specifically look at how to build the machinery necessary to address conflicts, problems, and solutions. These workshops should be modelled with emphasis on the users of the recreational resources of the coastal zone. Sea Grant personnel around the nation should be called upon to develop these workshops, with specific funding and coordination from the Office of the NOAA Marine Recreation Coordinator.

STATE RESPONSIBILITIES

The states must take responsibility to encourage comprehensive recreational management planning for enhancement of recreational opportunities in their coastal zones in a manner consistent with the maintenance of a quality environment.

States should strive in the development of their coastal plans for positive planning that indicates where activities can be done instead of indicating where they are unacceptable.

State planning efforts should involve all agencies that usually must review development plans in order to ensure positive coordination of efforts.

State (and local levels) should involve academic input and citizen participation in their coastal zone planning effort.

To increase access

The states should develop a partnership between government and private interests.

Open beaches legislation should be considered for each coastal state.

Each coastal zone management program should be equipped with tools to acquire property, and should create and strengthen existing tax incentives to the private sector to encourage easements of land for coastal access or open space preservation.

States should use the state coastal zone management plans to provide guidelines to local jurisdictions. These guidelines should include management tools for determining carrying capacities and defining user needs.

LOCAL PLANNING AND MANAGEMENT

Local jurisdictions, acting under guidelines provided by statewide coastal zone management plans, should implement the most detailed planning and management of the coast.

Local entities should encourage diverse recreational opportunities, through facilities design, and through combining recreation with public works construction.

Local jurisdictions should determine expressed and actual patterns of use at designated areas, and should promote use of under-utilized areas.

Local jurisdictions should regulate coastal access to disperse usage in space and time, not to restrict use to a few users, but to spread the use to many users through allocation.

Local jurisdictions should develop transportation systems to help disperse usage among facilities and to increase access.

Local jurisdictions should set aside areas specifically suited for certain recreational activities, and should earmark inland lakes and pieces of open space for acquisition and development to relieve pressures on shoreline access.

INDUSTRIAL RESPONSIBILITY

Marine recreational industries should seek to cooperate and provide financial support to governmental and university research concerning resources utilized by the industry.

Marine recreational industries should direct technological research at resolving negative impacts brought about by our encroachment on the marine environment, e.g., working with governments to develop guidelines and criteria under which new marshes and reefs can be successfully created, particularly along urban shorelines.

RESEARCH

Research efforts should be directed particularly toward the following (among those listed there is no order of priority):

Inventory marine resources to identify remaining natural areas and sites ideally suited for specific recreational use.

Compile marine recreation economic data and information on user needs.

Determine the effects of human interaction and of technological alterations on the marine environment and the resultant change in quality of recreational activity.

Determine characteristics of user groups and their demands, motivations, and expectations through interdisciplinary social science research.

Increase biological research on marine species commonly caught in pursuit of marine recreation, on multiple interactions among these species and between these and nonrecreational species.

EDUCATION THRUST

Marine education programs should be developed at primary and secondary levels as well as college levels to create better understanding of the marine environment and its multiple uses.

Educational initiatives should be developed to convey recreational research information to the coastal zone management process ensuring educational communication during all phases of the process.

More curricula should be developed to train marine recreation managers and planners.

Courses should be designed to inform business professionals, such as, assessors and bankers, of ecological considerations relevant to their policy decisions.

Interpretive articles, concerning the marine environment, should be presented in general business and professional journals, such as the *Wall Street Journal*.



Photo credit: Don Pybas

CONFERENCE OVERVIEW

*Philip M. Roedel and Susan H. Anderson**

In the opening session of the National Conference on Marine Recreation, Dr. Robert White, Administrator of NOAA, stressed the importance of giving proper emphasis and direction to the general problems of marine recreation as part of our nation's present assessment of how to use the oceans wisely and for the general good. He commented on the limited component of general outdoor recreation considerations that marine recreation represents although some specific attention has been given to recreational fishing, boating, and water safety. Dr. White came to the heart of the matter when he said:

"The time has come for a much more comprehensive look at the problem to ensure that the opportunities that we would all like for marine recreation are both preserved and, indeed, enhanced. We in NOAA are prepared to offer a focus to accomplish this new policy look, to undertake such planning, and that's what this conference is all about . . ."

Dr. White discussed the opportunities provided by the Coastal Zone Management Act for preserving and enhancing the marine environment and he asked the conferees to determine what goals we should strive for in this process to ensure adequate consideration for marine recreation. He asked for identification of science and technology application that might increase the recreational use of marine resources, and ways of dealing equitably with the economic, sociologic and legal questions concerning access and public use versus private ownership.

He spoke of some of the simple, but fundamental, concepts of allocation of the marine resources among many users and diverse uses, commenting

" . . . recreational policy must certainly, as part of its consideration, recognize the need for low density [opportunities] as well as high density in allocating space for marine recreation."

*Mr. Roedel was conference chairman and was at the time of the National Conference Marine Recreation Coordinator for NOAA; Ms. Anderson is Marine Recreation Specialist for the USC Sea Grant Advisory Program.

Dr. White also discussed the limitations of federal agency roles in achieving broadened marine recreational opportunities.

“Since coming to Washington nothing has been more indelibly impressed upon me than the sensitivity of the federal-state relationship. Our commitment is to the maintenance of state and local prerogatives. Federal invasion is not our intent. We believe . . . that the federal government should involve itself only with the establishment of broad national policy and guidelines . . .”

He indicated that it was NOAA policy to advocate the cooperation and participation of other agencies, while encouraging state and local groups to assume major “. . . responsibility for the services and programs in meeting the needs of people who seek their recreation in the marine environment.”

Dr. White urged the conferees to make recommendations for federal guidelines and actions and for programs and services to be carried out at the state and local levels.

The subsequent presentations and session discussions repeatedly returned to four major themes: the need to study and evaluate the natural components of the marine environment and human interaction with that environment for use in planning; the development of increased access; the determination of how the marine environment will be used, how its resources will be allocated and alternative solutions for alleviating the pressures on these resources; and the role of the coastal-zone management and planning process.

(Editor's Note: It is important to note that in this document the word "resources" is most frequently used broadly to represent the total spectrum of assets of the marine environment, including living flora and fauna, minerals, beaches and other land-sea interfaces and general esthetic qualities.)

THE NEED TO STUDY

Research appropriate to marine recreation planning and management has been very slow to develop. The data base concerning human use of coastal resources is especially poor. Because marine recreation involves both people and natural resources, greater efforts should be made to involve individuals capable of an interdisciplinary perspective or to develop interdisciplinary teams of researchers.

Understanding the human response to natural resources is a key element in enhancement of the recreational experience. We need to understand the critical elements involved in motivation and satisfaction. We need research efforts in the area of social sciences to determine motivation of users, socio-economic characteristics of user groups, expressed and actual patterns of use at designated areas, and inhibitors to the enjoyment of the recreational experience.

Discussions of the economic value of marine recreation showed the shortcomings of placing traditional dollar values on recreation. Values of recreational resources and opportunities must be reassessed to take into account the quality of the resource and the experience had in association with it. The motives and objectives of those engaging in recreation need to be translated by economists into demand relationships. The cost and revenue functions for firms supporting recreational activities must be included in the analysis.

An important area of research needed in planning future recreational use is the evaluation of human impact on the marine environment. What are the carrying capacities of the areas proposed for public use? What changes occur in the vegetation and the fauna found there when increased numbers of people begin to make particular use of the area? The determination of carrying capacities will provide standards by which use can and should be controlled.

Members of the boating industry and a biological researcher cited two impact studies which indicated both positive and negative effects of our boating interactions with the marine environment, demonstrating the need to take a very careful look at human impacts to determine what they are, where they occur, and what technology might be directed at resolving or mitigating specific negative impacts, in order to achieve a workable balance.

Research and evaluation need to be carried out to monitor ecologic effects of man-made changes on the marine environment and to measure change in quality of associated recreational activity and commensurate benefits to society.

More applied scientific research should be interfaced with new technological developments, to enable us to evaluate the use of certain technologies in the marine environment so that these technologies can be introduced safely and with minimum adverse impacts.

Focus on the need to inventory and assess resources came not only from members of the research community, but also from planners, environmentalists, fisheries managers, and sport fishermen. Michael McCloskey, Executive Director of the Sierra Club, detailed an extensive inventory and multi-faceted proposal designed to determine the

“physical nature of resources of cultural interest . . . the esthetic elements of the coastal landscape, the recreational uses which are inherently related to the coastline, and the relative scarcity of these resources and opportunities . . .”

He stressed the importance of integrating the results of the inventories into a coordinated planning system.

Most often in the discussions, inventories of natural areas were mentioned as a mechanism for setting priorities. Patrick Noonan of the Nature Conservancy emphasized the need to focus our inventory efforts on priority sites to document why they are important for conservation purposes, rather than insisting on comprehensive inventories of all coastal resources, saying

“We must systematically inventory our fragile lands and areas that, when manipulated, result in the higher internal and external cost to the public at large. Critical areas, flood plains, wetlands, steep slopes, as well as natural or unique wild areas can be found and mapped. Their inherent values can be documented in terms of life support systems and habitat.”

In an aside, Noonan commented that our efforts at conservation are fragmented and weakened if we “throw ourselves in front of the bulldozer wherever it goes” instead of focusing on critical areas and allowing some development and economic growth to continue elsewhere. Inventories can be used to determine whether there are site limitations that could seriously restrict use of areas for a

proposed recreational purpose. Inventories of both actual and unfulfilled user needs can help identify unique requirements for allocating sites of activity.

It was suggested that this kind of information be developed into a handbook, setting forth physical requirements for various types of uses, similar to the more general Bureau of Outdoor Recreation space standards, including space demands under various conditions, evaluation of impacts and methods of setting and testing standards.

Francis Williams, Chairman of the Division of Biology and Living Resources of the Rosenstiel School for Marine and Atmospheric Sciences, University of Miami, spoke of the need to develop an inventory of scientific literature containing biological information pertinent to marine recreational uses of living resources, so that the information might be available to planners when it is needed.

Several recommendations concerned research efforts designed to provide better data for the management of our sport fisheries. There is a need for continued updating of our knowledge of marine species utilized by marine recreationists to better understand the effects of management of these species and to permit more informed decisions in planning. Commercial and sport fishermen alike agreed that scientific research must continue to provide the basis of allocation and management decisions. Research emphasis might best be directed at the more commonly caught recreational species, with emphasis on multiple interactions among species.

John Harville, Executive Director of the Pacific Marine Fisheries Commission, seemed pleased that "Today more and more fisheries scientists are broadening their purview beyond preoccupation with the welfare of the stocks alone and are recognizing the broader implications of resource use." He indicated that this research trend "leads inevitably to concern for equitable allocation of benefits and the economic and social well being of the users that depend upon those benefits."

Funding support for continued research concerning sport fisheries was recommended through strengthening the research component of the National Marine Fisheries Service and involving marine recreational industries in support of investigations of resources they utilize.

A number of speakers mentioned the Sea Grant Program as the vehicle which to date has provided the most funding for very necessary recreation research in the areas of both the social sciences and 'hard' science and technology, and which should be encouraged to continue this support, combining scientific inquiry, educational training and advisory service for coastal recreation research contributions. However, in the past, emphasis had been on sport fishing and boating. Today we must increase research and advisory services in other marine recreational activities, such as SCUBA, surfing, swimming, nature study and photography, and general beach use.

The conferees highlighted the role of education in enhancing our utilization of the marine environment for recreation and in developing more careful consideration of environmental concerns in all phases of development and planning. Several speakers emphasized that through education recreation must be established as one of the prime uses of our marine resources. We should begin this process by working closely with school systems at all levels, particularly elementary and second-

dary levels. We must also work to educate adults, whose lives are increasingly influenced by or are influencing the utilization of the marine environment.

During the final session, Thayer Shafer, a marine education consultant, again emphasized the problem:

“ . . . the vast population has no understanding or appreciation of the oceans or their value to the total ecosystem or how to use them, how to enjoy them, how to compromise and solve the problems related to them . . . Until we adopt some sort of a long range educational program and outlook that includes the oceans, and until we have a constituency, coastal zone management is not going to be successful.”

Clearly it is important to develop methods that will ensure educational communication among various elements in the planning processes, and between the scientists and the public, with respect to recreation. We must concentrate more on how to approach the educational training of managers to develop a sense of responsibility to recreation problems.



Photo credit: University of Rhode Island Public Information Office

The question was asked as to what input scientific research has had on the planning process. Rimmon Fay, a Commissioner on the California Coastal Commission, remarked on the difficulty of getting appropriate scientific input, partly because people in the academic community are not activists. There is a tremendous need for educational initiatives in getting that information to the coastal zone management process and for insistence by the coastal zone management processes for academic feedback. The NOAA Marine Advisory Program is an existing mechanism that can serve as the necessary liaison between the academic community and the planning process and this function of MAS should be emphasized.

There is a need to expand development of educational curricula to train recreational managers and planners for specific identification with the unique quality of the marine environment. Furthermore, there is need to provide courses to provide information to real estate assessors, bankers, and others whose work is increasingly affected by or affecting marine environmental considerations, to respond to ecological perspectives.

The NOAA publication "Coastal Recreation: A Handbook for Planners and Managers" available early in 1976, provides a major educational tool for planners on the incorporation of marine recreation into coastal zone planning efforts.

ACCESS

The question of access was addressed in several ways. Opening the beaches to the public was stressed with specific case study discussions from Texas with its history of judicial decisions and legislation relating to beach access beginning in 1859 to Oregon where a 'private ownership be damned' attitude has prevailed to make all tidelands open to the public.

Several discussions centered on facilities development for access. The nature of some facilities may actually restrict access to some users while enhancing access for others. George Rounds, National Association of Engine and Boat Manufacturers, recommended that facility design should encourage diverse recreational opportunities.

"No longer can we view the marina or the launching ramp as a strictly boating facility. With some rare exceptions, today's and tomorrow's planners are going to have to maximize the function of the waterfront development. Tomorrow's marina will also be a waterfront park with facilities for the aged, the very young, the disadvantaged and the dyed-in-the-wool landlubber who wants to look at the water."

One means of increasing access is to combine recreation improvements with public works construction. To facilitate this partnership, coastal zone management programs should be structured to encourage the incorporation of environmental and recreational values by developers, and to permit multi-purpose environmental impact statements for joint project development. Access could further be promoted by determining ways in which new coastal and offshore facilities might incorporate recreational use or enhance access.

Several speakers recommended that access be increased by promoting utilization of under-utilized areas. Time and space assignments for specific activities

could be used to disperse users. Zoning might extend to the water, enabling local governments to set aside unique areas suited for certain recreational activities. Education can also be used to disperse users by providing instruction for a variety of, particularly, passive and less space demanding uses.

Specific problems concern the urban community in its efforts to gain access to marine recreational opportunities. There are a variety of transportation alternatives that might both get people to recreational facilities and help disperse facility usage. However, implementation of transportation proposals involves money and often resolution of coastal community resistance.

The sensitivity of gaining perpendicular access (paths across private land) to the public beach and acquisition of upland areas for recreational use was discussed in detail. While development of access points may infringe on the rights of property owners, the public rights are generally being emphasized in regional and statewide planning.

The classic approach to acquiring right of way is through condemnation or effective condemnation in order for a governmental body to purchase the land at a less speculative value. The progressive approach is through regulation such as a permit process or zoning that requires that access be provided as a condition of development.

One concept is to consider perpendicular access and a coastal strip for public use much as we think of sidewalks on our streets. Traditionally, we have accepted the taking of frontage land for public use. We should consider similar planning and zoning envelopes for coastal access that we do for street and power line rights-of-way.

One alternative for gaining support of the private sector for access (or preservation) is the provision of stronger tax incentives. Today, tax incentive does exist for land easement, but the estate tax structure provides a disincentive for maintaining land in a sanctuary form or allowing open space for low intensity recreational use. Patrick Noonan mentioned that a bill was introduced before Congress to change the estate tax bite and suggested that passage should be encouraged. The League of Women Voters has urged that better tax breaks be provided for private land owners who maintain property as open space, even when not utilized by the public, because this land increases the value of adjacent or upland areas and enhances the recreational experience.

The English park system sets a precedent under which almost all the parkland is privately owned. The entire system has been developed through combining regulations with tax incentives and limited selected acquisition. The government has worked out a modified tort liability with private land owners so that access can be provided on private land with limited liability to the owner.

ALLOCATION

Another important issue of the conference concerning the planning process was the question of how to determine the tradeoffs necessary, how to make allocation decisions. Three alternative, but not mutually exclusive techniques, must be considered in making the necessary social choices: an administrative mechanism, the market place, and a legislative body. There were many discussions centered

around the administrative approach and the role of the market. In the administrative approach, access is allocated by a board, commission or agency, which attempts to perform the market function by identifying and evaluating all the interests involved. While the administrative (or "father-knows-best") approach is most common in resource allocation, we must carefully consider the market mechanism. Francis Christy, of Resources for the Future, recommended adoption of this method whenever appropriate.

"This point may be worthy of some extra emphasis because of the reluctance to apply market techniques to resources that have traditionally been treated as free and open. The period of transition from administrative or no allocation mechanisms to market systems may be hard to get through and face a considerable amount of initial opposition. But once the period of transition is over, the market forces can provide a very effective and inexpensive way for ensuring an orderly allocation of access and distribution of benefits. . . . Its effectiveness as an allocation and management tool warrants thorough consideration in all situations where it might be feasible."

There were considerable expressions of concern however that the marketplace often, unintentionally, discriminates against environmental quality and use of a common resource, particularly by lower income groups.

For example, the State of Oregon had to take on responsibility for development of campgrounds because private enterprise was not meeting the need. Because of the failure of the marketplace, the California Coastal Commission has also found it necessary to set aside areas for camp or hostel facilities for enjoyment of coastal resources by lower income people.

If allocation is decided through the private market, there are notorious inequities in the traditional economic evaluation of recreational activities. Phil Meyer, Environment Canada, emphasized, using the market system,

"Supply of recreation will chronically lag behind demand—resulting in overcrowding, discrimination between users and non-users, and an undervaluation of the importance of the marine area for recreation, relative to the values claimed by more market-complete competing users."

To overcome this, values of recreational resources must be reassessed to take into account the quality of the resource and the experience had in association with it.

Furthermore, we tend to limit the opportunity of the marketplace to function in respect to technological innovations that might provide new recreational opportunities in and on the water. For instance, a private developer might undertake development of an artificial reef to enhance sport fishing resources if he or she could legally realize exclusive rights to the additional resource and accrue benefits from it.

The legislative approach described by Francis Christy would be directly responsive to the preferences of the users. Allocation would be determined by a body elected specifically for this purpose on which there would be a fairly large number of representatives each representing a small constituency.

Because of the finite quality of the marine resources, allocation for recreation must consider tradeoffs. Alternatives must be found and made acceptable when a primary coastal target can not be made available for recreation. We must determine where activities can be done, not simply state where they are unacceptable. Therefore it is essential that, as part of the coastal planning process, we explore alternative areas where recreation and conservation can be carried out in harmony.

The shortage of facilities inland bears on coastal crowding and emphasizes the need for education in teaching people about alternative sites for recreational activities. Especially near urban areas, earmarking inland lakes and pieces of open space for acquisition and development might alleviate pressure on shoreline access. This concept was not mentioned as an alternative for continued efforts to achieve better access to coastal areas, but as a way of dispersing usage in order to maintain the quality of the recreation experience. These alternative facilities might ultimately be used as part of a controlled access plan to accommodate overflow on a crowded day at the beach.

MANAGEMENT PROCESS

The question was raised more than once concerning the amount of intervention appropriate at the federal level in developing increased access to coastal recreational opportunities. The Federal view, as expressed by NOAA officials, is that it is clearly up to the state and local entities to ensure that various coastal interests, including marine recreation, are appropriately incorporated in state's coastal programs. The Federal Coastal Zone Management Act is designed to provide direction and guidelines with particular emphasis on the design of process. The policy statement of the Act does make reference to increasing open space for public use and 1975 amendments to the Act call for specific development of beach access elements in state coastal zone management programs.

Several speakers noted that no comprehensive scheme exists at either federal, state, or local levels to provide adequate public acquisition of coastal property. Many conferees recommended that coastal zone management programs include provision for acquiring property. However, acquisition should be only a portion of a total program of coastal utilization for recreation including classification systems to determine where and what kind of development is to be allowed.

During the conference there was considerable discussion concerning the coastal zone planning processes in effect along the coastal areas of our nation. Conferees had a tremendous opportunity to learn from planners in each state just how recreation is perceived in the process, and to explore the pros and cons of various methods. A common concern expressed was that throughout the nation, planning seems preoccupied with where we shall not go, rather than where we shall go.

In order to implement a single review process, it was recommended that guidelines for coastal zone management be formulated in cooperation with all of the agencies that usually review development plans. The need to combine the review processes for development is exemplified by California's Irvine Company where the legal approval process for development has been estimated to take at least seven years. Some conferees suggested that the final review should be re-

gional to minimize the parochial quality of local jurisdictions. However, in most areas there is no existing regional structure to assume this review and there is considerable desire to maintain local control.

In general, while there were discussions of new processes, there was hesitation at the idea of proliferating new organizational structure to deal with the needs and conflicts of marine recreation. It was deemed more important to examine existing structures and determine where recreation needs can be best addressed within that framework.

Creation of new management structure tends only to polarize support of conflicting ideologies, making partnership among agencies and interests more difficult. Clare Gunn of Texas A&M, in referring specifically to the partnership of conservation, tourism, and recreation, observed:

“It is not so much new legislation, new agencies or new technology that is needed. Rather, a catalytic force is needed to demonstrate that individual integrity can be maintained at the same time that common coastal policy governing many mutually related functions can be agreed upon ... When the separate entities discover that their own individual goals can be fostered by collaboration rather than competing with each other, there is little difficulty in bringing them together on development of common policy.”

WHERE DO WE GO FROM HERE?

With some reluctance to be likened to an “old-fashioned bureaucrat” recommending that another conference be the offspring of this conference, John Gottschalk, moderator of the final session, strongly urged that NOAA develop a follow-up “series of workshops, where [we get] right down to cases on how to build the machinery necessary to address all of these conflicts and the problems and the solutions.” He suggested that position papers on a series of discrete issues be drafted and provided to the workshops to be hammered out into position statements acceptable to the many different interests in marine recreation.

Workshops subsequent to the conference must be modelled with emphasis on the people that are directly involved in using the marine environment. We should involve each of the user groups, asking them to make directed recommendations. The NOAA Office of Marine Recreation should be allotted sufficient funds to enable it to provide funding for these follow-up workshops.

It was recommended that these workshops be implemented by Sea Grant, an existing program that is geared to develop educational programs both within schools and for the public at large. Sea Grant programs around the country can also increase their educational efforts by bringing together user groups to develop an information base on user conflicts and resolution of issues, and sponsoring educational workshops on the economic facets of jobs created or lost by environmental controls.

While there were differences of opinion on the process for management, the extent to which private entrepreneurs should be allowed to develop, the extent of recognition of private and public rights, and what the most significant problem is in coastal zone management, almost all conferees seemed to agree that the quality of

the environment was important to recreational use. It is imperative that we recognize the need to protect the sanctity of the natural environment, at least in designated areas.

From several sources there was repeated caution that the resource is finite and there is a limit to the extent to which technology can be used to increase or restore the resource. While Jamaica Bay, New York was mentioned as having amazing resiliency and hope of reclamation, the capacity to endure manmade change and other human impact was recognized as finite. Patrick Noonan suggested that sometimes in working with nature and the land we need to show "more respectful humility and less engineering ingenuity." Some technological solutions which exist in theory, may be financially impossible or create other environmental problems. Recognizing the finite quality of the resource, it is inconceivable that growth in boating facilities will ever catch up to the demand. There is a real question as to whether we will be able to even retain the broad distribution of recreational benefits now available in the years immediately ahead.

Frank Carlton, of the National Coalition for Marine Conservation, indicated that we must change in our fundamental outlook and values to deal with increasing pressures in coastal development.

It seems clear that we are approaching a time when, in order to offer marine recreational opportunities to a large segment of the public while maintaining the integrity of the experience, we will have to establish limits of use in both time and space. We must be prepared to provide evidence of overuse—documentation for the extent of regulation necessary to ensure enjoyment of coastal resources for recreation by a maximum number and variety of users.

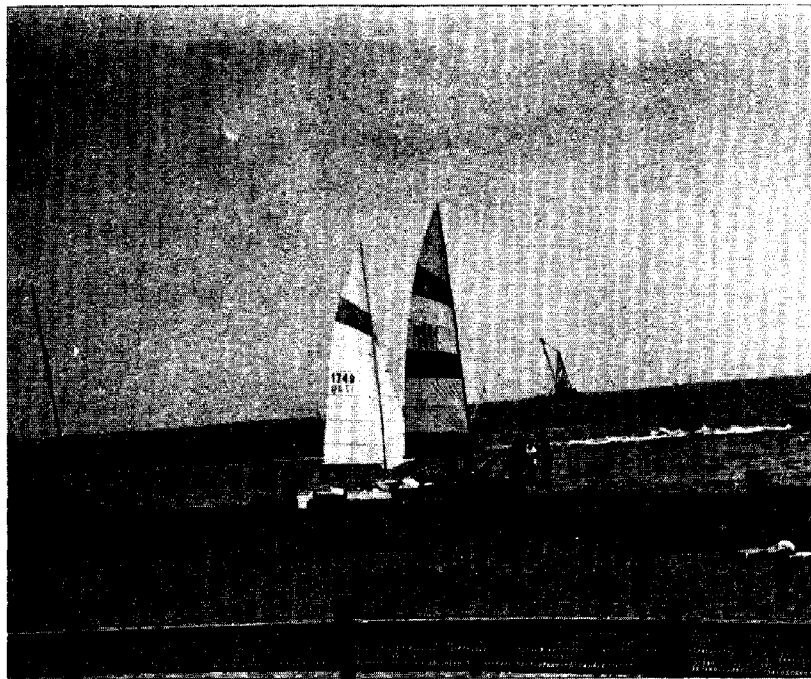




Photo credit: Max Bachelis

POLICY STATEMENT FOR MARINE RECREATION

Revised With Attendee Input*

THIS POLICY STATEMENT SETS FORTH THE PRINCIPLES THAT WILL GUIDE THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) IN DISCHARGING ITS RESPONSIBILITIES TOWARD RECREATIONAL USERS OF THE MARINE ENVIRONMENT.

1.0 STATEMENT OF FINDINGS AND PURPOSE

- 1.1 Throughout the United States, non-work activities have become a major part of overall socio-economic reality. Travel and the participation in recreational activities have now become a part of the culture, supported by both tradition and law. Factors, such as human desire and the ability to participate, suggest that participation rates will continue to grow. Therefore, we may expect that the need for recreational areas, facilities and programs will also continue to grow.
- 1.2 Major federal responsibility for ensuring that United States citizens have adequate outdoor recreation opportunities rests with the Department of the Interior through the Bureau of Outdoor Recreation, and the National Park Service. Other federal agencies having increasing responsibilities for recreation, include NOAA, the Army Corps of Engineers, the Department of Agriculture, the Environmental Protection Agency.
- 1.3 It is NOAA's policy to cooperate with the Department of the Interior to ensure that the marine aspects of the National Outdoor Recreation Plan, prepared by the Department of the Interior pursuant to PL 88-29 are properly implemented.
- 1.4 The marine environment is of significant value to the economy of the United States as well as to the recreation and well-being of its citizens. This environment

*For purposes of this policy statement, the marine environment includes the resources (the flora, fauna, minerals, and other physical and esthetic attributes) of the Great Lakes and other inland waters that fall within NOAA's purview, the ocean areas subject to United States jurisdiction, the contiguous zone and high seas when used for recreational purposes by United States citizens, and the coastal land areas closely associated with the sea.

- contains renewable and non-renewable forms of national wealth. Much of this environment is esthetically pleasing, and it includes important historic and cultural aspects.
- 1.5 The characteristics of this environment are capable of being maintained and enhanced with proper management. If neglected or abused, these characteristics can be seriously affected and even destroyed by human activities. Abusive resource use has already caused considerable erosion of land and scenic assets, pollution of waters, and destruction of the living flora and fauna of this environment.
 - 1.6 Each generation has a responsibility to maintain, and where possible enhance, these valued aspects of the marine environment so that present and future generations can continue to gain both social and economic benefits from these marine assets.
 - 1.7 Low density use is essential to certain types of marine recreation and to maintaining certain types of marine environment. Protection of low density use should be balanced with high density use at other locations which can provide the economic incentive for developing high quality management and pollution control.
 - 1.8 Appropriate consideration of recreational values among all the diverse demands on the marine environment requires the broadest possible cooperation in developing and sharing information, collaboration on planning, exercising responsible management, and in carrying out conservation practices. Such cooperation, both in area and range of activities, dictates a more unified Federal role (now allocated among many agencies) to supplement State, local and private efforts.

2.0 STATEMENT OF PRINCIPLES

NOAA recognizes its obligation to improve the utilization of the marine environment for recreation and its contribution to the quality of life in the United States. Within the framework of its role to provide services in marine affairs rather than to manage land or people, NOAA's actions will be governed by the following principles.

- 2.1 NOAA will participate actively in Federal policy development and decision making related to marine recreational opportunities, including development of appropriate standards and guidelines for the recreational use of the marine environment, while being responsible to the needs of participants, of land owners, and of land and facility developers and managers for the purposes of tourism and recreation.
- 2.2 NOAA will provide guidelines to help resolve or minimize disputes among all the diverse user groups regarding resource allocation and access.
- 2.3 NOAA will cooperate with other entities in sponsoring and conducting research that will provide information to enhance marine resource use, and facilitate sound planning and management.
- 2.4 NOAA will serve as a catalyst to those representing tourism, recreation and conservation ideologies in order to foster planning and management decisions that reflect economic impact, social and individual values of recreation and long-range protection of the resource assets.
- 2.5 NOAA will promote diverse marine-oriented recreational opportunities for the maximum number of people while limiting their growth in consideration for the quality of the recreational experience, the quality of the environment, other users of the environment, and the general public welfare.
- 2.6 NOAA will cooperate with other Federal agencies, the States, local governments, the academic community, the private sector and international bodies in planning and research activities appropriate to the Federal Government, and will encourage non-federal entities to assume responsibility for services and programs more appropriately theirs. The wide scope of such cooperation, both in area and range of activities, dictates a more unified Federal role (now allocated among many agencies) to supplement State, local and private efforts.

- 2.7 NOAA will cooperate with other entities to ensure the preservation of unique or threatened habitats, of endangered or threatened species, and of appropriate cultural and historical sites.
- 2.8 NOAA will give full consideration to recreational interests in the conduct of international affairs.

3.0 STATEMENT OF PROGRAM

In accordance with the findings, purposes, and principles outlined above, NOAA will:

- 3.1 Develop and maintain action mechanisms for the provision guidelines and development of policy.
 - 3.1.1 Encourage state coastal zone management plans to promote enhancement of marine-oriented recreational opportunities based on the expressed need balanced by the use capacity of the resource base.
 - 3.1.2 Establish and maintain a close working relationship with each state agency responsible for the preparation and maintenance of comprehensive statewide outdoor recreation plan prepared pursuant to the Land and Water Conservation Fund Act of 1965, as amended, to ensure that the recreation aspects of coastal zone planning and development by all levels of government and the private sector are in accord with the policies and recommendations of said plan.
 - 3.1.3 Collaborate with private agencies that relate to marine recreation and tourism for the purpose of policy development, which can reflect the interests and special resource control desired by those who support not only conservation-protection and recreation but tourism as well.
 - 3.1.4 Review and evaluate plans and proposals affecting marine recreation that are submitted to NOAA.
 - 3.1.5 Compile a legislative history related to marine recreation and develop, analyze, and comment on draft legislation that affects marine recreation.
- 3.2 Sponsor, especially through Sea Grant, and conduct research designed to provide timely data needed in decision-making by NOAA or others concerned with planning, acquiring, developing and administering our marine resources for recreational purposes. The emphasis of NOAA sponsored recreation research will be to:
 - 3.2.1 Evaluate the marine recreation industry's contribution to the economy, using industry data to prevent duplication, and attempt to assess the non-monetary benefits accruing from marine recreation.
 - 3.2.2 Assess marine recreational activities in terms of potential for various physical, social, emotional, and mental fulfillments.
 - 3.2.3 Investigate the impact of human interaction with environment.
 - 3.2.4 Develop and apply technology to obtain recreational benefits including the improvement of services.
 - 3.2.5 Study human needs and desires and measure them against present and potential recreational use, opportunities and services.
- 3.3 Provide or sponsor services appropriate to the needs of recreational users of the marine environment.
 - 3.3.1 Establish a contact point, clearing house and coordination service at the Federal level to which anyone concerned with any aspect of marine recreation can turn for information or for help in resolving issues.
 - 3.3.2 Disseminate information to recreational users through NOAA publications and marine advisory services, and provide forums for information sharing through seminars, symposia, and conferences.
 - 3.3.3 Explore methods for the improvement of the safety, enjoyment and economic value of recreational activities.

- 3.3.4 Inventory all public recreation areas, and ensure broad public knowledge of these facilities.
- 3.3.5 Make lands now owned or operated by NOAA, or that may be acquired in the future, available for maximum public recreational use consistent with the capabilities of those lands.
- 3.3.6 Encourage private companies and federal installations to open lands to recreational activities.
- 3.3.7 Expedite production of nautical charts and other aids designed for marine recreational users.
- 3.3.8 Provide expanded forecast and warning services of meteorological and oceanographic conditions through media readily available to recreational users, and in formulas designed to be of maximum use to them.



Photo credit: Los Angeles County Department of Beaches

Draft Submitted by NOAA*

THIS POLICY STATEMENT SETS FORTH THE PRINCIPLES THAT WILL GUIDE THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) IN DISCHARGING ITS RESPONSIBILITIES TOWARD RECREATIONAL USERS OF THE MARINE ENVIRONMENT.

1.0 STATEMENT OF FINDINGS AND PURPOSE

- 1.1 One of the benefits of modern society is the significant growth in leisure time we have experienced in recent decades. This has in turn created new requirements for all types of recreational opportunities. We can expect the demands for out-of-doors recreation to increase even more in the future, and the need for recreational areas, facilities, resources and services, to increase at least proportionately.
- 1.2 The United States is committed to assuring that its citizens have adequate outdoor recreation resources, with the Department of the Interior having general responsibility at the Federal level.
- 1.3 It is NOAA's policy to cooperate with the Department of the Interior to insure that the marine aspects of the National Recreation Plan, prepared by the Department of the Interior pursuant to PL 88-29, are properly carried out.
- 1.4 The marine environment is of significant value to the economy of the United States as well as to the recreation and well-being of its citizens. This environment contains renewable and non-renewable forms of national wealth, capable of being maintained and enhanced with proper management, but equally susceptible to destruction if neglected or abused.
- 1.5 Each generation has a responsibility to maintain the marine environment in all its aspects so that present and future generations can enjoy it.
- 1.6 Man's activities can seriously affect the marine environment to the detriment of recreationists. Man-made changes in this environment have already taken their toll of irreplaceable natural areas of land and water, and of the living resources associated with them.
- 1.7 Appropriate consideration of recreational values among all the diverse demands on the marine environment requires the broadest possible coordinating in sharing information, in planning and in carrying out conservation functions. The wide scope of such coordination, both in area and range of activities, dictates a Federal role (now allocated among many agencies) to supplement State, local and private involvement.

NOAA recognizes its obligation, within the framework of its role in marine affairs, to promote the full potential contribution of marine resources to recreation and the quality of life in the United States. To that end, NOAA will:

- 1.8 Give high priority to scientific, educational, environmental and esthetic values as essential adjuncts to the marine recreational experience.
- 1.9 Participate actively in Federal policy development and decision making related to marine recreational opportunities, including development of appropriate standards and guidelines for the recreational use of the marine environment.
- 1.10 Recognize that low density use is essential to certain types of marine recreation and to maintain certain types of the marine environment.

*For purposes of this policy statement, the marine environment includes the resources of the Great Lakes and other inland waters which fall within NOAA's purview, the ocean areas subject to United States jurisdiction, the contiguous zone and high seas when used for recreational purposes by United States citizens, and the coastal land areas closely associated with the sea.

- 1.11 Provide specialized services to help insure safe and wise use of marine resources for recreation.
- 1.12 Help resolve or minimize disputes among user groups regarding resource allocations, access and competing demands, and conduct and sponsor research required to facilitate sound management decisions on recreational use of the marine environment.

2.0 STATEMENT OF PRINCIPLES

The following principles will govern NOAA's conduct of its programs

- 2.1 NOAA will promote the growth of marine-oriented recreational opportunities for the maximum number of people with due regard for the quality of the recreational experience, the quality of the environment, other users of the environment, and the general public welfare.
- 2.2 NOAA will engage only in activities that are appropriate responsibilities of the Federal Government. It will encourage other Federal agencies, the States, local governments, the academic community, the private sector and international bodies to cooperate and participate in such activities; and it will encourage them to assume responsibility for services and programs more appropriately theirs.
- 2.3 NOAA will cooperate with other entities in conducting and sponsoring research, and in developing and implementing policies and programs that are responsive to the needs of marine recreationists.
- 2.4 NOAA will cooperate with other entities to assure the preservation of unique or threatened habitats, of endangered or threatened species, and of appropriate cultural and historical sites; and will take into account the requirements of waterfowl, non-game animals and plants when evaluating ocean, bay or wetland uses.
- 2.5 NOAA will give full consideration to recreational interests in the conduct of international affairs.
- 2.6 NOAA will foster and encourage the development of a sufficiently sound data and information system to help resolve marine recreational problems.
- 2.7 NOAA will promote and enhance safe recreational diving.
- 2.8 NOAA will make lands it now owns or operates or that it may acquire in the future, available for maximum public recreational use consistent with the mission of those lands.

However, NOAA's role in marine recreation lies in providing services rather than managing land or people, and it will not acquire land primarily for recreational purposes unless specifically directed by statute.

3.0 STATEMENT OF PROGRAM

In accordance with the findings, purposes, and principles outlined above, NOAA will:

- 3.1 Sponsor and conduct research designed to provide data and information needed in decision-making by NOAA or others concerned with management of marine resources for recreational purposes.
 - 3.1.1 Evaluate the marine recreation industry's contribution to the economy and attempt to assess the non-monetary benefits accruing from marine recreation.
 - 3.1.2 Develop and provide timely statistical information on all types of marine recreational use, including the number of participants, and their contributions to the economy.



Photo Credit: Newport Beach Chamber of Commerce

- 3.1.3 Conduct and support investigations of the impact of environmental changes of concern to marine recreationists.
- 3.1.4 Develop and apply technology to obtain recreational benefits including the improvement of services.
- 3.1.5 Sponsor appropriate studies of human needs and desires and equate them with present and potential recreational opportunities and services.
- 3.1.6 Sponsor any necessary studies of legislative history related to marine recreation and develop concepts and drafts of appropriate new authorities and authorizations when appropriate.
- 3.2 Provide or sponsor services appropriate to the needs of recreational users of the marine environment.
 - 3.2.1 Establish a contact point, clearing house and coordination service at the Federal level to which anyone concerned with any respect of marine recreation can turn for information or for help in resolving issues.
 - 3.2.2 Disseminate information to recreational users through NOAA publications and marine advisory services.
 - 3.2.3 Expedite production of nautical charts and other aids designed for small boat operators.
 - 3.2.4 Provide expanded forecast and warning services of meteorological and oceanographic conditions through media readily available to recreationists, and in formats designed to be of maximum use to them.

- 3.2.5 Collect and disseminate information and explore methods for the improvement of the safety, enjoyment and economic value of recreational diving.
- 3.2.6 Review and evaluate plans and proposals affecting marine recreation that are submitted to NOAA.
- 3.2.7 Conduct enforcement and surveillance activities as authorized by law.
- 3.2.8 Analyze and comment on draft legislation that affects marine recreation, and initiate drafts where appropriate.
- 3.2.9 Develop and establish estuarine and marine sanctuaries and underwater parks.
- 3.2.10 Establish national marine recreational fishing programs in cooperation with coastal States to improve recreational opportunities within the framework of a proper management regime.
- 3.2.11 Support the development of State coastal zone management plans that give equitable consideration to marine recreation.
- 3.2.12 Conduct seminars, symposia, and conferences.

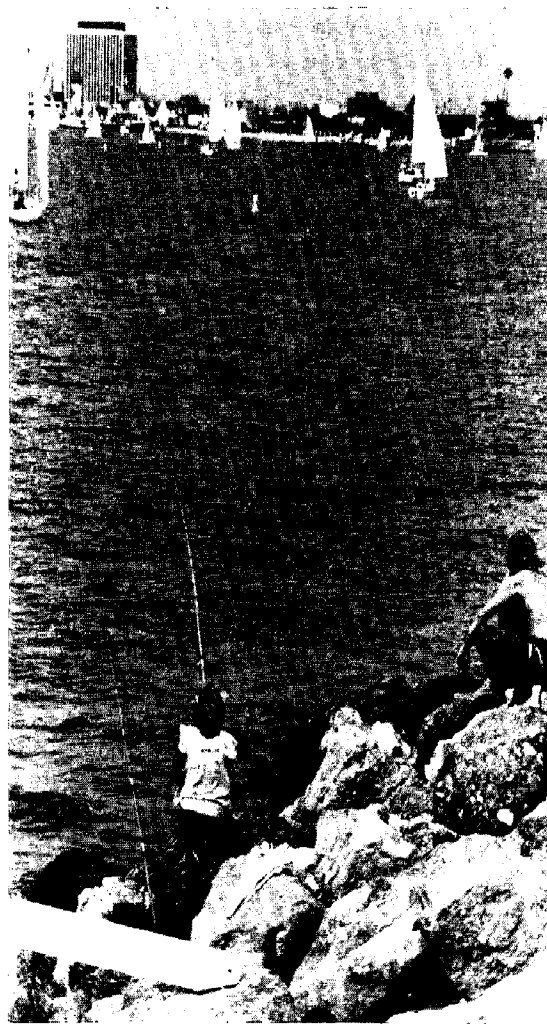


Photo credit: Susan H. Anderson

POLICY STATEMENT FOR MARINE RECREATIONAL FISHING

Revised With Attendee Input*

This is one of a series of individual activity policy statements to be developed for NOAA.

1.0 STATEMENT OF FINDINGS

- 1.1 Throughout the United States, non-work activities have become a major part of our culture. Increased population and more discretionary time have created and continue to create an even greater need for marine recreation, for associated services and facilities, for research and data, and for adequate access and opportunity to enjoy the resources.
- 1.2 Marine recreational fishing is a major activity in the United States that provides enjoyment for more than ten million of our citizens and makes a substantial contribution to the economy.
- 1.3 Many of the species sought by recreational fishermen migrate through various jurisdictional areas, including State Territorial seas, the contiguous fisheries zone, high seas, and the territorial waters and fisheries zones of other nations.
- 1.4 Many fisheries resources upon which recreational fishermen are dependent are also sought by domestic and foreign commercial harvesters, creating conflicts of competition and allocation.
- 1.5 Domestic and international fisheries exploitative practices and man-made changes in marine environments frequently have destroyed or diminished valuable recreational fisheries resources.
- 1.6 Heavy unemployment and increasing economic stress among older citizens have put increased value on the opportunities for supplementing their diet through individual fishing, most often from shore. This fishing is neither recreational nor

*For purposes of this policy statement, the marine environment includes the resources of the Great Lakes and other inland waters which fall within NOAA's purview, the ocean areas subject to United States jurisdiction, the contiguous zone and high seas when used for recreational purposes by United States citizens, and the coastal land areas closely associated with the sea. Marine recreational fishing includes the effort expended in making use of any marine organism for recreational purposes.

commercial but its characteristic and resource requirements resemble most those of the recreational fishing from shore. It is important that it be permitted to flourish.

2.0 STATEMENT OF PRINCIPLES

NOAA will conduct a nationally coordinated program in accordance with the following principles:

- 2.1 Develop a national marine recreational fisheries program in cooperation with the States and the private sector that will increase recreational opportunities and ensure the conservation and optimal use of these resources.
- 2.2 Management
 - 2.2.1 NOAA will promote the optimum utilization of living marine resources considering conflicting interests where applicable.
 - 2.2.2 NOAA will foster the development of close State-Federal cooperation for the rational management of recreational fisheries resources.
 - 2.2.3 NOAA will ensure adequate and equitable consideration of marine recreational fishing in the development of state coastal zone management programs.
 - 2.2.4 NOAA will support the efforts of the United States government to secure management control of coastal fisheries resources by the coastal nation and of anadromous stocks by the host nation in the context of an acceptable international fisheries regime. NOAA will seek international agreement for conservation and management of highly migratory oceanic species.
 - 2.2.5 NOAA will attempt to secure for United States recreational fishermen equitable rights to recreational fisheries resources in international waters.
 - 2.2.6 NOAA will promote compatible fishing activities and equitable sharing of harvests of species utilized by both recreational and commercial fishermen, taking into consideration the biological necessity of regulating total catch within the limits of optimum yield.
 - 2.2.7 NOAA will give full recognition to the importance of the esthetic, educational, scientific and non-extractive recreational use of living marine resources.
- 2.3 Development
 - 2.3.1 NOAA will provide marine advisory service to sport fishermen and the sport fishing industry to improve the economic aspects of the industry.
 - 2.3.2 NOAA will foster the improvement of recreational fishing opportunities within the framework of proper conservation practices.
- 2.4 Research

NOAA will sponsor and conduct scientific, economic and other investigations required to provide the basis for management and enjoyment of living marine recreational resources.
- 2.5 Role

NOAA will engage only in those activities that are appropriately the responsibility of the Federal Government. It will encourage other Federal agencies, the States, local government, the academic community, and the private sector to cooperate and participate in such activities; and it will provide guidance and encourage them to assume responsibility for services and programs more appropriately theirs, remembering that unified management programs are the goal.

3.0 STATEMENT OF PROGRAM

In accordance with the findings, purposes, and principles outlined above, NOAA will sponsor or conduct the following activities:

- 3.1 Ensure that needed information to manage marine recreational stocks is available on a timely basis.
 - 3.1.1 In cooperation with States, universities, and the private sector, identify threatened or endangered species, determine the potential of recreational stocks, stressing the importance of esthetic values.
 - 3.1.2 Determine equitable means of sharing resources, optimum levels of exploitation, and the needs of the recreational community; and provide for rational allocation among United States recreational and commercial fishing interests and foreign fisheries within the limits of optimum yield.
 - 3.1.3 Identify, as appropriate, the need for legislation at the State and Federal levels, or for international action.
 - 3.1.4 Collaborate and support efforts to monetary and nonmonetary benefits accruing from marine recreational fishing.
- 3.2 Provide improved opportunities to the marine recreational community through cooperative programs with States, universities, and private industry.
 - 3.2.1 Encourage development and dissemination of information on when, how and where to fish and information on proper handling and preparation of catch.
 - 3.2.2 Encourage improvement and increase of fisheries habitats through restoration projects, installation of artificial reefs and other means.
 - 3.2.3 Encourage fish production and planting programs to increase fish stocks.
 - 3.2.4 Provide forecasts on fishing, weather and oceanographic conditions.
- 3.3 Sponsor research to collect and advisory activities to disseminate biological information on recreational fisheries resources and their habitat. The emphasis of NOAA sponsored marine recreational fishing research will be to:
 - 3.3.1 Determine life history requirements and behavioral patterns of marine recreational and associated species, determine the condition and population structure of these species, and develop measures to restore, maintain or increase stock abundance.
 - 3.3.2 Determine the distribution and magnitude of catch and fishing effort.
 - 3.3.3 Quantify environmental stresses acting upon recreational fish resources, predict the effects of man-made or natural changes and recommend corrective action.
 - 3.3.4 Determine the energetics and fluctuations in density of the principal marine recreational stocks and their relation to the ecosystem and the total biomass.



Draft Submitted by NOAA*

1.0 STATEMENT OF FINDINGS AND PURPOSE

- 1.1 Increased population, greater affluence and more discretionary time has created and will create an even greater need for marine recreation, for associated services and facilities, for research and data, and for adequate access and opportunity to enjoy the resources.
- 1.2 Marine recreational fishing is a major activity in the United States that provides enjoyment for more than ten million of our citizens and makes a substantial contribution to the economy.
- 1.3 Many of the species sought by recreational fishermen migrate through different jurisdictional area, including State territorial seas, the contiguous fisheries zone, the high seas, and the territorial waters and fisheries zones of other nations.
- 1.4 Many fisheries resources upon which recreational fishermen are dependent are also sought by domestic and foreign commercial harvesters, creating conflicts of competition and allocation.
- 1.5 Domestic and international fisheries management practices and man-made changes in marine environments have frequently destroyed or diminished valuable recreational fisheries resources.

If marine fisheries resources are to contribute in their full potential as a source of recreation and to the quality of life in the United States, as well as to the Nation's economic health, NOAA must

- 1.6 Develop a national marine recreational fisheries program in cooperation with the states and the private sector that will increase recreational opportunities and assure the conservation and optimal use of these resources.

2.0 STATEMENT OF PRINCIPLES

NOAA will conduct a nationally coordinated program in accordance with the following principles:

2.1 Management

- 2.1.1 NOAA will promote the conservation, enhancement and optimum utilization of living marine resources for the benefit of all.
- 2.1.2 NOAA will foster the development of close State-Federal cooperation for the rational management of recreational fisheries resources.
- 2.1.3 NOAA will assure adequate and equitable consideration of marine recreational fishing in the development of state coastal zone management programs.
- 2.1.4 NOAA will support the efforts of the United States government to secure management control of coastal fisheries resources by the coastal nation and of anadromous stocks by the host nation in the context of an acceptable international fisheries regime. NOAA will seek international agreement for conservation and management of highly migratory oceanic species.

*For purposes of this policy statement, the marine environment includes the resources of the Great Lakes and other inland waters which fall within NOAA's purview, the ocean areas subject to United States jurisdiction, the contiguous zone and high seas when used for recreational purposes by United States citizens, and the coastal land areas closely associated with the sea. Marine recreational fishing includes the taking or non-extractive use of any marine organism for recreational purposes.

- 2.1.5 NOAA will attempt to secure for United States recreational fishermen equitable rights to recreational fisheries resources in international waters.
- 2.1.6 NOAA will promote compatible fishing activities and equitable sharing of harvests of species utilized by both recreational and commercial fishermen, taking into consideration the biological necessity of regulating total catch within the limits of optimum yield.
- 2.1.7 NOAA will support the reservation of particular resources for recreational fishing in situations where social, economic, biological, or other relevant factors make joint utilization of the resources inappropriate.
- 2.1.8 NOAA will give full recognition to the importance of the esthetic, educational, scientific and non-extractive recreational use of living marine resources.
- 2.2 Development
 - 2.2.1 NOAA will encourage the economic development of the marine recreational fishing industry.
 - 2.2.2 NOAA will foster the improvement of recreational fishing opportunities within the framework of proper conservation practices.
- 2.3 Research

NOAA, in cooperation with other organizations, will provide scientific, economic and other information required to provide the basis for management and enjoyment of living marine recreational resources.
- 2.4 Role

NOAA will engage only in those activities that are appropriately the responsibility of the Federal Government. It will encourage other Federal agencies, the States, local government, the academic community, and the private sector to cooperate and participate in such activities; and it will provide guidance and encourage them to assume responsibility for services and programs more appropriately theirs, remembering that unified management programs are the goal.

3.0 STATEMENT OF PROGRAM

In accordance with the findings, purposes, and principles outlined above, NOAA will undertake the following activities:

- 3.1 Insure that necessary information to manage marine recreational stocks is available on a timely basis to those with managerial responsibility.
 - 3.1.1 Develop the necessary data base for management in concert with the states, and manage living marine recreational resources for the optimum benefit of the recreational community through cooperative State-Federal programs.
 - 3.1.2 Identify threatened or endangered species, determine the potential of recreational stocks, and stress the importance of esthetic values.
 - 3.1.3 Determine equitable means of sharing resources, optimum levels of exploitation, and the needs of the recreational community; and provide for rational allocation among United States recreational and commercial fishing interests and foreign fisheries within the limits of optimum yield.
 - 3.1.4 Identify, as appropriate, the need for legislation at the State and Federal levels, or for international action.
 - 3.1.5 Determine the monetary value and estimate the non-monetary benefits accruing from the marine recreational fishing industry.
- 3.2 Provide improved opportunities to the marine recreational community through cooperative programs.
 - 3.2.1 Develop and provide information on when, how and where to fish and information on proper handling and preparation of catch.

- 3.2.2 Develop and increase access points close to fishing sites consistent with habitat preservation.
- 3.2.3 Improve and increase fisheries habitats through restoration projects, installation of artificial reefs or other means.
- 3.2.4 Increase fish stocks through fish production and planting.
- 3.2.5 Provide forecasts on fishing, weather and oceanographic conditions.
- 3.3 Provide and disseminate biological information on recreational fisheries resources and their habitat.
 - 3.3.1 Determine life history requirements and behavioral patterns of marine recreational and associated species, determine the condition and population structure of these species, and develop measures to restore, maintain or increase stock abundance.
 - 3.3.2 Determine the distribution and magnitude of catch and fishing effort.
 - 3.3.3 Quantify environmental stresses acting upon recreational fish resources, predict the effects of man-made or natural changes and recommend corrective action.
 - 3.3.4 Determine the energetics and fluctuations in density of the principal marine recreational stocks and their relation to the ecosystem and the total biomass.



SUBMITTED PAPERS



Photo credit: California Department of Parks and Recreation

KEYNOTE SESSION

INCREASING OUR ENJOYMENT OF THE OCEANS

*Robert M. White**

The pleasant duty of welcoming you to the First National Conference on Marine Recreation falls to me as the Administrator of the National Oceanic and Atmospheric Administration. This conference comes at an important time, for the Nation is now engaged in assessing how to use the oceans and its resources in the general National interest. While the energy and food resources of the seas have been justifiably at the center of our attention in recent years, the time has come to focus on making sure that the marine recreation, one of the most important uses of the seas, is given its proper due.

The time is propitious also, because the Coastal States are midway in their planning for the wise use of their coastal zones under the terms of the landmark Coastal Zone Management Act of 1972. It is for these reasons that we have asked you to meet with us to assist in a discussion of the issues surrounding marine recreation.

Until now there has been an absence of a focus for examining our national policy on marine recreation. The field has been considered as an aspect of outdoor recreation, which it is. It has been dealt with by many different groups in terms of recreational fishing or recreational boating, water safety and many others. We believe the time has come to look at the problem in a more comprehensive way to ensure that opportunities for marine recreation are preserved and enhanced. The National Oceanic and Atmospheric Administration is prepared to offer a focus to accomplish this and that is what this conference is all about.

We are most grateful to the University of Southern California Sea Grant Program for having taken the lead in arranging for this conference. We are seeking your recommendations on policies and programs that will help us to be responsive to the needs of marine recreation. Among you are representatives of many different organizations whose advice and assistance are needed. We have here today, representatives from industry, conservation groups, marine research teams from our colleges and universities, and representatives of State and local, as well as Federal government agencies.

It would be most useful, if it were possible, as a result of this conference, to define what some of our National marine recreational goals are. To this end, the conference will address five general topics. For each of these, we will need to ask what our goals are. For example, what goals shall we set on the allocation of marine resources for recreational use?

*Dr. White is Administrator, National Oceanic and Atmospheric Administration.

This is more than a generalized question. Each coastal state is now planning for the use of its coastal zone. It is planning on how it will be used, for industrial purposes, fisheries habitat protection, and energy facilities. What goals should we strive for in ensuring adequate consideration of marine recreation?

What environmental goals should we seek? Marine recreation is fundamentally dependent on the maintenance and the enhancement of the quality of the marine environment. Are there some aspects of marine environmental quality that are more important for marine recreation than others?

What are our goals for increasing the recreational use of marine resources through the application of science and technology? If we can define such goals, what are the implications for research and education?

Lastly, we must ask what some social, economic and legal goals are in recreational use of the coastal environment.

Nine workshop sessions have been organized to consider these topics from many different perspectives. I would like to review with you some of our thinking on these topics as a kickoff for the discussions that will follow.

What do we mean by the allocation of marine resources when we speak of marine recreation? We are talking about the problem of real or potential conflict between recreational and commercial uses of the marine environment as perhaps the most important of these. Disputes between commercial and sports fishermen over the catch of certain dwindling, or otherwise key species, is a prime example. Here, in California, it is no secret that how one manages the anchovy resource is a matter of some emotion between recreational and commercial fishermen.

Again, one of the major problems in managing the coastal zone is the allocation in a balanced way of coastal zone areas, not only for recreational needs, but also for economic and industrial uses. NOAA, as the responsible Federal agency for implementation of the Coastal Zone Management Act, is deeply conscious of the multitude of conflicting needs when questions of allocation of coastal lands and water arise.

When we talk of allocation of resources for marine recreation, we are dealing with some simple but very fundamental concepts. Take the simple idea of the need for space. Recreational fishermen, on a party boat, may be jammed elbow to elbow, and beach-goers in urban areas put up with unbelievably crowded conditions. Many fishermen, and many beach-goers, will pay more or travel farther for a bit of the feeling of simply "not being crowded." The problem is more serious than that. Natural habitats and wildlife are put under severe pressure by many high density uses. Consequently, recreational policy must certainly, as part of its considerations, recognize the need for low density as well as high density uses in allocating space for marine recreation.

A critical issue which invokes social, economic, and legal questions concerns access to the shoreline and near-coastal waters. It is often the distribution of marine recreational areas in relation to the distribution of people that is the problem rather than the supply of such areas. Questions of land title, and of private ownership versus public rights of access are constantly before the courts. Are there some ways we can deal equitably with such issues?

And then we come to the problems generated by technological change. Increased leisure which has generated the underlying need for more and better recreational opportunities, is a result of the rapid technological changes we have witnessed in our industry and agriculture. On the other hand, these same technological changes also create some of the most serious impacts on the natural marine environment. Offshore energy development, contaminants from industrial processes, industrial uses of our shorelines, tend to diminish certain kinds of recreational opportunities. Before we are quick to condemn, however, this same technology has provided the direct means for enjoying the marine environment. One need only look at the infinite variety of pleasure boats tied up at marinas along this California Coast if one wishes to see the other side of the coin. What is the wise course in dealing with many of the issues generated by technological change?

To focus some of the work of the conference, we have prepared two draft statements

which have been included in your conference materials. One of these deals with marine recreation in general, and the second pertains to marine recreational fishing. We have also drafted some basic principles for marine fisheries management which have already been endorsed by a number of recreational fishing and conservation organizations. The reaction of this conference to the views expressed in these draft statements would be useful in guiding NOAA in the conduct of our services and research activities.

What we wish to do, is to ensure that recreational values receive their fair share of attention among the many demands on the marine environment. However, we must be clear on what it is we want. We must also make sure that in the development of such information and in planning such activities, we have the participation of the broadest range of government and non-governmental groups working together.

Marine recreation means a need for many things. It means a need for marinas, boat landings, boatyards and fuel docks. It means living accommodations for those who would enjoy the seashore. It means access to the oceans and beaches. It means protection of habitats and nature reserves, both ashore and under water. It means the provision of advisory services and informational materials and the assurance of safety at sea.

As a matter of the most fundamental policy, we believe that marine recreational opportunities must be made available to the maximum number of people. The population concentrations of our Nation are principally along our coasts and the oceans provide a unique avenue for the interaction of our people with nature. While the National Oceanic and Atmospheric Administration is now responsible through a number of legislative enactments, such as the Coastal Zone Management Act of 1972 for key efforts that can establish the basic framework for our entire national marine recreational effort, no one Federal agency acting alone can bring about the achievement of broadened marine recreational opportunities.

The Department of the Interior through its general responsibility for outdoor recreation must of course be deeply involved. NOAA's responsibility is to ensure that the marine aspects of the National Outdoor Recreation Plan prepared by the Department of the Interior and approved in late 1973 by the Administration, are properly carried out. For instance, the National Marine Fisheries Plan, which NOAA is now preparing, includes many management implications for marine recreational fishing which must be coordinated with the nationwide outdoor recreation plan.

The Corps of Engineers, through its responsibilities in our coastal areas, is deeply involved with both recreational and environmental aspects. For example, the Mission Bay Recreation and Tourism Complex in San Diego is built around a Corps of Engineers' project. It cannot be said too often that marine recreation and water safety go hand-in-hand. Without the deep involvement of the Coast Guard, achievement of our safety goals would be impossible.

Since coming to Washington, nothing has been more indelibly impressed upon me than the sensitivity of the Federal/State relationship. Our commitment is to the maintenance of State or local prerogatives. Federal invasion of these prerogatives is not our intent. We believe that decisions should be made as far as possible at the local levels, and that the Federal Government should involve itself only in the establishment of broad national policies and guidelines. It must be careful to involve itself only in matters that have obvious interstate or international ramifications. It is for this reason that it is our policy to encourage not only the cooperation and participation of the other Federal agencies, but also to encourage State and local groups to assume as much responsibility as possible for the services and programs in meeting the needs of people who seek their recreation in the marine environment.

In the past several years NOAA has been moving in many of its programs to improve its attention to the needs of marine recreation. In 1974 I established the special position of Coordinator of Marine Recreation Programs, now held by your conference chairman, Phil Roedel. His first task was to inventory NOAA's programs which either directly or indirectly related to marine recreation. We have found that virtually every NOAA group is doing or

plans to do something that will have an impact on marine recreation. Six of NOAA's programs have major projects planned or in progress oriented to the support and enhancement of marine recreational opportunities.

Not unexpectedly, programs conducted by the National Marine Fisheries Service form one of the largest components of NOAA's recreational activities. Their focus at present is on marine game fish research. However, work is underway to strengthen our programs for marine recreational fishing. We are making sure that the National Marine Fisheries plan accords game fishing its proper place. We are stepping up our work on habitat protection, marine recreational fish statistics and the economics of recreational fisheries. In cooperation with coastal States, we are establishing National Marine Recreational Fishing Programs to improve opportunities.

Enjoyment of the ocean environment as we all know depends on the weather. We can't tailor the weather for our purposes, not yet at least, but we can and are increasing our attention to bringing weather forecasts to boaters of all kinds. Our new continuous radio weather broadcasts for marine interests on VHF/FM are now in place at over 70 locations around our coasts. The National Weather Service of NOAA is planning to expand these forecasts and warning services of meteorological and oceanographic conditions, specifically designed for quick and ready weather forecasts for those enjoying our coastal waters.

I know that you are all familiar with the nautical charts of our National Ocean Survey. We estimate that about 20 percent of our charting services are directed at small recreational craft. We are expediting production of nautical charts and other aids designed for small boat operators. Nothing is more important to the ability to enjoy the marine environment than these maps and charts.

I have previously mentioned the central importance of the Coastal Zone Management Program, and the fact that it is now beginning to provide a general national framework within which the individual States are planning for the rational use of their coastal lands and waters. I know of no single legislative act that will have greater implications over both the short and the long-term on the availability of marine recreational opportunities than the Coastal Zone Management Program. I would urge all of you who are concerned with problems of marine recreation to work closely with the planning groups in your States who are now putting together the proposals for management of the coastal zones to ensure that marine recreation has been given proper attention. Our office of Coastal Zone Management is now preparing guidelines for the preparation of the recreational aspects of these coastal zone management plans.

Lastly, but certainly not least, I come to our Sea Grant Program in NOAA. This conference itself is testimony to the innovative nature of that effort and the way in which that program through its projects in all of the coastal States can advance our goals in marine recreation. In each coastal State where we have Sea Grant institutions, projects which are now being conducted have many recreational implications. At the present time there are ten active projects at five institutions within the Sea Grant Program, directed at marine recreational problems. These range from studies of charter fishing on the Texas coast to recreational fishing on Puget Sound. We have projects on the east, west, and Gulf coasts and the Great Lakes. And through the Marine Advisory Services of the Sea Grant Program, we have a means of working closely and directly with local groups everywhere around our coasts on problems of concern in advancing marine recreation. I urge you to work closely with our Marine Advisory Service. Our Marine Advisory Service is there to help and is also there to listen. It is a means whereby we can find out what you are concerned about, so that our projects and programs can be organized to meet your concerns where this is feasible.

Unfortunately, there is not enough time or money to do everything we would like. However, we are interested in what you regard as the priority activities that we might undertake in the programs that are our responsibility. We have called this national conference to ask you to look hard at the prospects, the problems and issues in marine recreation. I'm sure that all of the other Governmental agencies, Federal, State and local, will also be interested in what it is you have to say, and how you regard present programs. I am looking

forward to the results of your efforts at this conference. I want to thank you for your help in making your time available. I know most of you would perhaps prefer to go fishing, but if this conference is successful, perhaps we can make the fishing even better. Thank you.

THE COASTAL RENAISSANCE

*Peter Tweedt**

First and foremost, let me tell you how sincerely sorry Nat Reed was that he couldn't be here. I can assure you that until yesterday he was planning on being here. I received last night a long and very eloquent speech that he had prepared and I think that indicates more than anything else his real intent to be with you.

I won't try to emulate his speaking style, but I do want to convey to you the message that he wanted to give you.

In looking over his speech last night, one phrase caught my eye. He referred to a *COASTAL RENAISSANCE* and he wanted to tell you a little bit about some of the things that he thinks are happening that may bring back this renaissance.

Last week I appeared on a panel with Don Walsh at the Marine Technology Society and the question before that group was why is there no national ocean policy. One of the reasons that I offered was that, until very recently, the public at large was not really concerned about ocean, coastal or marine matters. Government and most elected politicians respond to public opinion and public desires and have been much more concerned with issues that had nothing to do with coastal matters.

Now, in the past couple of years that has changed a great deal. For instance, two years ago in California we passed a coastal initiative on a state-wide ballot.

I think one of the biggest factors in the people's concern for our coastal environment has been the recreational aspect of the coastline. I realize that coming here to tell you about concern for the coastal environment, particularly recreation, is like making a bicentennial speech to the Founding Fathers; but nonetheless, I think you will agree that the overall public awareness of our coastal benefits has been a big motivator, particularly at the federal government level, to take a more active role in preserving and enhancing the coastline and its recreational potential.

Let me now get into some of what Mr. Reed wanted to tell you.

He began by making the fundamental point that the primary responsibility for marine recreation is lodged with the states. This foundation was laid first with the Coastal Zone Management Act of 1972, which devolves overall coastal management on the states and calls for them to produce coastal management plans.

The Coastal Zone Management Act disburses grants on a matching basis to the states for priorities such as the establishment of estuarine sanctuaries. In order to be eligible for the grant, a state must formulate and then get approval from the Department of Commerce Coastal Zone Management Program. This is similar to what our coastal commission has just created and now turned over to our legislature here in California. The Act provides that the federal government is required to carry out its coastal activities in concert with the state to the maximum practicable extent.

Similarly, the Bureau of Outdoor Recreation (BOR) makes matching grants for a broad

*Mr. Tweedt is Department of Interior Liaison with the State of California.

range of outdoor activities. In order to be eligible for these grants a state must have a BOR approved comprehensive outdoor recreation plan. Although no Act requires this, the federal government informally attempts to harmonize its recreation programs with the plans of various states.

A third federal program, called the 701 Program, is administered by HUD. It is mainly found in the Housing and Community Development Act of 1974 and it makes grants available to states which desire to carry out comprehensive policy planning. All marine recreation projects should be consistent with the land use element of the 701 plans.

If a state wants to weave together the fabrics of its state plan and its coastal zone management program and the 701 plan, it will be well on the way toward fashioning a good basket in which to carry away federal funds for marine recreation.

In addition to what the federal government does and what the individual states are doing, it is also very vital—probably more so on the East Coast where the states are smaller—that states band together if they are really to wage a national campaign for improved coastal recreation.

Some interesting new interstate ventures have occurred during the last couple of years and I'd like to tell you about three of them.

Under the auspices of the New England River Basin Commission, a federal-state partnership has conducted a comprehensive resource study in Massachusetts and Rhode Island. This is called the Southeastern New England Study and covers topics such as long-range growth, water supply, water quality, outdoor recreation, marine management, flooding and erosion, and utility facilities.

Among other things the study found that of the two states' 1,540 miles of coastal line, only 225 were readily available for public use. To improve this record and to satisfy the area's needs for intensive recreation, 21 specific recommendations were made by the study.

Among these were that the state should go forward with plans to acquire and develop the Boston Harbor Islands, and the Narragansett Bay Islands Park, introducing extensive access and well-developed day-use facilities. The plan also recommended that the state should fully develop facilities at existing beaches, and should acquire additional undeveloped beach areas for current and future needs, improve access, parking facilities, public transportation and introduce the use of shuttle buses from the urban areas.

This excellent study is just reaching the implementation stage. The 90-day period for comments on the first draft ended in August of this year. The Bureau of Outdoor Recreation was the primary federal participant in the study.

The Bureau of Outdoor Recreation also took part in the recently completed Long Island Sound Regional Study, comprising the states of New York and Connecticut. The main purpose of this study was to devise methods for arriving at cleaner waters, for preserving open space and for enhancing the recreational opportunities for the eleven million people in that particular region.

The major recreational proposal from the Long Island Study was for the acquisition and the development of 15 key parcels of land designated as the Long Island Sound Heritage to be used as new or improved beaches and parks along the shoreline. Quite shrewdly the study also earmarked several inland lakes and pieces of open space for acquisition and development in order to relieve the recreational pressures on the shoreline.

To connect certain islands and peninsulas with the downtown harbors, the study suggested the use of passenger-only ferries. Major facelifting was proposed for 15 harbors, including facilities for small boat rentals, launching ramps and moorings.

Decent public access to the water at regular intervals would be assured by a series of mini-parks with enough room for picnic tables, boat ramps and fishing piers. The mini-parks could be converted from public purchase lots or privately owned shore front property. There appears to be much that we can learn from this Long Island study.

The third study is a recently completed Great Lakes Basin framework study which involved a number of states. It sounds like the big ten: Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin. As well, a great many federal agencies were involved in the study.

Chapter 21 of this mammoth effort—the study in its entirety runs to 27 volumes with over 6,000 pages—treats outdoor recreation and was sponsored by the Bureau of Outdoor Recreation. If you are interested in having a section of this report, you may write to the Great Lakes Basin Commission, Box 999, Ann Arbor, Michigan, 48106.

These are some of the examples that I think particularly highlight regional cooperation.

It is well-known that the Department of the Interior offers marine recreation in scores of national seashores and national wildlife areas. What is not so well-known is that the National Oceanic and Atmospheric Administration has recently been authorized to designate marine sanctuaries. These sanctuaries may encompass ocean waters as far seaward as the outer edge of the Continental Shelf, coastal waters where the tide ebbs and flows, and the Great Lakes and their connecting waters. The areas are to be set aside for the purpose of preserving or restoring them for their conservation, recreational, ecological or esthetic values; and in making any such designation, the Secretary of Commerce must give due consideration to the views of the state involved. The practical effect of the designation is that all activities conducted within the sanctuary must be approved by the Secretary of Commerce. I am sure that the Department of Commerce would welcome recommendations for potential sanctuaries.

There are many other federal agencies which manage facilities or provide assistance in the coastal zone, but I believe I have covered the major recreation-oriented programs.

To conclude, let me make a sort of pledge that Mr. Reed made on behalf of the Department. I want to paraphrase it—really summarizing the basic Bureau of Outdoor Recreation policy on marine recreation.

First, that recreation should be considered the equal of other coastal zone uses.

Second, all land managing agencies should give a high priority to the acquisition of additional shoreline land to be held in perpetuity for conservation and recreation and compatible uses.

Third, every effort must be made to obtain and protect the right of public access to coastal areas.

Fourth, federal, state and local government and private land owners are encouraged to conduct marine recreation programs so to preserve coastal zone lands in as near a natural condition as is reasonably possible.

In addition, the Bureau of Outdoor Recreation stands ready and willing—and you know it does—to give all possible assistance to all persons, organizations and units of government that are interested in preserving and promoting marine recreation.

RECREATIONAL INDUSTRY—THE BOATING PERSPECTIVE

*George Rounds**

The organization of which I am Secretary, the National Association of Engine and Boat Manufacturers, is a national trade association representing manufacturers of boats, engines, accessories, hardware, and basic materials used in recreational boating. In addition, through

*Mr. Rounds is Secretary, National Association of Engine and Boat Manufacturers

affiliated organizations, we represent over 2500 local marine businesses such as dealerships, boatyards and marinas.

Let me be philosophical rather than technical for the moment. Where does the industry stand with relationship to the development of improved marina recreation? When we were chartered in 1904, our stated purpose was to "protect, promote, and advance the interests of the members." That covers a lot of ground, and in effect is *carte blanche* to the association to do whatever is necessary to improve the sport of boating and thereby the market for the members' products.

Within that framework, quite naturally, the industry has always been concerned about the availability of "boatable" waters and of boating facilities. Both NAEBM and our sister association in Chicago, Boating Industry Associations, have consistently supported efforts to maintain an acceptable boating environment and to develop to the extent possible, additional boating facilities throughout the nation. Over two decades ago, the NAEBM published the first design and construction book for marinas. That book still is the only comprehensive technical book on marina engineering. Several other publications have been added to the marina series over the years covering management and operations of marinas and the series is still in demand. Further, the NAEBM is sponsoring the biannual access conference to explore improved availability of boating and fishing waters throughout the U.S. for almost a decade now.

With a projected growth in recreational boating that will nearly double the number of craft in use in the U.S. by the year 2000—an estimated 16.8 million—it is inconceivable that the growth in boating facilities will ever catch up. At the present time there is indication, though little documentation, that there is and will continue to be for some time a serious shortage of boating facilities, particularly dock space for larger craft. And this shortfall in facilities will probably cause a slowing of the growth of boating in the years ahead.

The second concern of industry, and again one which we have turned some attention to, is the maintenance of an environment in which boating is enjoyable. Clean, quiet, accessible and uncrowded waterways are essential to the American public's continued enjoyment of boating. Although there are some individuals who have not agreed in the past, collectively the industry has been working toward powerplants that do not pollute, toward sanitary facilities ashore and onboard that treat the wastes, toward the development of facilities at the water's edge that do not present environmental shocks to the land or to the water.

We also recognize the absolute necessity of viewing, in fact of managing our natural resources to achieve equity among the various demands placed on those resources. In some respects, we feel that recreational boating is a non-extractive use of the water. With the proper equipment, an environmentally constructed and operated boat passes over or through a watercourse and leaves almost no trace of its passing. Can other recreational sources say the same thing?

However—and there is always a however, isn't there—the industry stands united against uninformed, misguided, damaging regulation that would unnecessarily restrict, and in some instances totally ban recreational boating. I am speaking of such regulation as the present marine sanitation device regulations from the Environmental Protection Agency, of local rules banning even the smallest of motors from ponds and lakes even though EPA's extensive tests reveal no severe damage to the aquatic environment, of environmental regulations that literally prevent normal maintenance and repair of shoreside facilities that have been in use for years.

The recreational boating industry also has steadily sought equitable distribution of funds from the Land and Water Conservation Fund to the development of boating facilities, putting back into the sport the percentage of the dollars that the fund collected from the sport, and in proportion to the source on a state by state basis. As a case in point, the state of Pennsylvania, which ranks 15th in terms of numbered boats in the U.S. with only 2.1% of the total, ranks first in total Land and Water Conservation Funds received for boating

projects, with a total of \$18,303,000, or 7.43% of the total funds allocated to boating since the Land and Water Conservation Fund came into being. By contrast, the state with more numbered boats than any other, Michigan, with 7.8% of the boats, ranks 11th in Federal funds received for boating projects, receiving \$7.2 million or 2.93% of the total dollars. On a dollar per boat basis, Pennsylvania has received \$128.34 per boat. Michigan, only \$13.53 per boat. The National average is \$36.22 per registered boat. A wide discrepancy, which we feel should be corrected, particularly since 15 plus percent of the Land and Water Conservation Fund is derived from the Federal taxes on fuel used in boats.

I will admit that industry's ecological conscience has been aroused. Where we formerly would view almost any available stretch of untouched waterfront or coastline as a potential boating facilities site, we now recognize the value of such coastline as natural habitat essential to the continuation of aquatic life. It is as important to us that there be undeveloped shores along which we can sail, as it is vital to the fisherman to maintain the life cycle of the sea through protection of tidal marshes.

Where is recreational boating at the moment? This could be a crucial time for boating. Already boating is being viewed with disfavor in some parts—as non-essential, as a befouling sport, as a rich man's plaything. And there may be some small justification for such feelings. But if we are to operate here on the premise that recreation, in its myriad forms, is an essential part of life, providing the regenerative periods necessary to cope with contemporary life-pressures, then we must consider boating (which includes fishing, sailing, water skiing, camping, picnicking, diving, racing) an essential part of the management plan of our aquatic resources. In the overall framework of marine recreation, the boat is more often than not the means to the end rather than the end in itself. Thus, provision must be made for boating facilities.

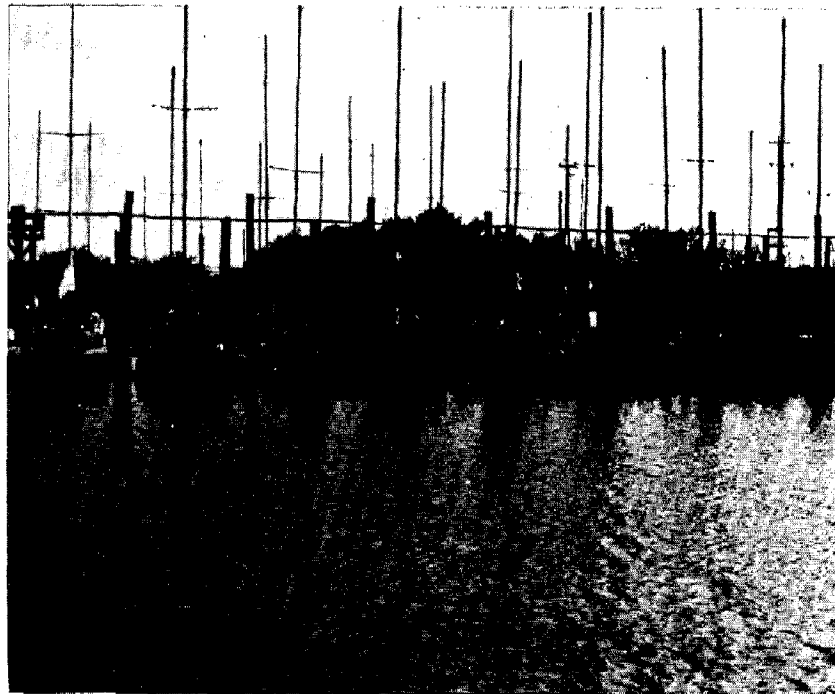


Photo credit: Rick Jarman

There must be a change in the concept of boating facilities development, however. No longer can we view the marina or the launching ramp as a strictly boating facility. With some rare exceptions, today's and tomorrow's planners are going to have to maximize the function of the waterfront park with facilities for the aged, the very young, the disadvantaged and the dyed in the wool landlubber. To achieve this, industry must constantly re-search new and more efficient ways to handle boats, both in the water and in on-shore storage spaces. If the engineers can conceive entire cities afloat, then marinas and boat service facilities can be engineered without need for more than a tenuous tie to the shore. Four years ago we were proposing that recreation planners look seriously at the urban waterfronts around the nation, waterfronts that in many instances were deteriorating, as potential sites for marine recreation facilities. Developments within the cities would bring marine recreation closer to the population centers and would serve to upgrade our urban shores. At the same time, adequate access to more remote areas must also be part of the overall plan.

Above all, we have urged members of the industry to become activists in the Coastal Zone Management scene and thus to work constructively for a balanced use of America's water resource. Some have accepted the challenge. Others will. Others must if recreation is to have a place alongside conservation, preservation, and economic utilization of our finite coastal resource.

Finally, we continue to deplore the minimal data base upon which long range plans are being built. We urge the generation of sound economic impact information of marine recreation on which sound decisions could be made and we pledge industry's support for this effort, to the extent possible.

THE OCEAN'S LIVING RESOURCES FOR MARINE RECREATION

*John Harville**

INTRODUCTION

Millions of Americans from all our 50 states annually converge upon the sea as major recreational outlet. Some go primarily to swim or boat, others just to enjoy the sun, the sand, and the cool sea breezes. And approximately 30 million per year push seaward primarily to go fishing. It is on fishing as recreational use of the ocean's living resources that I will concentrate my remarks this morning.

First I propose to highlight further the physical magnitude and importance of marine recreational fishing and its contributions in terms of economic benefits as well as recreational values. Second, I shall emphasize several pervasive principles that must be considered in management of the ocean living resources—not for recreational uses alone, but with particular concern for such uses. Finally, I shall note a series of needs and problems that must be solved if management of living marine resources is to be successful in meeting the accelerating demands of increasing numbers of people for all ocean resources.

*Mr. Harville is Executive Director, Pacific Marine Fisheries Commission.

IMPORTANCE, PRINCIPLES, NEEDS, AND PROBLEMS ASSOCIATED WITH MARINE RECREATIONAL FISHING

The 1970 National Survey of Hunting and Fishing estimated that for 1970 some 9½ million saltwater fishermen invested some 100 million recreational days to harvest more than 1½ billion pounds of finfish, an amount approximately equivalent to the commercial harvest of edible finfish for that same year. The dollar value of that 1970 recreational catch in terms of its worth had it been landed commercially is about \$244 million. If processed for retail sale, that recreational catch would have had a value of about \$750 million.

Of course those figures are only approximate, based on the best data available, which fall far short of the precision we should have for assessing the harvests of these valuable living resources. However, they do illustrate the order of magnitude of our marine recreational fisheries. To demonstrate further, in 1970 saltwater anglers spent an estimated \$1¼ billion while participating in marine recreational fishing activities—an amount almost five times the estimated ex-vessel value of their catch. In 1973, commercial saltwater recreational vessels such as charter and party boats received over \$85 million in gross revenues from recreational fishermen. This level of income places these charter and party boat operators fourth in value among U.S. commercial fishery operations—after tuna, shrimp, and Pacific salmon. Small wonder then, that services to recreational fishermen provide a dominant share of the income to a multitude of coastal communities—particularly when one recognizes that these direct costs of vessel services constitute only about 1/6 of the total expenditures by recreational fishermen. Costs of bait, food, and auto transportation are other major items of expenditure, all contributing heavily to the local and regional economy.

Two other components should be mentioned in this assessment of the importance of recreational fishing to our national planning for wise use of the oceans and their resources. First is the contribution made by this fishing activity to the nutrition of the fishermen, their families, and friends. True, there is some wastage, but the major share of the catch contributes high protein food of major significance, particularly to low income families. And by the way, it's no accident that in California that while licenses generally are required for all fishing, ocean angling from piers and jetties is license-free, a particular device to enhance both recreational and nutritional opportunities for those citizens in lower income brackets with special view toward urban problems.

The second component is an increasing use of living creatures for nonextractive use: natural history observations and photography from glass bottom boats, scuba and snorkel divers along our beaches and tidepools. These educational and recreational uses have increased so much in popularity and in participation that new legislation had to be enacted to manage these resources and new sources of funds had to be sought to provide management capability.

All of these uses of the living resources of the sea are increasing at a geometric rate—for example, the numbers of marine anglers and the dollar amounts they expended more than doubled in the 15 years from 1955 to 1970. However, as we consider national policy for use of ocean resources, the increasing demands of recreational fishermen must be viewed in a perspective which considers also other and sometimes competing needs. Dr. White effectively keynoted this problem for us this morning. Ocean anglers harvest some species which also are prime targets of important commercial fisheries. Recreational fishermen require increasingly scarce access facilities—roads, piers, launching ramps, marinas, boat storage and service areas—often in areas where commercial fishermen, boaters, swimmers, and maritime industries have competing needs. And all users depend ultimately upon protecting and maintaining the integrity of an array of interlocking aquatic ecosystems, a matter of particular concern to environmentalists and non-extractive users of those resources.

As Dr. White emphasized, certainly it is fitting that this National Conference focus

particular attention upon problems of allocation of marine resources—and I join you in looking forward with much anticipation to what Frank Christy has to say on this topic at today's luncheon. Clearly we need to direct increased energy and ingenuity toward accommodations among users toward a goal of compatible multi-use wherever possible. However, even with our best efforts there still will be hard choices to make as more and more users seek a share of increasingly scarce resources. We desperately need a rational publicly accepted policy to guide our decision-makers in these choices, and those decisions must be based on data and methodology that permit objective assessment of public benefits from alternative uses and use programs and Dr. White this morning urged your solid input to formulation of these policies.

This recognition of the problems we face in allocation of resource benefits leads naturally to the second general area I wished to touch briefly this morning—that of certain fundamental principles which I believe must be cornerstones of national fisheries management. One of these relates in part to the allocation problem, and stems from the public mandate under which fisheries agencies operate. The fundamental obligation of every public fisheries agency is protection of the stocks upon which fisheries totally depend. This includes the corollary responsibility for safeguarding the habitat which nurtures those stocks. Implicit in this mandate is management of the use of those stocks in the public welfare—for optimum public benefit—and this includes holding open options for future choices as to just what constitutes optimum public benefits.

Let me repeat—the first obligation of every fisheries agency is to the stocks of living organisms within its purview—and every user group should be glad that this is so, since any but the most short-sighted and selfish goals must be predicated upon the constant renewability of those living resources. Secondly, the agency has concern for the effective and equitable distribution of the harvest of those stocks, since herein lie the public benefit factors which must be satisfied and publicly approved in a democratic society.

This dual responsibility of management—first to the protection and perpetuation of the resource and second to the equitable distribution of benefits to the public—is a basic principle well summed up in the classical definition of wildlife conservation and management as wise use of living resources. We have used these words for years, but not always with adequate recognition of their full implications. Today more and more fisheries scientists are broadening their purview beyond preoccupation with the welfare of the stocks alone, and are recognizing the broader implications of resource use. This leads inevitably to concerns for equitable allocation of benefits and the economic and social wellbeing of users. Thus the 1975 National Plan for Marine Fisheries has as its first goal the protection of the stocks, but in a context of their wise use.

The other three goals relate to categories of use—to improve the contribution of marine resources to recreation and other social benefits; to develop and maintain healthy commercial and recreational fisheries industries; and to increase the supply of wholesome, economically priced seafood products to the consumer. It is this recognition of broad goals for resource management which has led to the concept of optimum sustained yield, or better, optimum utilization of fisheries resources, rather than the simplistic single purpose goal of maximum sustained yield with which fisheries biologists have been preoccupied for decades.

Let me emphasize here the need for the public also to accept a use concept—a wise use goal for fisheries management. In recent years particularly, various public enthusiasms have had the effect of setting aside this concept on a species-selective basis, overlooking the biologic potential of living species for self-renewment, and the need therefore for some limiting factors as a check upon their numbers. As a case in point, some marine mammal species in some areas and circumstances clearly require special protection, as do other potentially endangered species. However, other marine mammals under other circumstances are in no way endangered, have high reproductive potential and great population strength. Making them unharvestable places them outside the wise use concept, and forces marine

resource managers to attempt the impossible task of operating according to a double standard, permitting the controlled harvest of major portions of the particular ecosystem, but on the other hand sequestering key predators within that system from any management controls.

The final major principle I should like to emphasize this morning may be defined as the ecosystem approach to resources management. Again the term ecosystem is today widely used, embracing the plants and animals of a particular community or interlocking array of communities, plus the sum total of geologic, physical and chemical factors which shape and control that community structure.

This ecosystem concept immeasurably extends and complicates the purview of the fisheries scientist and manager, who now must consider not only the species of primary responsibility, along with their predators, food sources, and other life needs, but also a broad array of competing or otherwise ecologically related species, plus all the chemical, physical, and geologic elements of the ecosystem.

The concept also requires a mature awareness on the part of the public of man's predominant and irreversible role in the ecosystem. Once man invades any ecosystem and significantly modifies it, he becomes an integral part of it. Because of man's unique capabilities for continued perturbation of that ecosystem, he must accept a responsibility for some degree of its continued management.

To some significant degree, man has invaded all the earth's ecosystems, if not with his actual physical presence, then with the modifying impacts of his technology in the form of pollutants. In those systems where his presence has made major modifications, which means all of the ecosystems subject to fisheries management, man has heavy responsibilities to wisely manage those systems as modified by his presence. Dearly as we might wish it, there is no turning back of the clock with respect to this ecological responsibility. Ecosystems must be defined and managed in terms of today's realities of animal and plant distribution, and particularly in the context of man's past impacts upon, and future needs for the marine environment.

In this brief overview, I have sought to emphasize the burgeoning significance of marine recreational fishing in the United States—a major recreational outlet for some 30 million Americans, and a source of significant income to coastal regions and communities, and a contributor of valuable protein foods to the national nutrition. I have also highlighted certain fisheries management principles I consider cornerstones to national management policy—the wise use concept, with its implications for optimum utilization of marine resources and equitable allocation of harvests and other benefits—and the ecosystem concept as it effects both the complexity of the manager's responsibilities and the public's attitudes toward management.

Let me close by merely listing as questions some of the problems I believe we must face—and solve—if we would meet our public obligations for wise management of marine resources generally, and benefits to recreation particularly.

First, can we educate ourselves and our governing public to the realities of the principles I have reviewed this morning, and can we from there generate the necessary political will for a truly rational and productive fisheries management program?

Secondly, are we prepared to proceed without delay in implementation of obviously needed action programs in operational support of rational fisheries management? The National Plan for Marine Fisheries, developed just this year by NOAA and NMFS with broad national participation and input, offers us some useful suggestions for such programs.

With respect to improvement of recreational fisheries, this plan emphasizes first of all the need to improve our informational base concerning fish species of recreational and other importance, increasing our fundamental biological and ecological researches into these species and developing a nation-wide data base not only concerning the fish, but also the fisherman, their fishing efforts and catches, and the economic implications of those activities.

The plan also calls for nationwide licensing by states and/or the federal government of marine anglers and for enlistment of their participation actively in research and monitoring of the fisheries.

The plan also addresses the needs for increasing amounts and kinds of fisheries resources available to marine anglers and the need for increased access for anglers and recreationists to fishing shorelines, waters and fish. Finally it addresses the need to assist as appropriate the commercial enterprises which service marine anglers and other recreationists. The ultimate goal is to assure that the commercial operators, along with all other components of U.S. commercial fisheries, have the best possible opportunity to continue as viable components of the free enterprise system.

My third and last question, can we assist to develop the inputs to national planning which Dr. White so urgently requested today? Can we identify and state clearly our goals for marine recreation? In view of practical limitations of time, money and manpower resources, can we establish realistic priorities for work toward these goals? Can we evaluate, revise and ultimately adopt any or all of the policy statements which have been furnished us as working documents for this conference? Workshop leaders and rapporteurs, I believe your work is cut out for you!

And hopefully, through the discussions planned for this Conference on Recreation—Marine Promise, we shall achieve some sense of our levels of commitment to these goals and therefore, of our capabilities for their achievement.

TEXAS—A PIONEER IN OPEN BEACHES

*Keith Ozmore**

I wish to thank the National Oceanic and Atmospheric Administration for the opportunity to appear here today as a panelist in The National Conference on Marine Recreation and to commend the Sea Grant Program at the University of Southern California for its participation. I also want to thank Dr. Robert Ditton, of Texas A&M University for the part that he has played.

I know of no areas which can provide more recreation for a greater number of citizens than those along the nation's coastline. Later in this paper I want to present data which will bear out the need for increased recreational opportunities on the beaches. However, I would first like to discuss the role that Texas has played in the beach access problem.

Texas has been a pioneer in the field of open beaches for more than a century. In 1859, Justice Oran M. Roberts¹ ruled that the State of Texas owned the foreshore up to the line of vegetation, or the demarcation of the mean highest high tide. This ruling stood for exactly 100 years, and so far as I can determine, there was little effort, if any, to restrict the use of the beaches by the riparian owners during that period.

However, this situation was not to last forever. In 1959, a seemingly run-of-the-mill mineral rights case was litigated which involved 3,365 acres of mud flats which were not even located on the Gulf of Mexico. J. W. Luttes, a colorful rancher who toured his vast acreage in a tobacco-stained Cadillac, claimed ownership of the mud flats which had been built up by accretion for many years and which faced Laguna Madre, on the bay side. The

*Mr. Ozmore is Environmental Assistant to Congressman Bob Eckhardt, 8th District, Texas

State also claimed ownership. As a result, Luttes brought suit² in Cameron County, Judge James S. Graham presiding, and Judge Graham found for the State, a decision upheld by the Waco Court of Civil Appeals. A re-hearing was denied by the Texas Supreme Court on December 10, 1958, and a second motion was denied on May 6, 1959. This case, in itself, may not have set off a mad scramble for control of the beaches, because it did not involve beaches on the open sea, had it not been for the fact that Humble Oil and Refining Company had appeared as *amicus curiae*, asking that the court also determine the private property line on the Gulf side of the island.

The Texas Supreme Court, in its ruling, found that the seashore in Texas under Spanish law is the line of mean higher high tide, or a line established by averaging the highest diurnal tide over the period of a lunar cycle, or 18.6 years. Since this line does lie seaward from the line of vegetation, one can see how it could alter the public use concept of that area of dry sand immediately adjacent to the line of vegetation.

When the motion for re-hearing was denied on May 16, 1959, owners of beach-front property on West Galveston Island saw the ruling as a basis for fencing off the beaches in front of their subdivisions, in effect creating private beaches. Almost overnight, barricades of railroad ties and huge creosoted posts sprang up like mushrooms. By the middle of mid-summer 1959, an estimated one-third of Galveston's 32 miles of beachfront had been fenced off from the public. One can imagine the furor which resulted when thousands of beach-goers, hitherto unhindered, found their beaches barricaded and bearing "Private Beach—Keep Off" signs. They reasoned that if those who loved the sand and the sea could be excluded from the Galveston Island beaches which had been used freely by the public, then certainly the same exclusion could be extended to Bolivar Beach to the East and Matagorda to the West, as well as to all beach front where private owners held the littoral lands. An aroused public demanded that action be taken to keep the beaches open.

Fortunately, the Texas Legislature was in session at the time. Bob Eckhardt, then a member of the Texas House of Representatives, began to draft an Open Beaches Bill. Within days, he had 77 co-signers on the bill, which would recognize the public right to use the beach back to the vegetation line, or if there were no vegetation line, to a point 200 feet inland, unless it could be shown that the public had lost this right by grant and had no such claim through prescription. Representative Eckhardt was successful in getting the bill out of the House, even though its opponents tried to deal it a crippling blow by an amendment striking out an important provision establishing a presumption in favor of the public prescriptive right. The vote in the House was 113-23.

However, problems developed in the Senate. As public support grew, special interest opposition also increased. Senators from Angleton and Houston rigged up a bill which really provided no public protection but was replete with ringing phrases about the public interest. In short, the movement to save the beaches was thwarted in the regular session, but Governor Price Daniel opened a special session for consideration of the bill.

Senator George Parkhouse prevented consideration of the bill in the Senate, however, by having it "tagged," making it subject to full committee hearing and notice proceedings. This prevented its being acted upon before the end of that session. When the second special session opened a few days later, however, H.B. 14 was one of the first to be introduced. It ran into another delay when the Committee on Conservation and Reclamation sent it to the State Attorney General for a ruling on its constitutionality. Failure to pass the bill in the first session had given its opponents time to muster their forces. These were members of the Chambers of Commerce, big land owners on the seashore and a group of Dallasites who were planning commercial exploitation of Padre Island before the area became a National Seashore under Senator Ralph Yarborough's S. 4 (Public Law 87-712.)

Meanwhile, in the Senate, the "simplified" Open Beaches Bill had been re-introduced by Harris County's Senator Robert Baker and Senator Jimmie Phillips of Angleton. This bill provided that the public should have the "free and unrestricted" use of "state-owned beaches". When you analyze that description, you can see that the public was being given absolutely nothing it did not already possess. It already had the right to use the foreshore

between mean low tide and mean higher high tide, as defined by the Texas Supreme Court. It meant that "the public owns what it owns". A Houston Post story made a graphic presentation, showing that Senator Baker's bill would provide from zero to 15 feet of beach for the public. The Eckhardt bill would provide approximately 100-200 feet. Representative Eckhardt called the Phillips-Baker Bill the "Volkswagen Beach Bill"—it would have permitted a Volkswagen to dash down West Galveston Beach at low tide if it returned before the tide came back in.

Eventually, the people won. When the showdown came in the conference committee, Representative Eckhardt substituted his bill for the Phillips-Baker bill. Thus, in the end, the conference committee, originally stacked eight-to-two against Representative Eckhardt, reported out a bill containing the salient features of his measure. It was enacted just one day before the second special session ended. Had Representative Eckhardt not been successful, we might have well lost our fight. Any delay would have permitted a re-grouping of anti-public beach forces, and we might never have been able to get such a statute on the books.

PROVISIONS OF THE ACT

I shall now discuss briefly the salient provisions of the Texas Open Beaches Act.³ Section 1 of the statute is a finding that it is the public policy of the State that the public shall have the free and unrestricted right of ingress and egress to and from the state-owned beaches bordering on the seaward shore of the Gulf . . . in the event the public has acquired a right of use or easement to such area by prescription, dedication, or has retained a right by virtue of continuous right in the public. It also prohibits any person, corporation, association or other entity to barricade, or in any way restrain the public from the use of such beaches. Regarding the constitutional right of one to use his own property, I would point out that this Act specifically provides that nothing in it shall be construed as in any way affecting the title of the owners of land adjacent to the state-owned beach bordering on the seaward shore of the Gulf, or to the continuation of fences for retention of livestock across sections of beach which are not accessible to motor vehicular traffic by public road or beach. In other words, in areas where the public has never established such a prescriptive right and where the littoral owner uses the land down to the water's edge, as is done on some big ranches, the Act does not prohibit the owner from continuing those practices. The Act also provides that it shall not apply to the beaches on islands and peninsulas that are not accessible by a public road or ferry, *so long as such condition shall exist*. Thus, there may be remote beaches that may eventually be opened up to the general public via a road or ferry. In such a case, the public could then assert such right as it may show under the terms of the Act.

Section 2 specifies that a showing that an area in question is embraced within the area from mean low tide to the line of vegetation shall be prima facie evidence that:

1. The title of the littoral owner does not include the right to prevent the public from using the area for ingress and egress to the sea; and that
2. There has been imposed upon the area subject to proof of easement a prescriptive right or easement in favor of the public for ingress and egress to the sea.

In Section 3 the term "line of vegetation" is defined and it is provided that where no line of vegetation exists the public easement shall extend to a point no farther than 200 feet from the seaward line of mean low tide . . . until such time as a final court adjudication shall establish this line in another place.

Section 5 provides that the State Attorney General, any County Attorney, District Attorney, or Criminal District Attorney shall file actions seeking court orders or injunctions to remove any obstruction or barrier which restricts the right of the public to have free and unrestricted ingress and egress to and from the beaches, in the event the public has acquired a prescriptive right to use such beaches.

Section 6 gives the littoral land owner the right to bring suit for a declaratory judgment against the State to try such issue or issues.

Section 7 authorizes a study committee to look into development of the state's beaches. The Interim Beach Study Committee of the Texas Legislature is a result of this section, and it has done an excellent job.⁴

Section 8 was added as an amendment to the Act in 1965 when it became apparent that traffic problems were developing on West Galveston Beach, which is only an hour's drive from metropolitan Houston. This section authorizes the Commissioners Court of any county to regulate or restrict motor vehicular traffic and the littering of such state-owned beaches, where the public has acquired the prescriptive right. This right has been used by some to again create private beaches, a matter I shall touch upon later in a discussion of litigation under the Act.

These, then, are the major provisions of the Texas Open Beaches Act.

THE LITIGATION

On April 4, 1961, the State of Texas brought suit against the Seaway Company, Inc.⁵, alleging infringement on the public right to the beaches and asserting authority of the Attorney General to act under the Open Beaches Statute. The case was tried before Judge L. D. Godard, Jr. for just over two months. And the State went into court well-prepared. For two years, citizen groups had been hard at work finding witnesses—some of whom are now dead—who could testify as to long-standing use by the public of Galveston's West Beach. Typical of these was a Mr. Cordray, who was 82 at the time of the trial. He testified that, as long as he could remember, the public had used the area in question without having to receive permission from anyone. He also recalled others whose memories went back further than his, recalling that a public stage coach operated between Galveston and San Luis Pass along the hard-sand area using it as a public highway. Evidence in the form of old maps showing roads traversing the beach was introduced. These dated back as early as 1845. A News article, dated April 13, 1841, told of the stage coach operations, referring to wetting of the horses' feet by the sprays of the sea and to the music of the ocean heard as one traveled. All told, ten witnesses from the general public appeared on the part of the State. Most of these were recruited by the active citizen groups which had originally generated the strong support for the Texas Open Beaches Act.

The Jury found for the State, and the court ruled that the beach had been used continuously by the public since a time before 1840 as a public way and for use in recreation and that it had been dedicated for use by the public by the owners' predecessors in title. It also found that the beach had been dedicated for use by the public even before the Jones and Hall grant, dated November 28, 1840 and that the public had exercised peaceable, adverse and continuous use of the beach for a consecutive 100-year period during a period from November 28, 1840, to 1947 for swimming, fishing and camping. It further found that the public had used the beach as a public way for pedestrian and vehicular travel and that for more than 25 years preceding the erection of barriers, funds had been expended by Galveston County for maintenance of the beaches for such purposes with the knowledge and acquiescence of the owners.

The property owners appealed to the Court of Civil Appeals and the decision of the District Court was upheld there. The Texas Supreme Court on March 5, 1964, denied a writ of error. Technically this case involved only two property owners on West Galveston Beach. But the testimony related to the whole of West Beach. I will turn now to more recent litigation which sought to bring about an identical ruling along the entire West Beach, a distance of approximately 18 miles.

On June 8, 1970, Timewealth Corporation, one of the property owners, filed suit against the State of Texas and on June 29, 1970, the state filed a countersuit⁶, joining 261 property owners along the entire beach front, charging violations of Article 5415d. The case

moved slowly. In the meanwhile, Timewealth became bankrupt and lost interest. A pre-trial conference was held in the Spring of 1973, and the case was set for trial for October 29, 1973 in the 122nd Judicial District Court in Galveston. However, the new Attorney General discovered many errors had been made in serving papers upon owners with land fronting on the beach, sometimes with as many as one or more previous owners being served. It took several months for state officials to straighten out the situation.

Early in 1972, some private citizens interested in the public right to the beaches desired to be separately represented so that no out-of-court agreement could be made which might, in their view, restrict the public right so they intervened on the side of the state on May 8, 1972. Finally, after several delays caused by the mixup in serving papers, the case against some 250 defendants went to trial on August 6 of this year in the courtroom of the same Judge Godard. The state presented its evidence on August 6-7, and Judge Godard recessed the case until September 8. When the trial resumed, two defendants who had not appeared in court on August 6 presented their evidence. For the defendants who had never answered the summons, the court entered default judgments and for those who had answered but who never appeared in court, the judge ordered judgments entered. Now let me review the three different types of judgments agreed to by the defendants and the State.

First, the State entered into a judgment with six defendants which Rep. Eckhardt considered to be the best of the three. It provides a definite "rolling easement"—that is, the public right to an easement moves with the line of vegetation as it recedes. The language is clear. It reads: "The easement above described shall apply to the said beach between the line of vegetation wherever said lines may be now or at anytime in the future so that such easement will always cover the area between such two lines as they may exist at any given time." This absolutely protects the right of the public without requirement for further litigation.

The second judgment agreed to by 30 defendants contains a qualified "rolling easement." It provides that those structures, including residential houses now existing or to be built, which at any time become located between mean low tide and a point 200 feet inland may continue to be used by the riparian owner. However, such structures shall not be added to, materially altered, or improved; and if such structures are destroyed by any means, shall not be re-built within 200 feet of mean low tide; and that the public shall continue to have the free and unrestricted right of ingress and egress to and from the beach and the free and unrestricted lawful and legal use and enjoyment of the area, excluding the structure, from mean low tide to 200 feet inland.

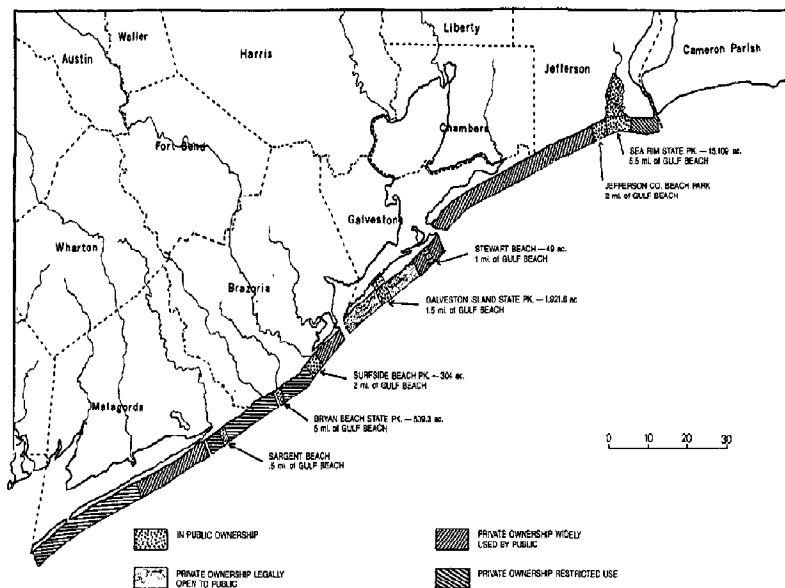
The third judgment, and the least desirable, was agreed to by some 200 defendants. It refers in no way to a rolling easement, and includes as an Exhibit A a survey showing the present vegetation line. However, we have been assured by the Attorney General that it is his belief that if the vegetation line recedes, it will be possible to go back into court and prove that the public easement moved with the vegetation line. This seems feasible, since much of the state's case rests upon the fact that the public acquired the easement in the first place by using it for decades, and certainly the easement line of vegetation did not remain static during all those decades.

With these judgments, for all practical purposes the Texas Open Beaches litigation on West Galveston Beach is over. However, there probably will be further litigation along the Texas coast. There are several beaches along our coast upon which there has been no litigation, such as Bolivar stretching toward Orange and Port Arthur on the east, and the stretches along Matagorda Peninsula, both used by tens of thousands of beach-goers annually. Some day, there may well be a developer who again would try to restrict the public usage of that easement, and again the Texas Attorney General would use the Texas Open Beaches Act. It may not be quite as easy to prove the prescriptive easement on these stretches, since we will not be able to introduce evidence that a public stagecoach ran along those beaches. However, each year that the public uses those beaches unrestricted, it certainly will make it somewhat easier to prove the public right. One must remember that under the Act, the burden falls upon the littoral owner to prove that the public does *NOT*

have such a right—not upon the state or the public to prove that it *DOES* have such a right.

In other areas, such as St. Joseph's Island and the less accessible mainland areas as the beaches southwestward of Freeport, there has not been such wide public usage. In these areas, it may be extremely difficult, if not impossible, to prove that the public easement exists. In such situations, it is hoped that the National Open Beaches Act will have been enacted, and the State could qualify for 66 2/3% funding with which to purchase the beach or to buy an easement upon the beach.

We are proud of Texas' record on open beaches. With the help of the office of Texas Land Commissioner Bob Armstrong, I have put together a chart showing various aspects of the Texas beach situation. We now have a total of 125 miles of beach in actual public ownership, ranging in size from half a mile long to the Padre Island National Seashore, with 80 miles of beach front. Through the West Beach litigation I mentioned earlier, the public has legally acquired the right to use the beach on 16 miles of that area. In addition, the public is continuously using an additional 129 miles of beach, and of course, the longer it uses those areas, the more difficult it will be for the littoral owner to prove that the public does not have a prescriptive easement there. There are an additional 101 miles of beach to which there is no ready accessibility by the public and upon which there is less public use. These are the areas upon which there is little chance, if any, of proving the public easement and upon which we will need to purchase the beach in fee title or perhaps to buy an easement for the public. Out of the total Texas beach front of 371 miles, the public has an unhindered use of 37.5%. When one includes the additional 129 miles which the public is presently using, but which has not been litigated, it means that the public has access to a total of more than 72% of the Texas coastline.



THE NATIONAL OPEN BEACHES ACT

Now, I would like to turn to a discussion of the National Open Beaches Act⁷.

In the United States, including Alaska, there is a total of 84,240 miles of shoreline, with only about four per cent of that shoreline available for public recreation⁸. However, since Alaska accounts for 47,300 miles of that shoreline, I will address my remarks to statistics for the remaining 49 states. In those states, there are 35,940 miles having beach frontage, some of which is on the landward side of barrier islands and peninsulas, and thus not subject to the legislation I will be discussing. Of the total shoreline in the 49 states, only 3,400 miles, or about nine per cent, are open for public recreation including the nine National Seashores, with a total of 467 miles, and an undetermined number of miles on bays and estuaries, many of which have no beaches. Yet most of our population lives near the sea and finds the use of the beach inviting and relaxing. The population near the sea is increasing. In Texas, for example, in 1940, only 2,306,737 persons lived in the Coastal Zone of Texas. In 1970, such a figure had almost doubled at 4,457,150. More than fifty per cent of the residents of Texas today live within a radius of less than 100 miles from the coastline. By the year 2000, it is predicted that more than 12 million Texans will live in the Coastal Zone, a population equivalent to that of the entire state in 1970. Furthermore, more than seventy-five per cent of the state's entire population live within a four and one-half hour drive from the coast.

The national situation is similar. In 1965, out of a total U.S. population of 193.7 million, 160.1 million (82.6%) lived in coastal states, with 82.1 million (or 42.4%) living in coastal counties. In 1975, it is predicted that the total population will be 214.4 million, with 178.6 million (83.3%) living in coastal states and 93.7 million (43.7%) living in coastal counties. In 1985, with an estimated population of 240.7 million, 201.9 million (83.9%) will live in coastal states, with 108.2 million (44.9%) living in coastal counties.

It is estimated that if every person in the world went to the beach at the same time, each individual would have about five inches of shoreline⁹. These calculations applied to California, would give only about one-fourth inch of beach per capita¹⁰.

Actual use of New York beaches further illustrates the crowding and the need for opening more beach frontage for public uses. Annual attendance at the major public beaches on Long Island totals more than 70 million. The most extensively used area is at Jones Beach State Park, with an annual attendance of about 13 million, equivalent to six million per mile for the developed area. On the outer part of the island, at Robert Moses Park, the annual attendance of two million would indicate an intensity of about 500,000 per mile.

Please note that these figures are for a beach in the North, where most of the usage is in the mid-summer. But in the South, Texas for instance, our beaches get some of their heaviest usage, particularly on weekends, in Autumn. During 1970, coastal recreation and tourism brought more than 4.3 million tourists to the coast of Texas, resulting in expenditures of more than \$190 million¹¹.

PROVISIONS OF THE BILL

I shall discuss briefly provisions of H. R. 1676, introduced by U.S. Representative Eckhardt on January 20, 1975, and referred to the House Committee on Merchant Marine and Fisheries. This bill is a slight modification of the one he introduced in the 93rd Congress, and on which hearings were held on October 25-26, 1973¹², by the Subcommittee on Fisheries and Wildlife Conservation and the Environment. The purpose of the changes was to provide that the Act would amend the Coastal Zone Management Act of 1972 (Public Law 92-583), since that statute addresses the problems of beach access.

Section 315(a) of H. R. 1676 defines terms used in the Act, including "line of vegetation," in much the same way as it is defined in the Texas Act. It specifies that the Act shall apply to the Atlantic, Pacific, and Arctic Oceans; the Gulf of Mexico, the Caribbean and Bering Seas, and the Great Lakes.

In Section 315(b) it is found that the beaches, by reason of their traditional use as thoroughfares and havens for fishermen and sea venturers, and the necessity for them to be free and open for use in shipping, navigation, salvage, rescue and recreation, are impressed with a national interest and that the public shall have free and unrestricted right to their use as a common to the full extent constitutionally possible.

Section 315(c) prohibits any person from creating, erecting or maintaining any obstruction, barrier, or restraint of any nature which interferes with the free and unrestricted right of the public to enter, leave, cross, or use as a common the public beaches.

Section 315(d) authorizes the U.S. Attorney General or a United States Attorney to:

1. Establish and protect the public right to beaches.
2. Determine the existing status of title, ownership, and control.
3. Condemn such easements as may reasonably be necessary to accomplish purposes of the Act.

Section 315(e) provides rules applicable to considering the evidence in all cases brought under Section 315(d). Such provide that a showing that the area is a beach shall be prima facie evidence that:

1. The title of the littoral owner does not include the right to prevent the public from using it as a common.
2. There has been imposed upon the beach a prescriptive right to use it as a common.

Section 315(f) stipulates that individual states still would maintain ownership of its lands and domains; would control the public beaches in behalf of the public; and would have the authority to perform state public services, such as reasonable zones for wildlife, marine and estuarine protection. All interests in land recovered under authority of the Act would be treated as subject to the ownership, control and authority of the State as if the State itself had acted to recover such interest. However, the State must participate in acquiring such interest by providing matching funds of not less than 33 $\frac{1}{3}$ % of the value of the land condemned.

Section 315(g) sets out the desirability of the States and the Federal Government to act in a joint partnership to protect the rights and interests of the people in the use of beaches, and sets out actions which are applicable by the Federal Government and the States. It also instructs the Coastal Zone Management Advisory Committee to advise, consult with and make recommendations to the Secretary of Commerce on matters of policy concerning administration of this section.

Section 315(h) places at the disposal of the States the facilities of Federal agencies for implementation of the Act.

Section 315(i) authorizes grants to States in the amount of 66 $\frac{2}{3}$ % of the cost of planning, acquisition, or development of projects designed to secure the right of the public to beaches where the State has complied with this title and where adequate State laws are established to protect the public right.

Section 315(j) authorizes the Secretary of Transportation to provide financial assistance to States for development and maintenance of transportation facilities necessary in connection with the use of public beaches, if such State has defined and sufficiently protected public beaches within its boundaries by State Law. These funds could be used to construct access roads, parking lots and adjacent park areas, as well as related transportation facilities.

¹City of Galveston v. Menard; 23 Tex. 349

²J. W. Luttet et al v. State of Texas; 324 S.W. 2d 167.

³Article 5415d, Vernon's Civil Statutes of Texas.

⁴Footprints on the Sands of Time, a Report of the Interim Beach Study Committee, Texas Legislature, 1970; State Senator A. R. Schwartz, Chairman.

⁵Seaway Company v. Attorney General, 375 S.W. 2d 923 (Tex. Civ. App. 1964)

⁶Case No. 108,156, filed in the District Court of Galveston County, 122nd Judicial District, and originally styled as Crawford C. Martin, Attorney General of Texas, et al v. Mitchell-Dobbins Land Corporation, et al. Cause has been re-styled as John L. Hill, Attorney General of Texas, et al v. West Beach Encroachment, et al.

⁷H. R. 1676, introduced in the U.S. House of Representatives on January 20, 1975.

⁸Report on the National Shoreline Study, Department of the Army, Corps of Engineers, August, 1971.

⁹Inman and Brush, The Coastal Challenge, 181 Science, July 6, 1973, at 26-27.

¹⁰The Los Angeles Times, Sunday, October 12, 1969.

¹¹Texas and the Gulf of Mexico, Texas A & M University, September, 1972.

¹²Proceedings of the Hearings by the Subcommittee on Fisheries and Wildlife Conservation and the Environment of the House Committee on Merchant Marine and Fisheries, dated Oct. 25-26, 1973.

MARINE RECREATIONAL NEEDS An Environmentalist's Perspective

*Michael McCloskey**

I was asked to present an environmentalist's perspective on the subject of marine recreational needs. My comments are directed at the subject in the context of planning for the coastal zone, and my remarks may go somewhat beyond the current state of the art.

At the outset, I would like to define the terms we are using in an environmental frame of reference. The words "marine recreation" should be used in the context of planning appropriate uses along the coastline (or major water bodies). I think it can be assumed that it is obvious that the coastal zone is an extra-ordinary and unique place which requires special attention in planning. Thus, environmentalists focus on those types of recreation which depend on the coastal setting and are rooted in an appreciation of its distinctive character. These are uses which cannot readily take place elsewhere and which do not impair its quality or character. These are the uses for which we think public authorities should primarily plan.

With respect to the concept of "need," suffice it to say that it should be clear that there is heavy use and great public interest in most parts of our coastline. It is not possible to do much more than guess at levels of future use and "demand"—whatever that means. In a world of quickly changing tastes, technology, and wealth, who knows what the future holds or wants, let alone needs? I believe that it is counter-productive to engage in the game of calculating figures on future recreational "needs"—that it is more likely to represent an exercise in trying to build a self-fulfilling prophecy; it is part of the game of promoting growth.

Environmentalists are thus concerned with planning to preserve the environmental quality of the coastline, not just meeting projections of the so-called needs of any clientele which may show up to pursue its recreational interests along the coast. The fad has long since passed of trying to plan to meet a large undigestible bundle of recreational needs which might be forecast for future target dates. That kind of thinking, which was characteristic of the early 1960's, has long since been replaced by concern with understanding and protecting the underlying quality of the resource—in this case the coastline.

We are confident that the greatest degree of public satisfaction will result from a policy that will preserve the setting for all those who want to enjoy the coastal resource without impairing it.

*Mr. McCloskey is Executive Director of the Sierra Club.

How would environmentalists plan to protect the environmental quality of coastlines? I would like to offer a few suggestions about a general approach to this question, particularly with respect to inventorying resources. I believe that the processes of inventorying resources of environmental quality have been undertaken on a basis which is too cursory and limited, and that few efforts are made to integrate the results of the inventories into a coordinated planning system.

It strikes me that environmental values along the coastline should be identified in terms of four kinds of inquiries. These include inquiries to learn the physical nature of resources of cultural interest which are fixed in various sites and sectors, the esthetic elements of the coastal landscape, the recreational uses that are inherently related to the coastline, and the relative scarcity of these resources and opportunities.

A point of departure in such an inventory is really to conduct a "Natural History" survey of the coastal province. On the land, vegetation types should be mapped to determine where the ranges of various species begin and end and overlap, and what the condition is of their habitat. This mapping should be related to soil types and local climatic conditions. Major ecological communities and their transition areas should be mapped, with all relict and endemic communities noted, and especially communities of rare and endangered species. The same should be done for animals, and a variation of this approach should be attempted at sea. Patterns of migratory fish should be mapped, as well as spawning areas, sea bird colonies and rookeries, flyways, sea mammal concentrations. The dependence of terrestrial and marine habitats on encompassing geophysical processes should be described, whether it be hurricanes, floods, long-shore currents, nutrient replenishment, sand deposition, cliff erosion. Coast planning should aim both at preserving a healthy proportion of all habitat types and representative examples in unimpaired condition of all habitat types which are unique to the coastal zone, as well as all habitats for unique, rare or endangered species.

The natural history survey should be broad enough in scope, too, to embrace sites of geological, paleontological, and archaeological significance and should include human history too. In short, the survey should be broad enough to identify all of the kinds of values identified by the National Park Service in its surveys for the National Park System—it now seeks nationally significant examples of themes of scenic, ecological, geological, and historical significance. But whereas the Park Service looks just for the themes of national significance, the coastal inventories should identify all such resources of any significance at all.

Not only do coastal resources have values that are of cultural interest, they also have esthetic values that need to be analyzed systematically. Where are the headlands, cliffs, bluffs, sea caves, estuaries, lagoons, marshes, islands, rocks, reefs, banks, and beaches? Landforms should be identified according to their relative size, uniqueness, complexity, degree of vertical relief, naturalness, openness, and drama. Dramatic associations of land and water, of motion and monumentality, of light and color, of texture and spaciousness, of weather and vegetation need to be identified for their impact upon the human imagination. View zones should be identified from various vantage points, with degrees of sensitivity to intrusion evaluated. Composite zones for protection should be developed for the most striking and inviting landscapes.

And of course we need to know how the visitor will actually use the coastal zone. For swimming, we need to know where the water temperatures exceed 60°, without undertows and with gently sloping beaches. For sailing, we need to know where the winds and exposures are best; for surfing, we need to know where the classic breaks occur and what kind of bottom obstructions need to be preserved. For fishing, we need to know where and when the runs come and what the habitat requirements are. For scuba divers, we need to know where the best rocky bottoms and banks are with the most interesting underwater biota. For hikers, we need to know where the scenery, wildflowers and wildlife are best; and for campers, where shelter from wind can be found, as well as locally attractive settings. For hang-gliders, we need to know where the highest cliffs are with suitable updrafts and little beach use below. For whale watchers, we need to know where the best promontories are to

see the grey whales migrate in winter. For all of those interested in studying nature, we need to know where the features are that will attract them.

Once we know where the best sites are, we must also know what the seasons are for that pursuit, what the customs and mores are of those involved, and how accessible the sites are to them and where that clientele will come from.

Then, of course, we must determine how much use the site can stand and by whom. How durable, or fragile, is it and how much of an impact is imposed by the expected users in their seasons? How much does crowding compromise the experience for those involved? Carrying capacities are thought of in terms of ecological, psychological, and design limits, with ecological factors being the limiting ones on fragile sites, psychological ones on durable sites, and design factors—such as accessibility—being a feature to control impact. So little is really known, though, about how to quantify these factors that, as a practical matter, judgments must usually be made in setting design limits which err on the side of safety. With experience, the limits can be loosened if neither damage nor dissatisfaction is perceived over the course of time.

And for all of these values—cultural, esthetic, and recreational—that are embodied in the features that are inventoried, we must ask ourselves what is their relative value? How abundant or scarce are they? How available are they? How culturally and socially significant is the opportunity to experience them?

In trying to sense the answers, we will form judgments that will allow us to weigh the desire to preserve the resource, that is needed for reasons that have nothing to do with commerce, against the value that the resource may have for commercial development.

Before this process of weighing alternatives can take place, the commercial alternatives must naturally be inventoried, too, though elaboration on that topic is beyond the scope of my remarks here today. But the inventory of commercial developments should include commercial recreation as part of it, and this inventory should be accompanied by some analysis of how irreparable and irreversible the comparative impacts would be.

Once the environmental resources have been inventoried and evaluated, with their vulnerability to degradation assessed, a plan must be drawn to protect those resources warranting protection. By this point, fairly complex associations of resource values and threats should have been mapped, and now a fairly complex array of regulatory restrictions should be developed and mapped too. The restrictions will range across the spectrum from programmatic regulations, to zoning, to legal interests in land, to outright public acquisition for public reserves. These should be defined in a three—or even four—dimensional sense. These restrictions should move laterally along the coastline for varying distances; they should move with varying restrictions longitudinally across the coastal zone from the on-shore areas (with such sub-zones as the inner reach of local coastal climatic effects, to the saline-influence zone, to the outer edge of the terrestrial vegetational line), to the areas of tidal influence (e.g., estuaries, spray zone on rocks, dry sands, wet sands, sub-tidal zone, etc.), to the offshore areas (sub-zones include rocks, reefs, and seabed at varying depths). The restrictions should also vary in the vertical dimension through the water column and into the adjacent airspace. Drilling dumping, and dredging all need to be controlled to protect benthic biota, and airspace reservations may be necessary to control low-flight paths. And finally, some restrictions may vary according to time, with permissible and impermissible seasons and periods of recurrence. Fishing, of course, has its seasons, and logging on a given site might only be allowed again with the passage of enough years to assure that the timber is sufficiently mature.

The foregoing process for planning should suggest which resources and problems are appropriate to be the subject of planning and protection at various levels of government. The process can be handled under the Coastal Zone Management act by interested states, but they may want to ask the Federal government to undertake parts of the job of protection that are of national interest, while other parts of the job may be delegated to regional entities and local government.

The important thing is to have a planning process that is comprehensive in its scope and looks to conserving the coastline as an environmental resource which will endure through the generations. Its integrity and beauty will not endure if we treat it as a transitory artifact of commerce.

RAPPORTEUR'S REMARKS

*Ronald Linsky**

In the opening session, as you recall, our title was, "And What are We Doing?" Looking at the session today the question is, "So where are we?" What we are doing is asking the basic question that applies to the papers given by the speakers.

But we also have to ask a more fundamental question, "What is marine recreation?" That issue has yet to be defined. The word "marine" alone is ill defined and thus the question of what is marine recreation may be unanswerable.

Taken in the light of what Mr. Rounds said, I think one of the significant points that he made was that his organization is very desirous of making boatable waters available. That concept is a rather interesting one that has yet to be expanded upon.

He also mentioned that there was an anticipated boat facility shortage in the years ahead, but that it was poorly defined based on available data.

Another comment that I felt was extremely significant was that he suggested that marinas should be looked at as waterfront parks of multi-use characteristics.

Using these present-day or future-planned structures for a variety of uses for people from the young to retired and developing marinas within complexes and centers would bring the population into water-oriented activity, and in fact would probably upgrade the urban shores, of Chicago, and places like that. In order to do these things, Mr. Rounds emphasized the quality of data required to make quality decisions. I think this was a recurrent theme through many of the papers that we've heard at the conference so far.

John Harville was concerned with the living resources for marine recreation. He certainly had impressive data on dollar values of gear and catch. He brought out multiple target species and the recreation and commercial conflicts that have gone on for many years. He mentioned the allocation problems. He mentioned also that there was a dual management responsibility, that of protection and perpetuation of the species and the wise use of the resources or equitable distribution of benefits to the public. He also mentioned that there is a need for improvement of the contributions of marine resources to recreation for other social benefits. I really like to emphasize social benefits from John's context. He also mentioned as a third approach the ecosystems approach to an enhancement of the resource for recreational purposes.

We also have a recurrent theme throughout the three or four papers of not only the need for good data for quality decisions, but also the idea of social benefits.

Very few at the conference, had the benefit of reading Keith Ozmore's speech prepared for this conference. But you did hear Keith mention, in his history of tenacity in Texas, how by working very hard on legislation and working through the political systems

*Mr. Linsky is Acting Director of the University of Hawaii Sea Grant Program.

Texans were able to develop a system out of the shoreline. I thought it was a well presented concept.

I think, with all due respect to Mr. McCloskey's comments, what I heard was a proposal for national history survey, the need for an inventory of recreational resources before policy judgments and plans could be drawn. You have to know what is out there before we can put it to use.

Again, each of the speakers did mention the quality of the data available and mentioned in one way or another the quality of the society's needs. That brings us to a point that is basically, "Where are we, what are we doing in the marine recreation," and as we try to answer the question of where are we in this business, it reminds me of the typical buckshot routine, we have a lot going, with no focus.

Recreation is a very, very old historical thing. Buddha recreated when contemplating under the tree. What is recreation? We don't know. Certainly in my own eye I believe recreation is a civil right and it's probably one of the newest civil rights we have in the United States.

THE QUESTION OF ALLOCATION

ALLOCATION PROBLEMS OF MARINE RECREATION

*F. T. Christy, Jr.**

The problems of allocating the benefits and costs that flow from the use of the marine environment are problems of social choice. While these problems are not unique, they are very difficult—particularly in the marine environment where uses occur in three dimensions and a fluid medium. The same vertical column of water can be used for a mining operation *under* the sea floor, shell-fishing *on* the sea floor, swimming, sailing, and shipping on the surface, and as a medium for the disposal of wastes.

These, and numerous other uses of the marine environment, are often in conflict with each other. Because there are generally no satisfactory property rights for marine resources and no market place for distribution of values, the conflicts can only be resolved by public intervention—by some collective decision-making mechanism.

The challenge for consideration at this conference should not be to attempt to resolve the problems of allocation—to determine that "my" use is higher than "yours" or his is higher than hers—but rather to help formulate mechanisms that will facilitate the resolution of allocation problems.

In attempting to deal with this challenge, it will be useful to characterize the nature of the problems—the complexity of the issues and the underlying common property condition—before making some suggestions for alternative decision-making mechanisms that might be considered.

The complexity of the issues can be expressed by phrasing the allocation problem in terms of the question—"who gets what?" There is difficulty in defining the "what" that is

*Dr. Christy is with Resources for the Future.

to be distributed, in determining the "who" that shares in the distribution, and in formulating the process by which one "gets" a share.

With regard to the marine environment, the "what" can be any of a wide variety of items—tangible or intangible—that are valued by members of society. Although this conference is dealing with recreational values, the resources and uses of the marine environment are so inter-mixed that a discussion of allocation must comprehend all of the uses and values. Trade-offs must be made not only among recreational interests but also between recreation and other uses of the marine environment.

For some of these uses, identification and evaluation is relatively clear. For example, the value of off-shore oil or sand and gravel can be easily expressed in economic terms so that if a conflict existed only between these two resources it could be resolved without too much difficulty. But for other uses, as you well know, the identification and evaluation of the interests is extremely difficult. This point need not be elaborated for recreational and aesthetic resources, but an example from commercial fisheries may be illustrative of the importance of fully explicating the values involved. As noted more fully later, some form of property right is essential if the economic waste in commercial fisheries is to be prevented. One possibility is the establishment of fisherman quotas, allocating shares of the yield of a stock to fishermen on the basis of past records of catch, need, or some other criterion. This technique has considerable merit from an economic and management point of view but it may not be acceptable in many fisheries, because many commercial fishermen value the resource not only as a source of income but also as a means for demonstrating their skills. To these fishermen, there is a significant reward from the achievement of a "hi-liner" status, from catching more fish than their peers. In these situations, allocation of a fixed quantity of fish may not be acceptable, even though the fishermen may earn higher net incomes than they would from other techniques.

The obvious difficulties in dealing with the problems of identifying and evaluating the "what" that is being distributed, raise hard questions for the process of allocation. How can the values be expressed most fully and measured most accurately? To what extent can economic forces be used to guide allocation? Can administrators make satisfactory determinations through such tools as public hearings, opinion surveys, or surrogate economic measures such as "willingness-to-pay"? Or can a legislative process be employed making use of voter preferences and vote-trading.

The second element of the equation—the determination of the "who" that should share in the allocation—is difficult in two regards. One is the problem of determining the boundary of the interests and the other is that of determining who, within a set of users, should receive shares of the benefits. An example of the first kind of problem can be found in the conflict between off-shore oil drilling and beach recreation. The values of the former accrue not only to the potential exploiters, but also to the state and national economies. However, the values of the latter for beaches that are free from oil, are concentrated more locally. In this, and other situations the boundaries are not congruent, raising the problem of formulating a mechanism for allocation that is sufficiently comprehensive to take satisfactory account of the widest interests that are affected and also sufficiently narrow to provide accurate reflections of local interests.

Within any given set of users, it may be, or become, necessary to determine who among them shall receive benefits. This is already being done, though indirectly and implicitly, in many cases. For example, providing a road to an isolated beach distributes benefits to those beach users who own automobiles, but creates disbenefits to those who value isolation and are willing to incur the costs of hiking in order to achieve it. Furthermore, if user fees are not employed, the costs of the road are distributed to the general taxpayer. And no benefits are received by those who are too poor to pay for automobile travel to the beach. Gear restrictions, in both commercial and recreational fisheries, provide another technique for distributing benefits in that they favor those who have acquired the skills and equipment and exclude those who have not.

In the future, it is likely that more explicit and direct forms of allocation among the

users of a resource will be necessary and desirable. As discussed more fully later, common property natural resources generally attract too many users. Reducing the number of users in such situations will provide difficult challenges for administrators.

The third element in the equation—"who gets what?"—concerns the process by which the choices are made. Since this is discussed later, it won't be dealt with here except to point out that there are three kinds of allocation problems that may require separate mechanisms. The first of these is an inter-temporal allocation, choosing between present use and use at some time in the future. Many conservation measures designed essentially to perform this kind of allocation. In a depleted fishery, for example, controls reducing present catch levels are designed to achieve higher yields in the future, thereby shifting the distribution of benefits from present to future fishermen.

The other two kinds of allocation—and the ones that will receive the most attention here—are those within a particular use and those between different uses. An example of the former, intra-specific kind of allocation would be the distribution of shares of the yield from a particular commercial fish stock, between foreign and U.S. fishermen of different states, or among the fishermen of a single state. The other kind of allocation is exemplified by such conflicts as those between recreational and commercial fishermen or between oil rigs and shipping.

The question of "who gets what" from the marine environment is inextricably involved with the problems of managing the use of marine resources. These resources are in one way or another, plagued by the condition of property. This condition must be dealt with adequately in order to prevent the dissipation of benefits from the use of the resources—in order to ensure that there are benefits to be allocated. But dealing with the condition of common property satisfactorily and managing the resources wisely cannot be done without affecting patterns of distribution.

A common property natural resource is one for which access is both free and open. Within the set of users there is no control over the number that can participate in the resource use. This condition exists wherever the social or economic costs of controlling access are greater than the benefits that can be received. The costs of acquiring and maintaining control over access may be great for resources that are fugitive or spatially extensive. For example, it is difficult to enforce access controls over tuna fishermen, when the resource migrates thousands of miles in the open ocean—or over those who use air sheds or large bodies of water for the disposal of wastes. In some cases there are social costs to controlling access because of traditions or the desire of society to provide free use. The freedom of the seas, or the freedom to hunt and fish, are activities that are cherished by large numbers of people.

But in addition to high costs, a resource may be treated as common property because there may be little benefit to limiting the number of users. If the flow of services from a resource is so abundant that use by one does not significantly diminish use by others, then there is little or no need to control access.

The problems being addressed by this conference derive, in part, from the fact that the resources of the marine environment are no longer as abundant as they once were, and that the benefits flowing from the resources are being diminished.

One of the clearest examples of such wastes can be found in commercial fisheries. Here, the inability or unwillingness to control access has led to both biological and economic waste—widely prevalent throughout the U.S. The biological waste occurs because none of the users can afford to take an interest in future returns. Anything a fisherman leaves in the sea for tomorrow will be taken by others today. And since all fishermen operate with the same incentives, the aggregate result is that the rate of use becomes excessive and the stock of fish becomes depleted—producing lower annual yields than would be possible under the proper controls.

When this situation occurs, the usual response has been to apply conservation measures treating the symptoms rather than the cause of the illness. That is, the measures deal with the physical factors of fishing rather than the economic forces that are the cause of the waste. It is typical to adopt gear restrictions that enforce inefficiency by reducing catches

per unit of effort. But such controls are only temporarily effective, because as demand increases so does the amount of effort, increasing the pressures on the stocks and requiring, consequently, even more stringent restrictions on gear. These measures exacerbate the economic waste that already exists because of the excessive numbers of fishermen in the fishery.

The same results occur in recreational fishing. For many game fish, including many marine species, the problems of excessive fishing effort can be alleviated by increasing the supply of the stocks by various cultivation techniques. This approach, however, is limited. And when the costs of adding additional units of supply are not justifiable, there are attempts to adopt controls treating the symptoms rather than the cause of the difficulties. These include gear restrictions (flyfishing only), closed seasons, closed areas, size limits, and creel limits. These measures, tending to reduce the efficiency of individual sports fishermen, are—like those in commercial fisheries—only temporarily effective in maintaining yields from the stocks. Demand invariably increases for these resources and with it, there are increasing numbers of fishermen willing to accept the rules and regulation. Subsequently, in order to prevent further depletion, the rules and regulations have to become more stringent.

Other recreational and commercial resources of the marine environment also go through the same patterns of use. Beaches become overcrowded; shipping lanes become congested; and surf riders get in each other's way. The common property condition—the condition of free and open access—inevitably leads to a diminution of the benefits flowing from the resource.

The means for preventing such wastes are readily available in many situations. However, effective adoption of such means *definitely and directly affects* the allocation of the benefits—the distribution of wealth—and raises a problem that society is often reluctant to face. Controls can be adopted that remove the condition of free and open access. This can be done by removing the openness of access and directly limiting the number of users or by removing the freeness and charging user fees or by both techniques. There are numerous cases in which these techniques have been adopted but they are seldom sufficient and are generally adopted without a clear and explicit understanding of their distribution effects. User fees for fishing licenses or beach parking, for example, are generally not sufficiently high to discourage excessive numbers of users and prevent continued resource depletion. However, if the fees were high enough to prevent depletion, they could discriminate against low income users. For ordinary resources that are marketable, disparity in the distribution of benefits is the normal and accepted course of events. But for common property resources that have been treated as free, the shift to a market-determined allocation of benefits is not likely to be readily acceptable.

The alternative technique for preventing waste—the removal of the condition of openness rather than freeness also has considerable difficulties. This technique has recently been adopted in a few commercial fisheries by prohibiting the issuance of fishing licenses to all but the present fishermen. If this system is effective, it inevitably leads to surplus benefits to those lucky enough to have obtained licenses, or, if properly handled, to society. In British Columbia, for example, the license limitation scheme for salmon, within six years of its establishment, increased the value of the fishing privilege from a few hundred dollars to over a hundred thousand dollars for a single 20-ton vessel. Those values are realized by the marketing of fishing permits and they accrue in this case not to society but to the license holder. While this situation may have been somewhat unusual, the fact remains that closing off entry to a common property resource will frequently produce very high economic rents—rents that are currently dissipated because of free and open access.

This holds true for recreational resources just as much as it does for commercial resources. A limit on the number of recreational fishing licenses or beach privileges would undoubtedly lead to high prices for those privileges, distributing benefits in the form of economic rents to those lucky enough to have obtained the privileges in the initial allocation.

The dilemma faced in the management of common property resources is essentially

one of allocation. Administrators can maintain free and open access, accepting the depletion of benefits as being inevitable. Or they can choose to control access, and arbitrarily allocate benefits among the users and potential users. While the latter course is generally the most desirable in economic terms, it may actually be socially less preferable than the former. That is, the transaction costs involved in achieving more efficient utilization may be higher than the benefits that can be obtained, meaning that society would be better off by avoiding the problem of distribution and adopting an attitude of benign neglect towards the resource.

The remedies just made refer to allocation among the users of a *single* resource. But within the marine environment allocation between users of different resources is an equally difficult problem. Conflicts between different users of the environment are growing in both number and severity. If those resources were privately owned, such conflicts would not appear and uses would be allocated by means of ordinary market forces. But since the marine environment is made up of common property natural resources, the resolution of conflicts requires public intervention.

The chief difficulty with these kinds of conflicts is that the distribution of benefits and costs is asymmetrical. For the intraspecific allocation problem discussed before, the values are relatively uniform. The commercial fishermen, for example, are seeking the same kinds of benefits and incurring the same kinds of costs. But for inter-specific users, the benefits and costs are quite disparate in nature and, for many of the users, there is no readily available common denominator to measure the amount of one item that might be sacrificed in order to achieve another item.

The disparity can be of two kinds—a disparity in the boundaries of the affected users and a disparity in the specificity of uses. In some cases, the boundaries are congruent, such as a local community of beach users, some of whom wish to use the surf for surfing, others for surf-fishing, and others for swimming. But in other cases, the boundaries of beneficiaries may be quite different. Benefits for the whole nation might be obtained by permitting oil drilling in a marshland. But this could lead to costs (through risks of oil spillage) to the duck hunters and sports and commercial fishermen of a local community.

With regard to the specificity of the incidence of benefits and costs, the interests of both sets of users in a conflict situation might be highly specific. For example, in a conflict between recreational and commercial fishermen, there may be roughly equal numbers of users with roughly equal values at stake. However, in other situations, the conflict may be between one set of users, small in number but with relatively low values per individual member. For example, an individual potential developer of a high rise building on a shoreline may be willing to pay a high price to obtain the right to put up the building. But the costs in terms of the disruption of a scenic view may be diffused among thousands of viewers, no one of which is willing to pay a great amount to ensure the maintenance of the view. *The aggregate values of all viewers against development, however, may be greater than value of the development to the developer.*

The disparity in boundaries and specificity considerably complicates the task of allocation. First it means that the values being traded off are likely to be dissimilar in nature and second it means that a satisfactory representation of the different interests is hard to achieve.

These problems, however, are not insurmountable and they must, of course, be faced. Society through one means or another, is making and will continue to make decisions on the management and allocation of the common property resources of the marine environment. The task for this conference is, in part at least, that of exploring the alternative techniques for making the necessary social choices. Three different approaches appear to be important. First, through the market place; second, through an administrative mechanism; and third through a legislative body. None of these approaches will be entirely satisfactory for all of the problems but each is likely to have some merit in particular situations.

Generally, wherever the market mechanism can be applied satisfactorily, it should be. This point may be worthy of some extra emphasis because of the reluctance to apply market techniques to resources that have traditionally been treated as free and open. The period of

transition from administrative or no allocation mechanisms to market systems may be hard to get through and face a considerable amount of initial opposition. But once the period of transition is over, the market forces can provide a very effective and inexpensive way for ensuring an orderly allocation of access and distribution of benefits. Once established, the decision process can become virtually automatic.

The market mechanism can be applied, to a greater or lesser extent, in several of the situations described before—particularly in those situations involving allocation among the users of a particular resource where values are symmetrical. The literature on the application of some form of market mechanism to commercial fisheries is fairly full and needs no elaboration here. But it may be useful to speculate about the possibilities of using market forces as a basis for allocating access in a sports fishery, even though the values may not be precisely identical for all users. This approach would apply a license fee or a tax commensurate with the value of the fishing privilege. Such a fee, which might be quite high, would reduce the number of sports fishermen to the point where high levels of total—and average—catches could be maintained. The revenues produced might be sufficient not only to cover the costs of enhancement, management, and enforcement but also to provide satisfactory returns to society—the owners of the resources. These returns might also be used to provide alternative recreational opportunities to compensate those fishermen who have been excluded because of their unwillingness to pay the fees. The allocation problem would be minimized, because access would be allocated through market forces.

The same approach can be applied to other resources and uses of the marine environment. Its effectiveness as an allocation and management tool warrants thorough consideration in all situations where it might be feasible. And it should not be rejected simply because of the transitional difficulties that might be incurred in moving from free to priced access.

Clearly, however, there are other difficulties with the market mechanism that limit its applicability. One is that of placing an appropriate and collectible fee on the use of the resource. A second problem is that of discrimination against those who are too poor to pay the fees or taxes. Low income users currently receiving benefits from the free use of common property resources may reasonably demand compensation for their loss of access. If the expected resources are not sufficient to provide adequate compensation, then a market system may be inappropriate.

These and other difficulties limit the use of a market mechanism for resolving this problem of allocation but there may be several situations where a market mechanism is greatly to be preferred over other techniques even though there are initial difficulties.

The second approach—the use of an administrative agency—is the more traditional one for common property resources. In this approach, access is allocated by some board, commission or agency made up of appointed officials. The officials attempt to perform the market function by identifying and evaluating all the interests involved. They may seek help in this task by holding public hearings, undertaking opinion surveys, and using other techniques to elicit the kind and strength of the different interests. Such an approach is relatively easy to adopt and can comprehend all interests, even where there is considerable disparity in boundaries or specificity.

But it is essentially a “father-knows-best” technique. It presumes that the appointed officials—who are responsible only to those who appointed them—are able to identify and apply accurate values to all of the various interests that are affected. It also presumes that they will know how to make the trade-offs so that the optimal allocation is achieved. These presumptions are generally pretty far from the truth, not because of any bad faith on the part of the appointed officials but because the system is not directly responsive to the preferences of the users.

This suggests a third technique for allocation—one being explored in some detail by Edwin T. Haefele and others, including some of my colleagues at Resources for the Future. (See Haefele, *Representative Government and Environmental Management*, Baltimore: Johns Hopkins University Press for Resources for the Future, 1973, and Haefele ed. *The Governance of Common Property Resources*, Baltimore: Johns Hopkins University Press

for Resources for the Future, 1974.) This is a legislative approach which would make use of an elected, rather than an appointed, body to handle the problem of allocation. Under this approach an electoral district with appropriate boundaries would be used or created. A fairly large number of representatives, each representing a small constituency, would be elected. The body should be able to deal with a sufficiently large number of issues to permit a full market for votes.

Such a system has numerous advantages over the administrative approach. One of the chief advantages is that it would not require the explication and evaluation of each of the interests affected. Instead, these would emerge from the voters and from the pressures the voters would place on their representatives. Second, instead of using highly sophisticated tools to reach decisions on the allocation of the benefits and costs, there would be the almost automatic process of vote-trading. In short, the legislative approach would, in many cases, be more directly responsive to the interests of the users than the administrative approach and, in other cases, could reflect the intangible and non-monetary values more fully than the market approach.

It does, however, have some disadvantages. It would not readily accommodate situations where the boundaries of the different interests are disparate to a large degree. And even where it would be appropriate, it might be difficult to implement because it is not a conventional technique for dealing with natural resource problems. There are numerous variations on the theme of a river basin, commission or port authority. But about the most relevant example of the legislative approach is the school district and that is not a particularly close example. It can be expected, therefore, that there will be some reluctance to experiment with this approach.

As mentioned before, none of the three different approaches provides the ultimate answer to the problem of allocating the benefits and costs flowing from the use of marine resources. In some cases, one might clearly be preferable; in other cases, another one or a combination might be best. But there are two points that deserve emphasis. One is that the market mechanism ought to be considered carefully and adopted wherever appropriate. And the second is that a legislative approach ought to be fully explored.

The problems of allocation in the marine environment are clearly going to become more numerous and more difficult. And they deserve a great deal more attention than they have been given in the past.

A GLANCE AT THE IRVINE COASTAL AREA PLAN*

The Irvine Coastal Area Plan—or “TICMAP” plan, as it is sometimes called—is a proposed general guideline to the ultimate land uses of 10,000 acres of private property bordered by the cities of Newport Beach, Laguna Beach, Irvine and the Pacific Ocean.

The site, only a fourth of which is publicly visible from Pacific Coast Highway, is considered to be one of the most valuable pieces of privately owned undeveloped real estate in California. An indication of the land's value is the property tax its owner, The Irvine Company, pays on it. The tax amounts to about \$2,000 a day.

*This paper provides background from the presentation of Larry Moore of the Irvine Company.

Although it is not commonly known, there is a General Plan already in effect for the area. It was adopted by Orange County government in 1964. Under this plan, the area can be developed as an 80,000-population residential community, with homes stretching the length of the three-and-a-half miles of shoreline.

The Irvine Coastal Area Plan now under study by Orange County government is designed to replace the 1964 plan. Looking some 30 years into the future, it is a totally new plan, emphasizing—unlike the old plan—the coastal area's value as a recreational resource. The entire shoreline, for example, is opened up to the public in the new plan. Significant park and wildlife conservation areas throughout the 10,000 acres are also proposed. Recreational and resort uses are blended in with residential development, with these changes from the old plan resulting in a projected ultimate population that is some 30,000 below that of the earlier plan.

As developed by The Irvine Company, the Irvine Coastal Area Plan is the product of a unique, two-year study that involved participation by some 20 public agencies and private environmental groups. The designation, "TICMAP," comes from this planning process. It is an acronym for The Irvine Company Coastal Community Multi-Agency Planning Program. In late 1973, the company invited various agencies to join in the TICMAP program and advise the company on what they would like to see, and not see, in the final plan.

Out of that effort, which included the assessing by The Irvine Company and its consultants of some 300 public land use policies, many of them conflicting, came the Irvine Coastal Area Plan—or TICMAP plan. The plan does *not* have the formal approval of TICMAP's member agencies. None of the agencies were in a position to endorse formally the plan; and no endorsement was sought. What the plan represents is The Irvine Company's response to the policies of these agencies.

By mid-summer of this year, the Irvine Coastal Area Plan is scheduled to be considered by the Orange County Board of Supervisors as an amendment to the County General Plan. If the plan is adopted, it will then be presented to the regional Coastal Commission and perhaps ultimately to the State Coastal Commission for review. No development under the plan can take place until that review process is completed.

That is some of the background on the Irvine Coastal Area Plan. Here are some of its principal features:

- Planned high quality residential, commercial and resort developments on 33 percent of the land, with most of the remaining 67 percent designated for public open-space uses, such as parks and wildlife preserves.

- Establishment of a "resort triangle" in the heart of the coastal community. The triangle would feature a garden hotel at its apex, Wishbone Hill, and shops, restaurants and hotels at either leg, one at Crystal Cove and the other at Reef Point, near Moro Beach.

- Development of four "hilltowns" and other clustered residential areas at various locations inland and along the coastal shelf, with a total anticipated population—after the turn of the century—of about 49,000.

- A view-oriented road system, with proposed rights-of-way capable of serving public transit systems as well as the automobile.

- Close to 1,400 acres of state-owned park land, including a 1,200-acre canyon park behind Moro Beach and the entire length of the beach shoreline and bluffs, with a blufftop walkway extending from Corona del Mar to Laguna.

- A system of trails along major ridges and canyon bottoms, with links between canyons to permit wildlife to move from area to area.

- An overall density for the entire 10,000-acre site that averages two dwelling units an acre.

- A general low-rise building profile throughout, with few structures, including resort hotels, rising above three stories.

- Accommodation of the "Laguna Greenbelt" concept with extremely low residential densities (averaging, overall, less than one dwelling unit an acre) in the hilly southeastern half of the area, from Muddy Canyon to the Laguna Beach city limits.

— A land use concept of open space within developed areas on the Newport Beach side of the Irvine Coastal Area; and a land use concept of developed areas within open space on the Laguna Beach side. These concepts are dictated by a combination of topographic, economic and environmental concerns.

A WEALTH OF RECREATIONAL POTENTIAL

*David Talbot**

I want to underscore two points.

1. We don't have all the answers and all our problems haven't been solved;
2. Our successes to date have been achieved without resorting to trade offs—that is, we Oregonians have said the coast shall be preserved for recreation, that is the top priority and there shall be little or no compromising. All of our problems came from that uncompromising, no trade off attitude.

I have reserved most of my time for slides—to show you what I'm talking about. I cannot answer the complex issues around coastal zone management, but I can tell you what has happened in Oregon and talk some about trade offs.

My personal involvement dates back to 1965 when the Oregon legislature declared the beaches—between ordinary high and mean low tide—as state recreation areas. Previous to that, since 1913, they had been classified as highways. With the beaches under our jurisdiction, I began studying their background and problems. In no time at all, I found myself in a terrible dilemma—it was clear to me that public ownership of the beaches was limited to a very narrow strip of “wet sand”, the tidelands. The dry sand area above “ordinary high tide”, which constitutes most of the beach, belonged to the upland owner. This was a real shocker since the general public was sure that all the beach had been saved when further sale of tidelands had been stopped in 1913.

We prepared legislation for introduction in 1966—the guts of the bill was patterned after a Texas law that said in essence, that through long range usage the public had developed an easement on the beach, regardless of actual ownership. All hell broke loose. At first they wouldn't believe us and then when they did, the classic battle of private vs public property rights began. It was bloody. At the last moment, just before defeat by coastal interests, the media was successful in arousing the general public. The tide, so to speak, had turned; now all the politicians sprang to the defense of our beaches. Strong laws were passed in 1967 and 1969 and subsequent court decisions—one step removed from the U.S. Supreme Court—have upheld and strengthened our claim that “ownership be damned, the public has used the beach so long they have developed ownership rights and the actual fee owner can do nothing to restrict use by the general public.”

It was a heady experience, the public rose up and stamped down the special interest groups!

*Mr. Talbot is Superintendent of Oregon State Parks and Recreation

There's been no serious problem in the meantime, the Oregon Coast is relatively secure from a preservation/recreation standpoint.

The political leaders on the coast resent that many of their resource and economic decisions are being made in the State Capitol, they really hate the idea that the big population centers want to "enjoy their area as a playground" and have the votes in the legislature to back it up.

There's one more point I want to make; our agency has a very narrow view of the situation, that is we think the coast, in the most part, should be preserved in its natural state for scenic and recreational enjoyment.

The issue of State vs. Local control was debated during the 1971-73 session of our legislature, the big issue was "Land Use Planning." The state/local hassle was compromised with creation of the Coast Conservation and Development Commission, a member group set up to resolve the preservation/development issue. Their legislative charter ended in 1975 and after much rhetoric, they adopted numerous goals and objectives—most of which were contradictory. If nothing else, it helped educate coastal leaders of the complexity of the coastal resources and problems.

The successor to the OCCDC is the Land Conservation and Development Commission, with statewide authority to adopt goals and guidelines, and the authority to designate areas of "critical statewide concern"—areas not to be left to local decisions.

When the "heat was turned on" the new commission pretty much abandoned the work of the Coastal Commission, which infuriated both the environmentalists and coastal leaders.

The pulling and hauling between local and state control is not over—thankfully our agency has been protecting, through purchase, the coast since the 1920's. It's not very sophisticated or modern, but it has worked.

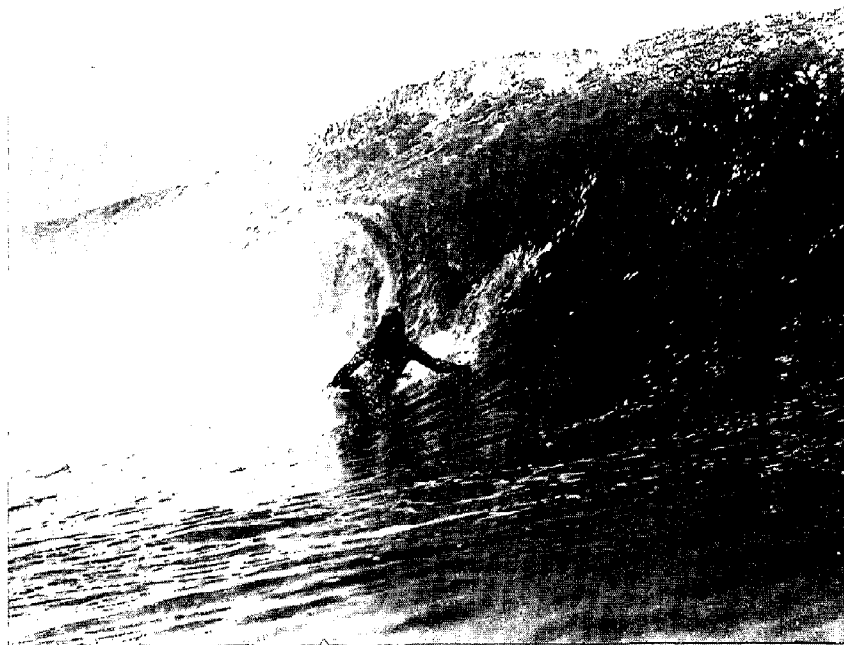


Photo credit: Jeff Divine

It is my opinion that the protection of this significant public resource has very much helped the private sector, the marinas, the motels, the restaurants, the service stations, etc. While we don't have all answers, we have accomplished:

1. Complete N-S access.
2. E-W access, 1-3 mile intervals.
3. Cars off beaches mostly.
4. Major public ownership of uplands.

Our problems almost all have to do with relations with coastal leadership. The coastal residents resent decisions about their area being made by 'others' whose point of view starts with preservation so they will find it beautiful when they get back next summer. These 'others' have no concern for economic well being of coastal residents who say OK, we want to protect too, but you are wrecking our tax base, provide us with funds in lieu of taxes, and special funds to help finance regional water and sewer systems.

RAPPORTEUR'S REMARKS

*Byron Washom**

The workshop was chaired by Robert Knecht. The speakers included Larry Moore, who is with the Irvine Company here in Orange County, which has approximately 10,000 acres, and 3.5 miles of coastal zone that they are planning for a regional use; Joseph Bodovitz, Executive Director of the State Coastal Commission, who is naturally in a position of management as well as planning of the coast within the state of California; Roy Mann an architectural planner, who has done work on the coastal zone for NOAA as well as other agencies, primarily dealing with esthetics; and David Talbot who is Superintendent of the Park Systems in Oregon.

I will express what emanated from these speakers, for with the exception of one area there was agreement among all.

I would say the foremost conclusion would be that the current coastal zone management and planning activities within each state are the primary reason for "trade-offs." This recognizes that planning quite often occurs at the regional level or local level.

One of the biggest problems that private industry has with planning marine recreation is the uncertainty in proposing projects. I think all the speakers wanted to achieve a predicate of law providing the developer with set standards with which he must comply in order to get a permit. Then a man who goes in with a plan for a number of units, or number of marina slips, will have some certainty about the acceptability of his design.

Mr. Knecht noted that water planning is a subset of coastal zone management. Most of the coastal management going on in the states at the present time is being done by land use planners with attention to the offshore areas grossly lacking.

Third, we spent quite a bit of time on public participation. This is required by law, but difficult to secure, very difficult in terms of how many people you have involved, what type of power you give these public people, how you select these individuals, and how you keep their commitment to planning with you on either a private project or a public project?

*Mr. Washom is currently at MIT working toward a Masters in Ocean Engineering to complement his background as coordinator for the USC Marine Advisory Program.

It appeared that there needs to be a lot of research on how to engage in public participation in coastal zone management.

After having undergone an extensive 18-month public planning process in which public participants were given board-of-director power over what the eventual plan would be, Mr. Moore commented that no prudent company would create the public participation process that the Irvine Company had been through.

Mr. Bodovitz suggested that the realtors in the coastal zone have effectively been the planners for that zone, particularly with respect to the open space. He indicated that estuaries should be regarded as remnants of the coastal zone and because the supply has diminished to a critically low point, is sufficient rationale for proposing that they remain in open space or conservation areas. In all cases, even if one were to propose and designate an area as an open space and conservation area, there is a question of private property and public acquisition.

There appears to me to be no comprehensive scheme at either the state, federal or local level that provides adequate public acquisition of coastal property. Collectively, these different governmental levels might determine how a given dollar amount could return the greatest amount of acquired land for public use.

One new point brought to my attention by Mr. Talbot was the fact that beaches in Oregon were originally considered as highways and were under the Oregon Department of Transportation. The gasoline tax goes to the Department of Transportation. Consequently, massive areas of beaches, "highways" in Oregon, were acquired through the gasoline tax within the state agency.

I would like to end on a note to which I think all members of the conference should pay attention. There is a bill that is going through right now, S.B. 586. This is the coastal impact funds authorization, which has a tremendous amount of potential for funding preservation and study of coastal areas and offshore islands that might be impacted by outer continental shelf development.

Ocean Science News, Volume 18, Number 10, March 5, 1976 indicated that H.R. 3981 would be before the House the second week in March and was expected to pass. The difference between it and the Senate Bill 586, already passed, would be worked out in conference. Furthermore, the White House was indicated as being agreeable to the coastal impact fund provisions.

COMPETITION FOR RECREATION RESOURCES— INTRODUCTORY REMARKS

*Richard H. Stroud**

The purpose of this Workshop is to explore the matter of competition for recreational resources in the marine environment. The discussions are designed to address the variety of recreation interests and needs, questions of compatibility for multiple use, and problems of

*Mr. Stroud is Executive Vice President, Sport Fishing Institute, Washington, D.C.

competition and conflicts. Competition is one of the critical issues involved in the planning, management, and use of marine resources for recreation. The purpose of the discussions to be presented by our distinguished speakers is to contribute to the formulation of policies and action steps to improve recreational use of the coastal zone and continental shelf area.

The most important recreational uses of the coastal marine environment are swimming, finfishing, shellfishing, sailing and other boating, picnicking, beachcombing, nature observation, and associated activities. Although they have proven grossly inadequate in many respects, the best available statistics are probably for finfishing. Data on other uses are less comprehensive but are indicative of the great socio-economic significance of those activities.

Angling Participation

For 1970, the U.S. Bureau of the Census reported there were some 9,460,000 "substantial" saltwater anglers (fished three or more times or spent at least \$7.50) 12 years or older who devoted at least 113,694,000 recreational days out fishing and spent about \$1¼ billion in the process.⁵ A much more detailed study of marine recreational fishing in the 13 northeastern states (from Maine through Virginia, plus D.C.), by the National Marine Fisheries Service, revealed an estimated 10.8 million marine recreational fishermen in 4.9 million households during 1973-1974.² These people included recreational shellfishermen as well as finfishermen, without respect to their ages, frequency of participation, or level of expenditure.

Available data show that saltwater sport fishing participation has been accelerating at the rate of 6.1 percent annually. By comparison, the U.S. population had been increasing, until very recently at least, at the rate of 1.7 percent annually.

Recreational Boating

Except for sailboating (substantial) and racing, pleasure boating is so intimately involved with sport fishing as to be substantially synonymous during most of the time for a strong majority of boat users. A nationwide survey by the U.S. Coast Guard during April-May, 1974, showed that 72.8 percent of boating households used their boats most frequently for fishing purposes. Cruising/sailing use came next (62.8%), followed by water-skiing (30.1%).⁶

In regard to saltwater use, particularly, a detailed study of pleasure boating in Oregon, during 1972, revealed that fishing, and fishing in combination with cruising and/or water skiing, accounted for 95 to 99 percent of all boat-use days reported in the coastal (saltwater) counties of Curry, Tillamook, Lincoln, and Clatsop!³

Correspondingly, about 55 percent of the saltwater recreational fishermen estimated in 1970 engaged in some oceanic fishing on both the Atlantic and Gulf coasts. Over 71 percent of saltwater anglers conducted some of their fishing from boats well offshore on the Pacific Ocean.

Marine Angling Catch

A special study of saltwater angling, conducted in 1970 by the National Marine Fisheries Service,¹ resulted in estimates of angling catch amounting to 817 million fish weighing an estimated 1.58 billion pounds. At least 66 percent by number and 74 percent by weight of all fish were caught from boats of one kind or another. By comparison, about 2.4 billion pounds of edible finfish are taken annually in the U.S. domestic marine commercial fisheries.

It is important to appreciate that many of the species important to commercial fishermen are also important to anglers. The 15 most-frequently-caught species groups in the 1970 angling catch, in order of decreasing importance were: seatrouts, croakers, sea cat-

fishes, flatfishes and flounders, mackerels, puffers, spot, grunts, bluefish, porgies (scup), kingfishes, drums, perches, snappers, and striped bass.

Other Marine Animals Utilized

It is evident, though data are fragmentary, that many other marine life forms occurring on or within coastal waters above the Continental Shelf are being increasingly utilized by recreationists in various and diverse ways, both consumptively and non-consumptively.⁴ In Southern California, skin divers harvest abalone with a high degree of selectivity, along with spiny lobsters and several species of finfish (kelp bass, sheephead, opaleye, perch, and rockfishes). In the Gulf of Mexico, Texas sport fishermen harvest several million pounds of shrimp annually (in addition to 37 million or so pounds of speckled trout, redfish, drum, and flounders). Blue crabs and oysters are also objects of recreational fisheries along the Atlantic Coast, though definitive data have been scarce or lacking. Similarly, a recreational fishery of consequence occurs in coastal bays of Oregon for Dungeness crabs.

Oceanic hunting is an additional minor recreational use of Continental Shelf waters, largely limited to small localized harvests of sea ducks, brant, and geese.

The non-consumptive use of marine resources appears to be large, though difficult to evaluate in terms of user-days or otherwise. Some insight into its magnitude is provided by the fact that more than a half-million persons are known to pay boat fares annually in order to view ocean birds, whales, sea otters, sea lions, etc., in the Pacific Ocean off California.

Areas of Possible Conflict

The chief sources of possible conflict between recreational and other uses of the water above the Continental Shelf appear to derive from possible pollution of the sea by toxic wastes (oil, acid, pesticides, etc.) and, near shore, by discharge of thermal waste cooling-water from S.E.S.; from possible large-scale petroleum exploitation; and from commercial fishing by foreign nationals, as well as by U.S. entities.

Some of the more controversial conflicts over oceanic fisheries, in recent years, have concerned anchovies off California, billfishes (marlins and sailfishes) taken by Japanese longliners in the Eastern Pacific and Western North Atlantic, broadbill swordfish taken in the latter waters by Canadian longliners, Atlantic salmon heavily harvested by Danish and Faroese drift-netters in the North Atlantic near Greenland, Soviet fishing and loading operations off the U.S. Northeast Atlantic Coast, and commercial overfishing of bluefin tuna in the North Atlantic. In addition, there has been much wasteful destruction of young game fishes within the Territorial Seas in some instances of poorly regulated trawling in the fish-meal fisheries.

Maximum-Sustained vs. Optimum Yields

Another possible conflict, between traditional commercial fisheries interests and sport fisheries interests, involves basic fish management philosophy. The former have long supported the concept of maximum-sustained yield, which looks narrowly toward a maximum yield of protein. The latter advocate the somewhat different concept of optimum yield, which looks to an accommodation of other considerations, both social and economic as well as biological, in seeking an appropriate balance of continuing uses from the resources.

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BOAT LAUNCHING— RESERVATIONS ONLY

*Matt G. Kaufman**

RECREATION INTEREST AND NEEDS

Recent studies by U.S. showed that 90% of Americans enjoy some type of outdoor activity and 80 to 85% prefer to enjoy the outdoor activities on, in or near water. Since 1960, participation in pleasure boating has increased by 47%. Some 52 million enjoyed boating in 1974, primarily in outboards, rowboats and inboards. By 1980, 93 million Americans will go boating. By 2000, 153 million Americans will go boating.

There is no question that there is a wide, deep and rapidly growing *interest* in boating—and we can assume from this that boating *must* fill a *need* many people have to get away, to get outdoors and to enjoy healthful activities which boating can provide.

There are really two aspects to the problems of compatibility for multiple use and of competition and conflict. The first deals with the intangible—the aesthetic—the psychological. The other relates to such tangibles as space available, accessibility, type and quality of water, i.e., spatial considerations.

The basic problem is a limited access to waterways (Note: I did not say a lack of recreational waterways. I said *access* to waterways). Population is booming more and more concentrated in urban areas. Most waterfront property—coastal, lakes and streams—within reasonable distance of urban families is already in private hands. For example, only 4% of our vast coast line is open (or accessible) to the public.

There are literally millions of square miles of boating waters in the U.S. that are not being used. Much of it has never been touched by a boat hull, simply because the waters are in remote areas that are very difficult to reach, or that are *unknown* to the general public. There are some areas, not too far from urban areas, that do provide public access but are

*Mr. Kaufman is Administrator of Boating Industry Association

under-utilized simply because the general public doesn't know about them. The result of all this is overcrowding of many of our waterways, resulting in conflict and competition—and in some cases to unsafe situations.

As I said, some of this conflict results from tangible problems—insufficient water surface to accommodate so many people trying to enjoy water sports in many different ways such as swimming, fishing, water skiing, and sailing.

But there is an “intangible” problem too—the feeling of some people that human beings—especially those who enjoy the outdoors with mechanically propelled vehicles (boats, campers, motorcycles, snowmobiles) are offensive and totally incompatible with a natural environment. These people feel that “conservation of natural resources” literally means that our environment should be untouched by human hands—that the *only* way to enjoy the out-of-doors is with a backpack, a canoe and a paddle, preferably by no more than one or two persons at a time. They find the sound of an engine—even the sound of the human voice—totally out of place in any natural, outdoor environment.

There is legitimate concern about impact of *people* on recreational areas—overuse, littering, and destruction of flora and fauna. There is concern of harmful effects of man-made facilities and equipment. *There are no simple solutions, but in general we need to*

- *Develop* more facilities—especially near urban areas using measures such as the Coastal Zone Management Act (PL 92-583) and Land and Water Conservation Act.
- *Inform* people about under-used areas.
- *Educate*—make people understand that everyone has a right to enjoy the outdoors in his or her own way; create respect for rights of others; promote anti-litter campaigns.
- *Study*—to determine exactly what activities are harmful, how they are harmful and what to do to reduce or eliminate.
- *Zone* uses of the coastal resource in both time and space.

A STRUGGLE FOR A PLACE ON THE BEACH

*Richard W. Grigg**

The struggle for a place on the beach is a classic case of the tragedy of the commons; a common property resource in short supply subject to ever increasing demands due to burgeoning population growth and trends in modern living. A few years ago in the *New Yorker Magazine*, Calvin Trillon put the problem in no uncertain terms. To quote, “The fight for a foothill on Iwo Jima may have been the bloodiest of all, but Martha’s Vineyard is no picnic either.”¹

But let’s pause for a moment in order to take a broader perspective. First to reiterate and clarify the problem: it is one of increasing number of conflicts encountered by recreators in the coastal zone. Why the magnitude of the problem has so enormously enlarged in recent years is related to a number of changes in the socio-economic structure of our society. Over the long term, few would argue against the notion that population growth is

*Dr. Grigg is Associate Program Director, Grants Management, National Sea Grant Program and Associate Marine Biologist, Hawaii Institute of Marine Biology, University of Hawaii

the root cause, although this is often obscured by more immediate effects such as immigra-tional trends toward the coastline and increased usage due to increased mobility and leisure time. Over 54 percent of the population in the United States lives within 50 miles of the coastline.

To briefly remind ourselves of just some of the many conflicts often encountered in the coastal zone, think for a moment of the numerous "encounters" as might take place on a typical Sunday afternoon in a typical coastal town that we shall call MECCA. The name first serves to illustrate one of man's basic natures, that is to aggregate. It also is a conse-quence of a number of common constraints related to space and time. With regard to space, of the coastline that borders this country, only two percent is publicly owned. So first, there is the problem of *access*. Constraints of time also *concentrate* activity; seasons, work and school schedules, weather, the varying quality of the resource itself, all lead to the problem of "peak use." While on one hand we are social animals, on the other, our behavior is governed by a territorial imperative which if violated creates hostility and impairs the qual-ity of the recreational experience.

Broadly speaking, the objective of managing marine recreation is to optimize the indi-vidual experience while maximizing it for the group. The tragedy of the commons occurs when there is no management and an *additional* individual seeks to share a common prop-erty already in short supply. While the individual may benefit, the cost of his or her action is collectively shared by the group, thereby forcing each member of the group to give up part of their share. It is not surprising that individuals "there first" are unhappy. Only management can temper the tragedy of the commons, but in the process some individual freedom is usually lost. This, of course, is the subject of George Orwell's book *1984*². Big Brother may soon be watching you.

By 1984, given the current* rates of increase (0.9 percent and 400,000/year immigra-tion) the population of the U.S. will be about 232 million, an increase over today's popula-tion by a number almost equal to the population of the State of California. The cost is collective, but we are all paying for it individually by giving up, little by little, more and more freedom. We can no longer escape to the west for risk of bumping up against our progenitors.

As this trend reaches a threshold, I would expect that policy makers will begin to consider group rights over individual rights, which to date, largely because of our political history as a nation, has been considered undemocratic and unconstitutional.

In spite of the problems I have outlined above, we are faced with the objective of optimizing the recreational experience in the coastal zone now. Order is better than disorder; management is a necessary evil. The whole problem of planning and managing coastal recreation in the United States has recently been reviewed by Robert B. Ditton and Mark Stephens³ as a technical assistance project for state CZM managers, sponsored by the Office of Coastal Zone Management, NOAA.

The first step is to develop a "Plan." This step has in fact been taken at least twice in the U.S., first in 1965 with a federal act requiring State Coastal Outdoor Recreation Plans (SCORP), and more recently with the passage of the federal Coastal Zone Management Act of 1972.

In the time remaining this afternoon, let me attempt to outline the basic elements or research that should go into an idealized plan of management for marine recreation in the coastal zone.

1. Inventory of resources.
2. Inventory of user needs, both actual and unfulfilled (latent).
3. Estimates of carrying capacity of the resources.
4. Expansion (if warranted) of resources through acquisition or habitat improvement.
5. Increase (if warranted) of public access.

*1976

6. Dispersal of usage in space and time.
7. Designation of special areas for special uses (zoning).
8. Development of priorities for usage based on local needs.
9. Identification of legal authorities for management.
10. Estimation of economic value of recreational activity.
11. Formulation of plan of management based on the preceding.
12. Consideration of the overall environmental impact of the "Plan."

Much of what I have outlined above is called for in the Coastal Zone Management Act and is, in fact, under study within a number of states at the present time. Ditton and Stephens in their paper on the subject provide a wealth of detail concerning implementation of the "Plan."

To add emphasis, I would stress the importance of two aspects of the plan. First, during the inventory which is the first step in the plan, the question should be asked, "are the resources unique and if so in what way and for what purpose?" Unique resources like great surfing areas such as WindanSea, Dana Point, Cotton's Point, Salt Creek, Rincon to mention a few places in California; Sunset Beach, Makaha and Waikiki Beach in Hawaii; these are areas that should be identified as resources to be zoned for special uses for all time. The same argument can be applied to diving areas such as Scripps Canyon in California or Ngmelis Drop-off in Palau in the Trust Territories of the Pacific Islands. Such uniqueness also applies to a number of other activities including but not limited to; fishing, sailing, water skiing and even hang-gliding. The source people for obtaining this sort of information are the user groups, that is the people who demonstrate the need.

The second point I would like to stress has to do with placing a dollar value on the recreational experience. This has to be done in order for recreation to compete with alternative uses. One method often suggested to accomplish this, is to calculate what the public is willing to pay. If, for example, each person in the State of California went to the beach five times per year and was willing to pay \$2.00 per visit, that would be worth about one half million dollars per mile of accessible beach per year not to mention the dollars spent in hotels and restaurants, etc. and the multiplier effects.

Ditton and Stephens also outline numerous ways to seek funds from the government for both supporting the research that goes into the plan and acquiring grants-in-aid for state acquisition. To cite a few examples:

1. Office of Coastal Zone Management (DOC) - grants-in-aid to the states to develop a management program. A state "Plan" must be submitted and accepted by the Secretary of Commerce before states are eligible for federal grants.
2. Office of Sea Grant (DOC) - supports planning studies associated with recreational needs. The Sea Grant Advisory Services receives input from user groups concerning problems and translates problems into solutions by way of tapping research expertise within the Universities.
3. Bureau of Outdoor Recreation (DOI) - grants-in-aid for state acquisition.
4. National Park Service (DOI) - federal purchase of private lands for parks.
5. U.S. Fish and Wildlife Service (DOI) - preservation of marine sanctuaries within which some recreational activities are permitted.
6. Bureau of Land Management (DOI) - preservation of undersea areas of unique ecological significance.
7. Corps of Engineers (DOD) - restoration of beaches.
8. Coast Guard (DOT) - search and rescue, small boat safety programs.
9. Federal Highway Administration (DOT) - financial support for pedestrian and bikeways.

And there are others; the list is by no means an exhaustive one. The "Plan" itself must come from the state, however, the private sector may interact in a number of ways: through the public hearing process, lobbying, and by publicizing the problems and the needs of the

users. In the last respect, this is why we are here today. Of course, in the last analysis the private sector can also contribute by having fewer children.

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MARINE SANCTUARIES: WHERE TO NEXT? (A PERSPECTIVE)

*Robert D. Graham**

Francis Bacon, a renaissance man, wrote that research endeavours to observe a kind of perspective, that one part may cast light upon the other.

A perspective is a viewpoint in which parts of a subject are surveyed in an attempt to form an opinion. This paper cannot possibly encompass a complete evaluation of the multitude of reports that have been written, rather it attempts to synthesize and conceptualize a possible direction for the Marine Sanctuary Program, in the U.S.A. An alternative is offered for consideration.

INTRODUCTION

Marine Sanctuaries represent a pledge by the Congress of the United States to study, plan and manage valuable marine environments as far seaward as the outer edge of the continental shelf, coastal waters, where the tide ebbs and flows, the Great Lakes and their connecting waters.

In the face of present National and International demands to allocate marine resources, it is my sincere hope that the program succeeds. We possess the necessary technology, human resources and legislative capabilities to accomplish the goals of conservation, protection and multiple use of these resources.

Within the last ten years, man has discovered that there is a limit to the earth's abundance and that the earth has a limit with respect to its ability to absorb the discards from her human inhabitants (Ekstrom, 1974). As early as 1600, in Poland, the 'planners of that era' recognized the need to limit growth and designated specific areas to protect ecosystems (a grouping of interdependent populations and their related environments which comprise a definable unitary system within the living world) (Boughey, 1973).

The most significant decision in the international conservation field was made in 1948, with the creation of the I.U.C.N. (International Association for the Conservation of Nature and Natural Resources). Its charter encourages nations to conserve species, including the

Note: The opinions contained within this report are those of the author.

* Dr. Graham is Lecturer Faculty of Human Kinetics and Leisure Studies, University of Waterloo, Waterloo, Ontario

widest range of their genetic varieties, and of the biotic communities and ecosystems of which they are related (I.U.C.N., 1948). This group lobbied at the United Nations for the creation of an International Biological Program (I.B.P.), which began surveys and inventories of potentially endangered habitats and species throughout the world, and created a focal point for researchers and legislators between 1966-74.

This program also spawned the Man and the Biosphere Program (M.A.B. in 1971) which had as one of its functions the co-ordination of world wide research associated with national parks, biological preserves and other protected areas (Batisse, 1971). In 1972 U.N.E.S.C.O. sponsored the United Nations Conference on the Human Environment. Principle 2 approved by representatives attending the conference in condensed form states:

“ . . . the natural resources of the earth including the air, water, land, flora and fauna, and especially representative samples of natural ecosystems must be safeguarded for the benefit of present and future generations through careful planning and management . . . ” (U.N. Conference on the Human Environment, 1972)

Between 1966 and 1975, Japan convened several international conferences that reviewed the development of Marine Parks throughout the world. The mandate expressed by the First World Conference on National Parks (Seattle, 1962) was reinforced in 1974 by I.U.C.N. and the World Wildlife Fund (WWF). At present there are approximately 150 'marine parks' throughout the world, which attempt to serve the same 'raison d'être' as terrestrial parks (i.e., areas which because of their scientific, educational, economic, esthetic, cultural and recreational values are designated national wilderness and/or sanctuary areas) (Björklund, 1975).

In 1972 the 92nd Congress of the United States passed the Coastal Zone Management Act (P.L. 92-583) and the Marine Protection, Research, and Sanctuaries Act (P.L. 92-532) which established national policy for the designation of marine sanctuaries in the coastal and contiguous zones (Lynch, Patton, and Smolen, 1973). Perhaps the term suggested by Spilhaus of 'eco-librium' which connotes a balance between economic resources and ecological concerns best describes the deliberations, comments and concept associated with marine sanctuaries (Spilhaus, 1975).

At present several nominations of areas for marine sanctuaries have been received in Washington. These include U.S.S. Monitor; Florida Keys: Crystal River; Puget Sound; California coastal areas off Santa Cruz, Monterey and San Luis Obispo. Other areas being considered but not nominated as of July 31, 1975 include, the bay and ocean waters off Assateague Island, the Flower Gardens Reef off Texas, Bristol Bay, and an area adjacent to Sleeping Bear Dunes National Seashore in Lake Michigan (Keifer, 1975).

For the purpose of definition, a marine sanctuary can be described as:

“ . . . an area of land in contact with the sea, whether submerged or emerged; in the first case it is a sub-marine parkland, in the second it may be totally separated from the continental mass as an island, or it may contact with the continent taking on several geographic forms such as a peninsula, a cape or any other of the various land formations which have contact with the sea . . . ” (Galarza, 1968).

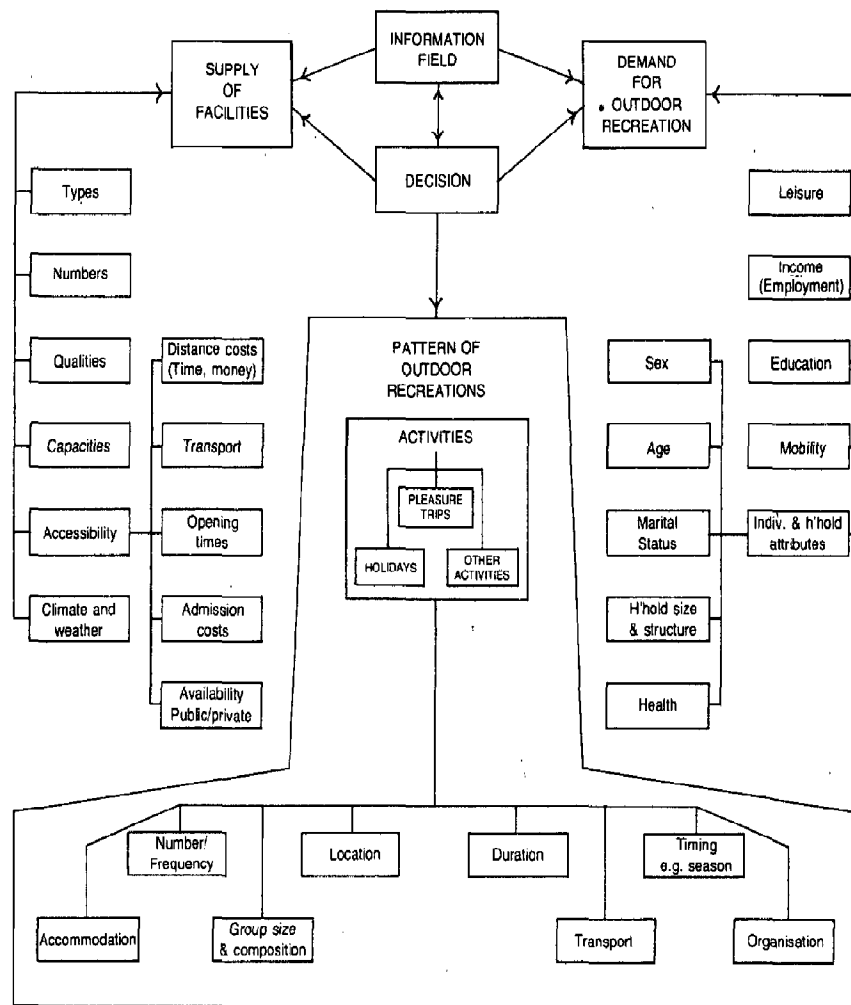
Undoubtedly, the fluidity of the marine resources, the migratory behaviour of species and the susceptibility of an area to influence from outside will have to be considered. A buffer zone surrounding the true park may be necessary to protect the resources of the area (Marsh, 1971).

PROBLEMS

When conceptualizing the impact of marine sanctuaries it is necessary to begin with a basic theoretical framework (Figure 1). The framework illustrates that we must begin to understand demand in terms of human behaviour (i.e., what is expected by both the user and

FIGURE 1

THEORETICAL FRAMEWORK



(Wall, 1974)

non-user in regard to the quality of the recreational experience) and supply in terms of what it can support. With this in mind, it would appear that an understanding of the participants, site, and activity would be the next logical consideration.

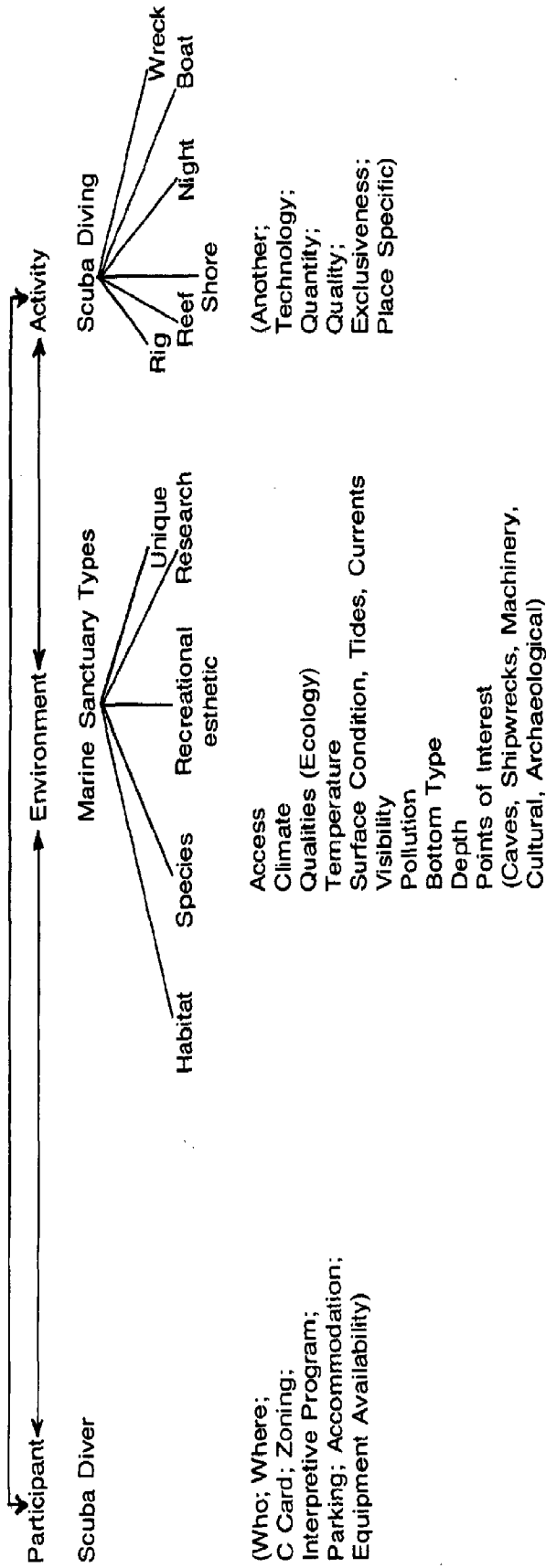
The 'systems approach' has been applied by ecologists to develop models which simulate or predict a set of conditions (Figure 2). This technique presents the problem as a series of elements, which have definable characteristics that when examined alone and in concert with each other evoke specific relationships that may affect one aspect of the system or the entire system (White and Tauber, 1969). Scuba diving and the diver were chosen for this illustration although a variety of systems could be constructed with other activities.

PARTICIPANT

By definition, all sanctuaries are to be multiple use areas, to the extent consistent with the primary purpose for establishment of the sanctuary. The principle problem associated with management of these areas will be users (participants).

At present there are approximately 2 million certified scuba divers in the United States. During the four year period between 1970-73 the number of certified divers trained per year doubled (Hardy, 1975 and The Recreation Imperative).

**SYSTEMS APPROACH
TO
MARINE SANCTUARIES**



Possible Interactions That Effect The Above Stated System

1. Participant — Environment
2. Environment — Activity
3. Participant — Activity

FIGURE 2

One of the most important considerations that must be evaluated to accurately assess demand is identification of the socio-economic characteristics of the diver. Expressed and actual patterns of use at designated or undesignated areas must be identified if effective management decisions are to be made. At the same time this inventory of demand will aid funding agencies in justifying their budget priorities to acquire funds for sanctuaries.

To aid resource managers, and protect administrative authorities participants should be required to present a basic C card at a central office. The issuance and return of a user permit, similar to the hiker's permit in the National Parks, will aid in the protection of the marine environment by providing a reasonable estimate of human impact on the area. Special areas of intensive use (boaters, divers, construction groups and fishermen) may have to be zoned, for specific uses. At present the participant is basically concerned with public access to the site, allocation of resource between conflicting groups and the effect of large urban centers on his recreational environment.

An interpretive program (literature/slide presentation of what to do and where to go), adequate parking, overnight accommodation and local or on site services (air station, repair shop with replacement parts, sundries and the availability of water transportation) should be considered during the planning process.

ENVIRONMENT

As with most park systems there is a problem defining their purpose as they usually display a variety of functions, some of which may not be compatible. Nomination of areas to NOAA specifically requests the precise function of the proposed area.

NOAA's position with respect to site consideration indicates that there will be five different areas, zones or regions. These are:

- a. "Habitat: These areas (regions or zones) will be created to preserve, protect and manage specialized marine or estuarine eco-systems (i.e., one of a kind; i.e., coral reefs or hypersaline lagoons).
- b. Species: These areas (regions or zones) will be dedicated to protecting selected species during part or all of its life cycle.
- c. Recreational and esthetic: These areas (regions or zones) will be used to augment existing Parks and/or National Seashores to ensure that a portion of the seascape is protected to provide an equal experience as obtained on land.
- d. Research Areas: These areas (regions or zones) will be used as benchmarks to monitor changes in the associated ecosystem to provide a comparison to the site with man-made activity.
- e. Unique Areas: These areas (regions or zones) will be utilized to protect unique cultural, historical, economic or biological phenomena" (Keifer, 1975).

It should be noted that certain areas may have a combination of one or more of these types on one site (e.g., U.S.S. Monitor: esthetic-unique, Florida Keys: ecological-habitat, Florida Manatee: conservation-species, and Killer Whale: conservation-species). Natural phenomena (climate limnology, geology, and biological considerations) must be inventoried to determine whether there is a site limitation that could seriously restrict use of the area.

Inventories of the marine environment which identify regional areas (regions or zones) will be necessary. These regions can then be compared with those that appear at the waters edge on the foreshore, and estuaries.

A comprehension of demand on the resource can then be super-imposed on the inventory to generate a series of alternative management schema on a regional basis.

Some of the extremely thorny issues in management to be resolved, which are specific to each site are ensuring perpendicular access through riparian private lands adjacent to public areas (Ditton, 1974) (access routes over reasonable terrain are a necessity for the

equipment laden diver); minimizing distance travelled to sea (on foot); and selecting location of man made facilities (e.g., artificial reefs).

Unfortunately most resource planners overlook the ergonomic considerations that must be evaluated during the site selection process. These include water temperature (too cold—hypothermia) (Burton and Edholm, 1955 and Keatinge, 1969); surface condition (which will affect the amount of energy expended by the diver while on the surface); visibility (water transparency is perhaps one of the more important factors that not only affects the quality of the experience but safety and effectiveness of the participant); pollution (risk of infection); bottom type (certain materials when disturbed not only impair visibility but may damage certain habitats); and depth (the physics, physiological, and medical aspects of diving as well as the current state of equipment design available to the sport diver limit his operational capabilities). Most sport divers do not engage in decompression diving on a regular basis, thus depths of approximately 100 feet are more than adequate. Arrangement of dive patterns from a deeper depth to a shallower one should be encouraged as an aid to avoidance of decompression sickness. Points of interest (e.g., shipwreck, biological, and coral or rock formations) should be considered in dive site selection.

ACTIVITY

Scuba diving is a unique recreational activity in that it is usually performed in the company of another (for safety reasons). It also requires some technology (life support equipment and protective suits), and recent advances in the diving industry have increased the underwater capabilities of the diver (e.g., powered submersibles, diver propulsion vehicles and aluminum tanks). The activity usually requires water resources of a certain amount of quantity, quality and exclusiveness to permit an optimal experience. Thus sport scuba diving tends to represent a facility and place specific event.

MANAGEMENT IMPLICATIONS

Once theme, function, and location have been decided a format which guarantees opportunity and protection of resources, by region, must be selected.

Figure 3 represents an attempt to classify the types of sanctuaries and reconcile the activities that they may or may not support. Undoubtedly, other formats have been suggested but this one provides the planner with a guide of how many of what should be where and the potential impact of use upon the resource. (The matrix and concept were developed by T. Lee, Ministry of Natural Resources, Province of Ontario for terrestrial parks.) This is an extension of the concept into a marine environment based on NOAA's classification system.

A potential management scenario might be represented as:

- a. "Habitat: Habitat areas (regions or zones) will have management focused on protecting the environment at a level to maintain the well being of the living resource.
- b. Species: Species areas will attempt to maintain sufficient genetic resources to ensure continued reproduction of the species at a level sufficient to maintain the population in its ecological niche over its present geographic range.
- c. Recreational and esthetic: Hopefully this type will be located near large urban centres and capable of supporting a variety of leisure pursuits. Thus the implication of using this area (region or zone) to augment present existing parks is a consideration.
- d. Research Areas: These will be systematically selected to represent the existing range of eco-systems at a site. (They will not be managed for commercial, consumptive or mass recreation-authors comment).

- e. Unique Areas: Living and existing phenomena, which are classified as unique (salt dome; shipwreck; tidal bore) will be managed on a non-removal basis except by permit from the appropriate administrative agency" (Keifer, 1975).

Tentative functional land based areas that may be considered include transportation, water base access, accommodation and visitor activities.

Perhaps the most interesting aspect associated with Marine Sanctuaries is the fact that at many sites, to guarantee a specific level of water quality, some form of regional land use management will have to be considered for the adjacent shoreline areas.

CONCLUSIONS

Undoubtedly, there are other problems and alternatives that ought to be considered in any discussion of marine sanctuaries. This discussion has attempted to illustrate the following:

1. Marine sanctuaries are a dynamic, interacting, place specific environment that an understanding, of who can do what and what can the site support (Figure 4 represents a graphic illustration of the phenomena) is required. Thus, regional, cooperative, rigorous research on each of the components of the system's analysis is a prerequisite step that ought to be considered preferably before or at the same time that designation and management procedures are developed.
2. An understanding of the participant's needs, interests and problems relative to use or non-use of the sanctuary is the key to the development of effective management procedures.
3. The concept of 'eco-librium' must pervade, but the knowledge that the resource is finite must be recognized. Enlargement of the base over time should be considered and if possible implemented. At present, consideration must be given to the fact that economics alone are *not* the only penetrating science capable of understanding demand and quality of the experience.
4. A potential 'classification system' has been offered as one alternative for consideration. The environmental and regional considerations of this approach deserve further scrutiny.

FIGURE 3 ACTIVITIES PERMITTED BY TYPES OF SANCTUARIES

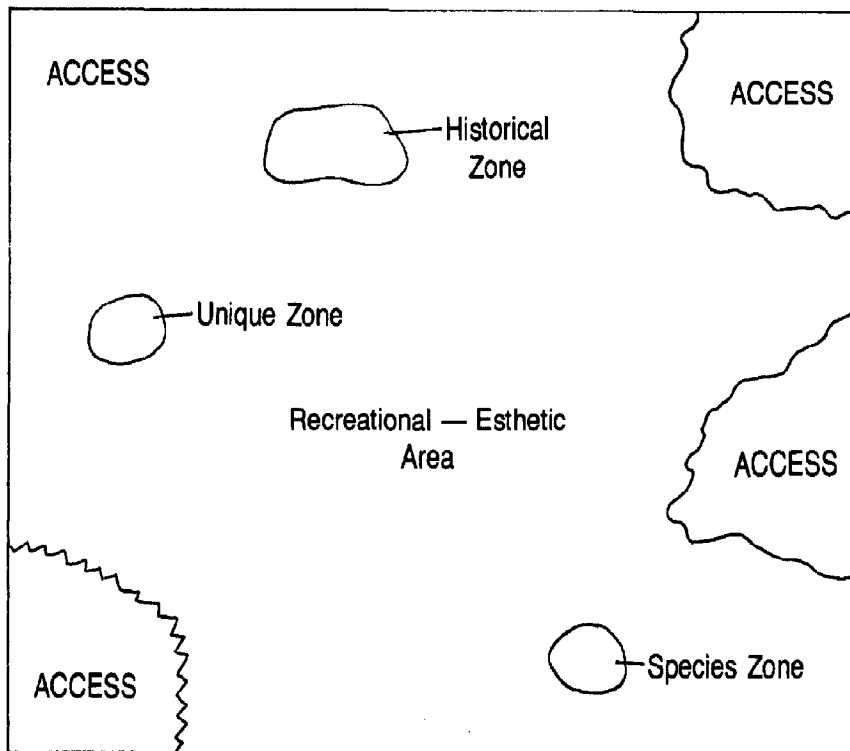
Symbols used below: Y — Yes
 M — In special instances
 NC — Non-conforming use

Note: Where Y is indicated it is not suggested that the activity must always be found within the class concerned.

Development and access zones are considered subordinate zones. The type of facilities and programmes offered in these zones will reflect the management policies of the particular type of sanctuary to which these zones are applied. Note it is assumed some of the sanctuaries will be adjacent to a land based park.

DESCRIPTION OF ACTIVITY	ZONES OF SANCTUARIES					
	Unique	Research	Species or Habitat	Historical	Recreation and esthetic	Access Zone
A-TV. operator	NC	NC	M	NC	Y	Y
Arboretum (non-natural)	NC	NC	NC	NC	Y	NC
Archery (range)	NC	NC	NC	NC	Y	NC
Angline — boat	Y	M	Y	M	Y	Y
— jetty	Y	NC	Y	M	Y	Y
— pier	NC	NC	NC	M	Y	Y
— shore	Y	M	Y	M	Y	Y
— stream	Y	M	Y	M	Y	Y
Boating (powered) (except innocent passage)	NC	NC	M	M	Y	Y
Camping — motor boat	NC	NC	M	NC	Y	M
— primitive	Y	M	Y	NC	NC	NC
— group	NC	NC	M	NC	Y	Y
Day-camping	NC	NC	NC	NC	Y	Y
Springboard Diving (with facilities)	NC	NC	NC	NC	Y	Y
Fishing	Y	M	Y	Y	Y	Y
Flying aircraft	NC	NC	NC	NC	NC	NC
Handicraft instruction	NC	NC	NC	Y	Y	NC
Hiking	Y	Y	Y	Y	Y	Y
Hunting — big game	NC	NC	M	NC	Y	Y
— upland bird	M	NC	M	NC	Y	Y
— upland game	M	NC	M	NC	Y	Y
— waterfowl	M	NC	M	NC	Y	Y
Ice Boating	NC	NC	M	NC	Y	Y
Kite Flying (areas and facilities)	NC	NC	NC	NC	Y	NC
Mini-bike trail	NC	NC	NC	NC	Y	NC
Model aircraft flying	NC	NC	NC	NC	Y	M
Model boat facilities	NC	NC	NC	NC	Y	NC
Nature study	Y	Y	Y	Y	Y	Y
Organized team sports	NC	NC	NC	NC	Y	NC
Painting	Y	Y	Y	Y	Y	Y
Performing arts	NC	NC	NC	M	Y	NC
Picnicking (with facilities)	NC	NC	M	M	Y	Y
Playground facilities	NC	NC	NC	M	Y	M
Recreation centre	NC	NC	NC	M	Y	M
Resorting	NC	NC	NC	NC	M	M
Restaurant — Food Services	NC	NC	NC	M	Y	Y
Religious programmes	NC	NC	NC	M	Y	NC
Sailing	Y	M	Y	M	Y	Y
Scientific study	Y	Y	Y	Y	Y	Y
Scuba diving (facilities)	NC	NC	M	M	Y	Y
Surfing	NC	NC	NC	NC	Y	Y
Swimming facilities	NC	NC	NC	NC	Y	Y
Tennis and court games	NC	NC	NC	NC	Y	NC
Water skiing	NC	NC	NC	NC	Y	Y
Wildlife viewing	Y	Y	Y	Y	Y	Y
Programmed recreation	NC	NC	M	M	Y	Y

FIGURE 4
 Illustration of Multi-Use Concept and Classification
 System For A Recreational-Esthetic Area



NOTE: Based on NOAA's stated management objectives, a diagram may be produced for each area.

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TECHNIQUES FOR MINIMIZING COASTAL ZONE RECREATION CONFLICTS: AN OVERVIEW

*Jon A. Kusler**

INTRODUCTION

This paper considers techniques for minimizing conflicts between coastal zone recreation uses. It first reviews some general characteristics of conflicts. It then suggests four recommendations for minimizing conflicts. It concludes by describing an innovative institutional approach for minimizing conflicts and reconciling public and private coastal zone uses.

NATURE OF CONFLICTS

You are all familiar with three common types of conflicts between coastal zone uses:

- Intrause of conflicts between the same types of recreation uses (e.g., motor boat hits motor boat, bird watcher disturbs bird watcher),

*Mr. Kusler is an Attorney at Law

- Interuse conflicts between different types of recreation uses (e.g., motor boat hits swimmer, marina displaces wildlife area), and
- Conflicts between recreation and non-recreation uses (e.g., industry destroys beach recreation area). This latter category is often the most serious type of conflict but largely outside of the scope of the present discussion.

On closer examination, all three types of conflicts involve one or more types of interferences or incompatibilities between uses:

- Physical interferences between uses (e.g., motor boat hits swimmer),
- Psychological interferences between uses (e.g., dune buggies disturb bird watchers), and
- Physical destruction of the resource base by one use that, in turn, destroys the suitability of an area for other types of recreation uses (e.g., dune buggies may destroy vegetation and wildlife needed for nature watching).

A fourth and separate type of conflict pertains not to interference between uses but to the individual or groups who may enjoy a particular use (e.g., public versus private use of a beach, use of a coastal area by the rich versus the poor).

Several important points emerge with regard to the minimization of conflicts: Interuse conflicts, intrause conflicts and conflicts between recreation and nonrecreation uses often do not become significant for an area until a certain intensity of use is reached. The analogy of a nuclear reaction is not too bad. As long as critical mass is not reached, there are no problems. Similarly, as long as a critical level is avoided, a variety of uses may be accommodated along a stretch of coast. But once a critical level is attained, uses begin to physically and psychologically collide with a resulting exponential increase in problems.

Conflicts often depend not so much on the types of uses but how they are carried out. Motor boating may be conducted in proximity to swimming and fishing if care is taken in operation of boats, swimming limits are respected and boating hours are observed. Similarly, construction of a single family residence may not disturb a nearby wetland if no filling is done, the use is carefully constructed to reduce erosion, and a buffer area is maintained.

Programs to reduce conflicts must often operate after the fact. Coastal zone management has not generally been a forward-looking operation to date. Instead, most operational programs are rear guard actions to minimize problems once they have developed.

Accommodation of private interests is, in many situations, a practical necessity for attempts to minimize conflicts and promote multiple uses. One must recognize that *the coastal zone is already largely in private hands and allocated to particular uses*. Acquisition of large acreages of private land is often prohibitively expensive and politically unacceptable. Attempts to maximize public recreation and reduce conflicts between uses must deal with private rights and interests, not ignore them.

SOME RECOMMENDATIONS FOR REDUCING CONFLICTS

Four principal suggestions may be made for minimizing conflicts and establishing the priorities in coastal zone uses:

- (1) Guidelines are needed to list and describe the specific natural resource and cultural requirements of specific coastal zone uses. These guidelines might follow, in some respects, a report published by the Bureau of Outdoor Recreation some years ago which listed recreation use space demands for particular types of uses. A concise set of guidelines is needed concerning the natural resource requirements of particular uses (e.g., what combination of characteristics is needed for a satisfactory surfing beach); the space demands (e.g., how much area is required for each user and for various mixes of uses); the cultural requirements (e.g., road access, supervision); the anticipated environmental impact of uses

upon the environment (e.g., impact of bathers upon beach vegetation); and techniques for minimizing impacts. Such guidelines would be useful even if they were guestimates or ball park estimates at this point in time. Estimates could later be checked through empirical studies. Perhaps Sea Grant could play a leadership role in preparing such a report.

(2) Once a better handle is provided on the requirements and impacts of particular types of uses, an improved physical data base is also needed to apply this information. For example, what specific areas along a coast are suitable for skin diving, surfing, nature watching? Frankly, much of the satellite and low resolution air photo data now being developed or proposed at the federal level is relatively useless for detailed coastal zone planning. Data required for analysis, planning, and regulatory purposes should include:

- Detailed base maps at scales of 1 inch equals 200 feet to 1 inch equals 2000 feet.
- High resolution and large scale air photos to suggest vegetation, special geologic features, water depths, existing uses, scenic qualities, wetlands, and other features.
- Detailed flood, erosion, and wetland mapping through air photos combined with field surveys.
- In some instances, land ownership surveys, social, economic information.

The federal government and states should play major roles in developing this information but may also aid local efforts by providing grants-in-aid, detailed air photos, and technical assistance. Nomination procedures can often be used to solicit information from interest groups, local units of government, and private citizens concerning surfing areas, swimming areas, wildlife areas, erosion and flood problem areas and other areas of special concern.

(3) Even if the requirements of particular uses and the location of sites with those characteristics are known, improved institutional mechanisms are needed for deciding acceptable levels of conflict and prioritizing uses. The problems of legislative and public involvement in coastal zone decision-making are beyond the scope of this paper. However, increased efforts to sensitize the public and make them aware of alternatives are needed such as public hearings and workshops. State standard-setting for coastal zone uses can help ensure that the interests of all state citizens not only coastal zone land owners are reflected in coastal zone decisions.

(4) Innovation and creativity are needed in the selection of implementation techniques including, in many instances, the use of improved land and water use regulations. The most successful programs for minimizing land and water conflicts have, with little exception, been developed with a sensitivity to the factual base and have, from their inception, carefully considered the requirements of particular implementation techniques. Regulations are, of course, increasingly popular, but improvements are needed in data gathering, the formulation of use standards, and regulatory administration to ensure that regulatory objectives will in fact be achieved. Three principal types of regulatory standards are available to reduce conflicts:

- First, the adoption of zone restrictions to separate conflicting uses (e.g., residences and industries). A separation approach may be implemented through nonregulatory as well as regulatory techniques (e.g., park acquisition to functionally separate recreation and residential uses). A separation approach has some merit but is often inefficient.

Second (and often combined with the first) the establishment of minimum performance standards for uses to minimize conflicts with adjacent uses and their impact upon the environment. For example, boating regulations may prohibit high speed operation near shore. Zoning controls often require setbacks for structures, control fills and grading, and require protection of uses against flood and erosion. Typically coastal zone programs require special permits for a wide range of uses. Special permits are granted only if certain conditions are met such as retention of shoreline vegetation, control of building heights, control on the use of onsite waste disposal systems. Although a performance standards approach is attractive in minimizing impact, it requires a sound data base and special expertise during administrative phases of a program. In addition, it may be abused through promis-

cuous issue of special permits based upon political rather than natural resource considerations.

- Third (and often combined with the other two), density controls may be adopted to limit the total number of uses or users in an area, thereby indirectly reducing conflicts. Zoning and other regulations commonly establish minimum lot sizes and water frontage requirements.

THE PUBLIC/PRIVATE PARK CONCEPT

Assuming improved data gathering, analysis methodologies, and implementation techniques, the question remains: what institutional framework is appropriate for a given area to formulate and carry out coastal zone management policies? Direct state implementation is appropriate in some instances (e.g., coastal wetland regulation) but often suffers from lack of onsite contacts and supervision required for planning, administration and enforcement. Implementation by local units of government (cities, towns, counties) is also satisfactory for some areas although local units often suffer from lack of expertise and narrow management perspectives. The use of special commissions such as the San Francisco Bay Conservation Development Commission and the California Coastal Zone Conservation Commission is a third alternative.

However, each of these alternatives is subject to limitations for the protection and management of major coastal recreation areas or ecosystems of statewide or national significance where much of the land is in private ownership and strong pressures exist for public use. State implementation may be out of touch with local needs. Local implementation is hindered by jurisdictional boundaries as well as narrow management perspectives. Special commissions often lack broad-based political support and a full spectrum of implementation powers.

Another alternative—the creation of what I call public/private parks*—can, in some instances, provide a more effective management institution for these areas. Such public/private parks have already been created for national coastal recreation areas such as Cape Cod National Seashore, Indiana Dunes, and Fire Island. State public/private parks or special management areas include Martha's Vineyard, Nantucket, and Adirondack State Park in New York (an island location). The entire English national park system is based upon a public/private park concept. Such public/private parks have been established for areas with special scenic beauty, wildlife and recreational values and large blocks of land in private ownership, with high land values where land acquisition for the entire area would be prohibitively expensive and politically unacceptable, in need of careful data gathering, planning and regulation to achieve a high degree of resource protection while permitting continued private multiple use of the land, and where existing institutions lack necessary expertise, scope, implementation powers, or incentives to protect statewide or national interests.

Public/private parks resemble in some respects special purpose local units of government but with boundaries consistent with topographic and ecosystem limits. Park boards are, in most instances, vested with a broad range of implementation powers (e.g., regulation, acquisition, construction of public facilities) and are provided with sufficient funding and expertise to carry out detailed data gathering, planning and plan implementation. They emphasize, in their planning and policy-setting efforts, protection of scenic beauty and wildlife and the promotion of public recreation but also consider the local economic community, the preferences of local governments and landowner needs. Planning and regulatory boards are constituted to reflect both local and broader interests. Park units rely primarily upon land and water regulations for minimizing conflicts between uses and protection of

*The parks are private only in the sense that large blocks of private land are included. For a more detailed discussion see J. Kusler. *Public/Private Parks and Management of Private Lands for Park Protection*. University of Wisconsin, Madison, Institute for Environmental Studies, March 1974.

natural values. However, selected areas are purchased for public picnicking, hiking, swimming and other uses. In the case of the national recreation areas, Congress has authorized the Department of Interior to adopt minimum standards for local land use regulations and to acquire, through the use of eminent domain powers, lands failing to comply with these standards.

English national parks are the most sophisticated of the public/private parks and suggest useful approaches for this country. English parks are almost entirely in private ownership but use tight land use regulations to protect scenic beauty and promote outdoor recreation values. The parks incorporate a number of techniques for reducing landowner opposition to regulations including real estate taxation at existing use value, modification in tort liability, and the negotiation of access agreements to compensate private landowners for public use of private land.

The English, of course, have different traditions in land use and the extent to which the English approach can be applied to coastal parks and reserves in this country remains to be seen. Certainly the creation of new public/private parks will require a rethinking of the park concept. However, the emphasis of the English approach upon more sophisticated land use control mechanisms, the reconciling of interests, and the accommodation of private rights through a range of incentives is sound.

In conclusion, it may be suggested that future techniques for reducing coastal zone conflicts will (whatever their form) require more attention to the nitty gritty of implementation techniques and less to the generalized data gathering, planning, and policy-setting now in vogue. It will require creative thinking, a strong factual base, the willingness to view the coast as a series of mini environments with special capabilities and limitations and an emphasis upon the minimization of impacts of uses through performance standards and conditions attached to development.

RAPPORTEUR'S REMARKS

*Neil Ross**

Moderator and members of this panel included Richard Stroud from the Sport Fishing Institute, Matt Kaufman from Boating Industry Association, Richard Grigg from the University of Hawaii, Robert Graham from the University of Waterloo, and John Kusler from the University of Wisconsin.

The classic case I think was described in our workshop and it's a struggle for a place on the beach. It's called "The Tragedy of the Commons" which was defined as a common property resource in short supply, subject to increasing demands due to population growth and trends in modern living.

We tried to take a look at what the nature of the competition was on the shore. There were intra-use conflicts between the same recreators. For example, one surfer competing with another surfer, banging into each other. Or with boating, sail boats and water skiers may be somewhat in competition for the same water at the same time. There are other noncompatible uses where one preempts or destroys the resource use by others. For exam-

*Mr. Ross is Marine Recreation Specialist for the University of Rhode Island Marine Advisory Program

ple, an oil refinery may preempt the use for a state park on the same location. Many dissimilar uses we found can co-exist until such time as the intensity of the use increases so that they can no longer avoid each other. Other dissimilar uses may be quite compatible, for example, surf casting early in the morning in areas that are used in the middle of the day by surfers.

Conflicts are functions not so much of what is done, but how it is done, when and by how many. We recognize that conflicts do exist and that as planners we must deal with them in the best ways available at that time; also that programs to reduce conflicts often happen after the fact.

The whole coastal zone management movement really is a reallocation of areas and resources already in some type of use. We are not planning for the future. We are dealing with what has happened. This kind of management means that some freedoms are given up in the process.

What can be done? Fifteen different points were raised in our workshop and I have attempted to put them together.

1. Detailed inventories of marine resources and economic data presented on small scale maps.
2. The inventory of actual and latent user needs. The suggestion was made to prepare a booklet to detail space needs for individual recreation uses, such as how much space do you need to fly cast, how much do you need for water-skiing. Initially these guidelines would be guesstimates, but until tested these may be better than no guidelines.
3. Estimate carrying capacity.
4. Establish priorities for local needs.
5. Expand the resource through acquisition or habitat improvement.
6. Increase public access, especially to the under-utilized areas and waters. Actually, in this case it may mean nothing more than letting people know that the good waters are there that you can get to.
7. Disperse usage in space and time. Zoning and density controls were mentioned.
8. Design special areas for special uses; for example, areas designated for surfing, which meet special requirements.
9. Establish performance standards for use, perhaps tests and permits for the user.
10. Identify legal authorities.
11. Estimate economic value of the recreational activity.
12. Involve the user groups and tap their specialized knowledge. Often the surfers know a lot more about the wave and bottom conditions than do many of the geologists employed by the government agencies. Tap that resource.
13. Formulate plans for implementation at the lowest level of government nearest to the resource to be developed.
14. Outdoor education is needed, not only to improve the safety of the use but to diversify the types of uses, hence to disperse the users.
15. Use the Sea Grant Marine Advisory services to plan local and regional workshops, bringing together those affected and interested from the recreators to the government officials.

Two very specific types of recreational proposals were suggested. One is the development of marine sanctuaries, areas of land either merged with or submerged in the sea. In the world there are some 150 such marine parks and this offers a great potential.

The second suggestion was in the area of public-private parks, management units receptive to the different levels of input and control, federal, state, local and private. Recognizing that we cannot afford, nor do we necessarily want, to buy everything, we can develop public/private parks to allow public regulation.

We can therefore, I think, share and allocate these scarce resources. There is competition, but we can deal with it.

ALLOCATION OF LIVING MARINE RESOURCES—RECREATIONAL FISHERIES PERSPECTIVES

*Frank E. Carlton**

The pursuit and capture of game is one of the ancient answers to man's desires. From the earliest times man has felt a need beyond the basic demands for food and shelter, a further need to escape from toil and worry that finds relief in various forms of recreation. Hunting and fishing as sport became and remain popular because they require complete attention, are therefore diverting and second, because they continue to rekindle the atavistic drive to survive. Although recreation cannot be considered a necessity in the same sense as nourishment and warmth, recreation—the re-creation of man's interests and energies—does provide a vital quality to life; a quality contributing directly to the sense of accomplishment and happiness upon which men judge the meaning and worth of their lives.

Today we appreciate that rest and play are not frivolous considerations, but are directly related to the maintenance of individual health and efficiency and also contribute to the collective reduction of antisocial behavior and crime. The utilitarian aspects of recreation are undisputed, but the economic value of these activities and the determination of just who shall pay the bill continues to be an escalating argument, especially among industrial and recreational users. Conflicts concerning allocation of resources and maintenance of a clean environment appear diverse but are actually superficial manifestations of a single fundamental character trait—human culpability. This trait is demonstrated in at least two significant ways: consciously behaving in ways we know are wrong and second, constructing abstract hierarchies we know are fallacious, e.g., the belief that some things in life are free—belong to everyone—when we know this euphemism only indicates that someone else is paying the bill.

Garrett Hardin's (1962) essay "The Tragedy of the Commons"† continues to offer one of the best illustrations of the modern dilemma of "rational man" continuing to do things he knows are wrong.

This basic behavioral difficulty must be faced before any satisfactory recreational (social) policy can be developed. It is pointless to talk about a national census of marine anglers or the total dollar value annually produced by the aggregate sportfishing industry when our fisheries problems cannot be solved until new legislation and new regulation is supported by a concensus of public will that there be new legislation and new regulation affecting natural resources. Congress is not capricious; to the contrary, it can only reflect a reality of public awareness and resolve. That sufficient public will to bring about a new morality, a new rationality, does not yet exist is evident to us all. We are a nation of free loaders and the cry of our fragmented society is "Let Joe Otherguy do it" and "I don't want to get involved".

But a philosophical analysis of human culpability is not appropriate to this conference. I was asked to discuss recreational fisheries needs in relation to other uses of marine resources and further consider how these needs can be translated into policy. I will examine

*Dr. Carlton is President, National Coalition for Marine Conservation, Savannah, Georgia

†(I would argue with Hardin's use of "rational" in that, although the herdsman may be acting logically in a limited abstract context, he is clearly irrational in a "real world" pragmatic context.)

those points, but keep in mind that a fisherman is simply a variety of Garrett Hardin's herdsman and that the ocean is, in an exact sense, the last commons of our planet Earth.

Marine Recreational Fisheries (MRF) needs include explicit identification, political recognition and effective management.

MRF identification will be difficult because the definition of recreation must be equally satisfactory to the scientist as well as to the Office of Management & Budget (OMB).

Political recognition will be difficult because legislative clout is determined by two factors—capital and organization—that are antithetical to fishing as a recreation. The sportfishing industry and the angling community are poorly organized, regionally and nationally, because men wet hooks to catch fish and to specifically avoid the competitive tensions of business and politics. The intrusion of such concerns into the contemplative and tranquil haven provided by fishing is only possible on a crisis basis and thus far less than 1% of ocean fishermen are aware of the eminent destruction of their sport.

Effective management for MRF will be difficult because we presently lack the basic data, we presently lack the scientific capacity to acquire the basic data and we presently lack the institutional structures to perform the necessary administrative work.

MRF needs—identification, recognition, management—have direct correlates in terms of policy—both state and federal; but before we consider specific policy recommendations let us digress to a limited discussion of certain common attitudes—that is, how people tend to think about recreational fishing, taking for one example the stated task of this panel. (Later we shall consider this conference as another example of obsolete concepts.)

This panel was designed to consider extractive versus non-extractive uses of marine resources. The terms "extractive" and "non-extractive" imply uses which may remove something either in an economic sense, a moral sense, or both. The economic meaning of "non-extractive" is important to our considerations in that all uses—even shell collecting and bird watching—have a cost. "Non-extractive" does not mean "free". Economists have long recognized that any use of a natural resource must have a value, but others, developers and sportsmen alike, have avoided paying their share of these utility costs as they would any other commodity. Society is now at the point that all natural resource users must recognize the value of other alternatives and be prepared to pay appropriate costs. The implied distinction between "extractive" and "non-extractive" repeats the traditional view that there continue to be uses of natural resources which are free when in fact, there never were and never will be, e.g., breathing clean air and drinking clean water are becoming prohibitively expensive.

The moral implication of "extractive" also requires comment. Great amounts of money have been spent condemning hunting and the right to bear arms. A similar attack has recently included fishing. Some of this criticism is justified; but a large portion of the Cleveland Amory (1974) type of publicity is merely perverted sensationalism offering no benefit or credit to anyone. The ecological unity of this planet supports the observation that plant, animal and man constitute a single living continuum that acquires nourishment by consuming a part of itself. (see Barry Commoner's *The Closing Circle*). No living thing can survive without eating something else that also is or has been alive. It is therefore clearly ludicrous to discourse upon the fact of death itself; when relevant morality can only be concerned with the when and how of dying. The true sportsman is primarily concerned with the quality of the experience, with the efficiency of it, with the elegance of it. The act of supplying food for one's own table with an excellent shot or a well placed cast is the essence of the recreational experience. Mere killing for its own sake places the killer in the context of the primal law of fang and claw and society should see that such persons are dealt with on that same basis. The real sportsman is concerned with good conservation programs and the humane practice of his sport. The fisherman does have a right to his pursuit of food and recreation.* The only additional factor we face today beyond those

*cf Preamble to the Declaration of Independence

encountered by our forefathers is that (again!) the modern sportsman must be prepared to pay his share of the real costs and accept that price as the operative factor in any eventual system of allocation.

At some point in the future the United States will establish a method to equitably allocate marine resources among various users. The mechanism itself is simple and predictable, but the prerequisite inventory of our marine resources, particularly a current catalog that would include relevant social and political institutions, is immeasurably more complex and—most important—presently beyond our political commitments! Aside from this difficulty, it would be even more presumptuous to predict the changes which will and must (or, *might or might not*) occur before the United States and/or the world at large arrives at the point of being able to affect a rational allocation of natural resources. But, it is fair to say that the United States will establish a method of allocation that must involve either: (a) a private enterprise approach, subject to normal market-place controls, or (b) a government distribution system based upon explicit criteria, e.g., economic, merit, lottery, or a simple sequence (first come first served). The explicit criteria listed here, prohibitive license fees, qualifying examinations, etc., are all in successful use. The method matters little as long as the standard is explicit. Society makes far more serious (and cruel) judgments on a daily basis, but these decisions are insulated in implicit camouflage that hides the violence in tacitly acceptable language and behavior. Trouble starts when these judgments are forced into the explicit light of day by calling names or permitting only privileged access.

The private enterprise approach to natural resource management is discussed by Edwin G. Dolan in his book *TANSTAAFL* (1971)—i.e., *There Ain't No Such Thing As A Free Lunch*. He suggests that the government sell our national parks to private agencies such as the Sierra Club who would, it is presumed, be more interested in the protection and equitable allocation of the park's recreational capacities than an industrial exploiter would be, or as past and recent events have so clearly demonstrated, than the government has been. Whatever organization is responsible for this management will have to be constituted in such a way that the quality of the resource is maintained and the total cost for its use and maintenance is supported by the entire user group.

Few private groups are now sufficiently endowed to purchase a national park (or seashore) and operate it properly, but such a program could be developed. As an immediate and interim step, regional user-group councils could be established to initially expand communication and educational capacities and subsequently the policy and administration functions necessary for management. The purpose of such a group would be to see that a reasonable resource use was supported by the payment of an equitable charge to the owners.

There is at least one other consideration mentioned earlier, precisely relevant to marine resource assessment and more generally related to the social and political institutions associated with the economic value of these resources. This consideration is the familiar criticism concerning present inadequacies of our assessment and management technologies. Mention was made in the introduction to this paper of the "prerequisite inventory" necessary to any natural resource management. The repetition of this particular theme is valid today and will be appreciated. In the particular and specific instance of the United States, discussions occurred almost 100 years ago emphasizing the need for marine environmental base-line studies, stock assessment, allocation and management. (U.S. Fish Commission, 1897). Yet we are here today, 100 years later, confronting problems which have been intensified by continuing those same practices which were first recognized, not just 100 years ago, but several thousand years ago by those early eastern and Mediterranean scholars who wrote about the fragile finite riches of the earth and the insatiable greed of man. The point to be stressed is that we continue to strenuously avoid facing the issue of individual culpability—the capacity of every man to do the wrong thing and tend instead to deal with the superficial appearance of crises rather than examining the more substantive issues of fundamental causes. We must recognize that this pattern of thinking cannot lead to an answer to our problems. The repetition of this context and its self-defeating limitations (an excellent example is also provided by the organization of this conference) is based upon the

assumption that a *technical* solution exists. The assumption is made that intensification of effort and an increase in rationality will inevitably lead to a resolution of our difficulties. It simply is not so. After several hundred years of effort, a significant minority of people are at last beginning to realize that a fundamental change in social values and individual behavior is necessary to survival, but the force of that realization is still limited to a few academicians and environmental alarmists. The ecological challenge—which requires a far more fundamental change than the threat of global atomic war—is not yet taken seriously by the general public or consequently by the Congress.

These MRF basic needs—a gigantic expansion of scientific capacity and a gigantic expansion of public communication and education—should be viewed in the larger context of national or global natural resource programs, of which fisheries and other marine exploitation efforts are but a small part. These MRF needs—adequate data and an aware and responsible electorate—are clearly universal requirements, prerequisite and fundamental to the more specific needs and policy suggestions for MRF which follow.

The stated purpose of this conference is to develop a dialogue “focusing on critical issues concerning planning, management and use of marine resources for recreation” as a contribution toward the development of national policy. Certain major critical issues regarding management have previously been published in a paper entitled “Statement of Basic Principles and Provisions for Marine Fisheries Management” developed by the National Coalition for Marine Conservation (NCMC) (Weld, 1975) in cooperation with the Sport Fishing Institute (1975).

STATEMENT OF BASIC PRINCIPLES & PROVISIONS*

The following purposes and provisions are held by the undersigned recreational fishing and conservation organizations to be the minimum basic requirements of an effective marine fisheries management regime:

1. A clear and unequivocal commitment to long-term conservation goals including the restoration of depleted stocks and the maintenance of productivity of all fisheries.
2. A clear and unequivocal commitment to obtaining and maintaining the scientific data base essential to effective fisheries management and to expansion of biological research concerning the interdependencies between species, the impact of pollution, the vital importance of coastal estuaries in providing food or shelter at some stage in the life cycles of many fish species, and other factors bearing upon the abundance and availability of commercial and recreational fish species.
3. A clear and unequivocal commitment to the broad concept of optimum yield in management of the fisheries in place of the narrow concept of maximum sustained yield, i.e., to consideration of recreational, social, ecological and economic as well as biological factors in the determination of allowable catches within every fishery under management.
4. An opportunity for substantial participation by all parties interested in the fisheries including State administrators, commercial, recreational, conservational and other

*Endorsing Organizations: African Leadership Foundation, American League of Anglers, American Littoral Society, American Fishing Tackle Manufacturers Association, The Emergency Committee to Save America's Resources, Federation of Fishermen, Friends of the Earth, The Georgia Conservancy, International Atlantic Salmon Foundation, International Association of Game, Fish and Conservation Commissioners, International Game Fish Association, National Audubon Society, National Coalition for Marine Conservation, National Wildlife Federation, The Nature Conservancy, Ocean Fish Protective Association, Port Aransas Rod & Reel Club, Save Our Stripers, Inc., Sierra Club, Sport Fishing Institute, United States Atlantic Tuna Tournament, Inc., Wildlife Management Institute, The Wildlife Society, and World Wildlife Fund.

interests at every level of policy making and regulation making in the fisheries management procedure.

5. A clear and unequivocal commitment to equitable allocation of the allowable catch in each fishery under management with due regard to the interests of recreational fishermen in the fishery itself, or in other species related to, or affected by, the condition of such fishery.

It is apparent that here again these more pragmatic (specific) recommendations are actually preceded by several fundamental (general) policies including: (1) a willingness to lessen rather than enhance centralization of authority and administrative capacity in the federal government, (2) commitment to a horizontal balance and consistency across the entire breadth of the socioeconomic and political spectrum of natural resource utilization, and (3) development of explicit costs/benefit values for natural resources which at least define external costs if not establish a system of relative values among all users.

The philosophy behind these recommendations extends from a need to redefine the Garret Hardin's "commons". Historically, the legal concept of community property derived from English common law, which antedated the Roman conquest and recognized that there are resources which should not be privately controlled. But the interim 2000 years since the Roman invasion of southern Britain have brought about evident changes that now require a different set of responses than those which initially made a "commons" possible. The capacity for violence and murder is no longer as adaptive to survival as it was during the transition from Cro-Magnon to Neanderthal, and similarly, it is no longer adaptive to consider ocean space a commons and its resources free to everyone. It is generally recognized that our capacity to change our environment rather than our behavior and the acceleration factor imposed by the increasing rapidity of technological change has impaired man's ability to cope. The rate at which we modify our environment (biologically and socially) now exceeds our capacity to adapt to those changes. Our individual capacity to do the wrong thing has become more complex, more destructive and our societal institutions, specifically developed over thousands of years to balance our individual failures are suddenly inadequate to maintain individual stability and social harmony.

A specific example in fisheries is demonstrated by the Washington State Indian/salmon controversy where social factors have impact upon management conflicts and forced their resolution into legal channels which have also been unable to adequately resolve the dispute. The resulting series of court decisions are in a sense "legal", but in another sense clearly unequitable.

Redefining the "commons" and adjusting our economic structure to include the totality of real costs may allow man to finally achieve the fundamental value and behavioral modifications which may indeed be necessary to his survival.

Garrett Hardin's herdsman perceived his reason for adding another animal to his herd, and another, and another, as rational. But, rational only in an abstract sense. His real world perceptions must have simultaneously led him to the certain knowledge that his actions and the actions of his fellow herdsman were inevitably leading to the tragedy of over grazing and the subsequent destruction of the commons. This human capacity to do the wrong thing is reflected in another subset of problems—over-population, atomic war, and environmental destruction. A survey of physical science literature leads to the conclusion that for these major problems, threatening the world with destruction, *there are no technical solutions*. On the other hand surveying social science literature reveals that recent conclusions by economists, sociologists, and demographers, etc., point to the same conclusions, that for the major problems of over-population, atomic war, and environmental corruption *there are no political solutions* (Crowe 1969); which would appear to place mankind in a very serious position indeed. This paper defines certain general MRF needs—identification, recognition and management—and specifies both the fundamental policies correlated to these objectives as well as listing five minimum policy criteria for a marine fisheries management program. This paper also asserts that these needs cannot be satisfied or these policies implemented

unless there is a change in the public will. Economic self interest as the prime human motivation and the finite limitation of natural resources have pursued a course of inevitable collision that soon must be resolved. Alternatives include yet another global war, a world industrial/state (rather than nation-state) government, or perhaps the ascendance of a rational conservation ethic—the last being not very likely, but possible.

MRF considerations are significant in this context. Further clarification of recreation requirements and development of national natural resource policies are an integral part of the ecological challenge that must be—can only be solved—as a whole, there is no other way. I urge your further consideration of these problems and probable alternative solutions when you again have the opportunity to go fishing. Thank you.

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ALLOCATIONS FOR LIVING RESOURCES

*Paul Howard**

The National Audubon Society is one of the nation's oldest and largest private organizations devoted to a better understanding of the wise use of our country's natural resources. With well over 300,000 members, the Society represents a formidable body of public interest in resources management, including those policies dealing with our oceans and coastal lands. The National Audubon Society has as one of its top priorities "... the preservation of our vital, productive, and ecoessential wetland, estuarine and shoreline resources." Thus we are particularly interested in the goals of this conference, as well as in this panel's topic of the allocation of living resources associated with the marine environment.

Biologically speaking, the nearshore coastal waters—and especially estuaries and wetlands—are the most productive parts of the sea. Many such areas have been found to compare with rich, intensively cultivated tropical agriculture in terms of productivity, making them among the most fertile ecosystems known. This extremely great productivity, which is based on the delicately balanced interactions between both physical and biotic

*Mr. Howard is Western Regional Representative of the National Audubon Society

components, results in our estuaries and wetlands being the primary focal points of the entire marine ecosystem. Because of this, the importance of protection and careful management of our remaining estuaries and ocean areas cannot be overemphasized in the development of policies dealing with the sea's living resources.

It is from this basis of the ecological importance of estuaries and wetlands that I would like to address my comments on the proper management of our coast's living resources. Only when our perspective has been shaped by a correct understanding of the intricate relationships of the coastal and marine ecosystem will we be able to formulate wise goals which will ensure the perpetuation of these resources. Certainly this is the goal, hopefully, of all who are involved with these resources, in both extractive and non-extractive uses.

First, with reference to commercial and sport fisheries, it is quite evident that the preservation and restoration of our remaining wetland and estuarine habitats is strongly in the interest of both groups. Numerous studies have documented the importance of wetlands and estuaries to many species of both commercial and sport fishes. For instance, up to 65% of marine sportfish, including species such as seatrout, flounder, drum, and striped bass depend upon estuaries during at least some phase of their life history. Similarly, well over 50% of our commercial fish catch is from estuarine-dependent species such as menhaden, tuna, salmon, herring, and anchovies. Clearly, there is no conflict between the preservation of our estuaries and the enhancement of both commercial and sport fisheries. In fact, unless strong emphasis is given to the *immediate* protection, and where possible, the restoration of such areas, both fishing interests will experience a continuing depletion of their resource.

I recognize that in some instances the need for additional harbor and docking facilities for use by fishing and recreational boating interests may place pressures on the development of shallow bays and estuaries for such purposes. Additionally, there is the ever present threat of filling these areas for the sake of new housing developments. However, it is mandatory that the protection and perpetuation of these living resources come as first priority requiring the exploration of other less environmentally damaging options. With by far the majority of our country's historical estuarine areas already destroyed or damaged beyond repair, it is imperative that the remaining areas be protected from any further abuse.

With respect to the specific allocation of the fishing resource between sport and commercial interests, others here are better qualified to address the subject. However, we urge caution be used in setting catch quotas until adequate population studies of the fishes involved are conducted. Careful monitoring of these populations will help delineate those factors responsible for fluctuations in numbers and use of this ecological data should prevent excessive depletions of any species.

Some specific comments might be made with regard to the policies of commercial fisheries, however. The National Audubon Society has, for the past year and one half, joined with other national conservation organizations in supporting a secondary boycott on products from Japan and Russia which we hoped would bring about a curtailment of the cetacean slaughter. Japan has recently agreed to comply with the International Whaling Commission's recommendations and quota limitations. Hopefully Russia will do the same. Also, while much publicity has been given to the problems of harvesting the larger species of whales by nations other than the United States, we are tremendously concerned about the adverse impact which American commercial fishing is having on a number of species of dolphins. We are hopeful this problem will have been confronted at this conference and that some action will be forthcoming.

Further, the National Audubon Society is not unmindful of the continuing controversy between abalone fishermen and the plight of the sea otter. It appears the sea otter, which was nearly hunted to extinction in a classic example of wastefulness, is now extending its range to include those areas which it historically occupied. The sea otter has been blamed for depredations on the abalone resources and a questionable plan has been perpetrated to restrict the otter from an activity which it instinctively possesses. We would like to suggest a push in another direction, and one which could prove more profitable, the development of new techniques for raising abalone in artificially controlled hatcheries.

An interesting sidelight to the management of marine sport-fish are the comments made by Jacques Cousteau to a special assembly of the California Legislature last spring, in which he highly recommended the complete elimination of speargun fishing in coastal waters. Dr. Cousteau pointed out that during an intrusion of only a few hours a speargun fisherman could severely disrupt the fish ecology of a local area to the extent that it would require several years for the area to recover to its natural state.

Other living resources within the coastal regions also require the preservation and restoration of estuarine areas. These resources should receive more than cursory attention in formulating goals for the marine areas, especially as increasingly greater recreational attention is being given them. Larger numbers of people enjoy recreational opportunities which are somewhat wildlife related; that is, the quality of their experience would be greatly lessened by the absence or even scarcity of wildlife. Such pursuits range from consumptive uses such as sport fishing and waterfowl hunting to non-consumptive activities such as photography and birdwatching. In all of these instances, healthy and protected estuarine resources will contribute to the user's recreational experience.

Of course, in managing living resources the question of the intensity of human use an area is able to support must inevitably be dealt with. This is especially important with estuarine ecosystems, which are especially fragile and subject to human abuse. However, the variations from estuary to estuary are so great that it is impossible to suggest specific policies here. These must be determined by the careful study of qualified ecologists and land-use experts for each specific situation. In some cases, the resource's value as a stopping point for migratory waterfowl and shorebirds may require the restriction of access or prohibition of certain types of usage during critical times of the year. Other areas which support easily disturbed, endangered species may require complete closure. On the other hand, some localities may offer valuable resources which are able to withstand more intense forms of public use. The list is obviously endless. Thus, while it is very tempting to try and develop a comprehensive plan which will cover all situations, this would be a very inadequate conclusion. The additional expenditures of money and effort required in making immediate and detailed evaluation of all of the nation's estuarine and wetland resources, and the subsequent formulation of specific management policies, is certainly worth the cost. In fact, we cannot afford to ignore this investment.

RAPPORTEUR'S REMARKS

*Jack Baxter**

Our workshop was chaired by Robert Kaneen of the California Department of Fish and Game and our speakers were a non-extractive user, Paul Howard of the Audubon Society; a sport fisherman, Frank Carlton of the National Coalition for Marine Conservation; and a commercial fisherman, Joseph Monte, a union representative and long-time Southern California fisherman.

You cannot come up with much more divergent viewpoints or people with areas of interests and backgrounds more likely to send them on a headlong course toward a confrontation. Actually, it did not happen.

Our non-extractive user, Paul Howard, stressed the importance of nearshore coastal waters and especially estuaries and wet lands as the most productive part of the sea. The importance of protection and careful management of our remaining estuaries cannot be overemphasized in the development of policies dealing with the sea's living resources.

He concluded that the additional expenditures of money, state and federal, and effort required in making immediate and detailed evaluation of all of the nation's estuaries and

*Mr. Baxter is Senior Marine Biologist for the California Department of Fish and Game.

wet land resources, and the subsequent formulation of specific management policies, is certainly worth the cost; in fact, it is imperative. He felt it was just as much a benefit to sport and game fishing as anyone else. In fact, as I read him, he saw the place of both commercial and sport fishing in the marine environment.

Our sports fisherman, more philosophical about the problems we must face in the world today, stated that at the core of disputes concerning allocation of resources and maintenance of a clean environment lie several fundamental conflicts, which are really a result of human behavior to a large degree.

One illustration presented that I will repeat is this: "It is pointless to talk about the importance of the numbers of marine anglers or the worth of the aggregate sport fishing industry, when our fisheries problems cannot be solved until we can control the foreign fleets that presently fish our continental waters."

To solve our problems, Dr. Carlton felt, requires a fundamental change in our system of values and in human behavior. We will not solve our problems any other way.

As a contribution to the development of a national policy concerning planning, management and use of marine resources he authored the paper included in the registration folders entitled, "Statement of Basic Principles and Provision for Marine Resources Management."

Another policy recommendation that he made that struck a responsive chord with the group was that there should be willingness to lessen rather than increase centralization of authority and particularly administrative capacity in the federal government.

Our commercial fisherman dealt with a specific fishery in Southern California, the anchovy fishery. At first glance one might view this presentation as entirely too parochial for a national conference. However, upon reflection, the problems described could well fit a number of fisheries of the United States where users of resources find themselves in conflict. His views were that commercial fisheries produce food to meet society's needs and in the allocation of resources commercial fisheries should have their place along with the other users.

He acknowledged that allocation must be on the basis of scientific evidence, recognizing the legitimate needs of all users—the optimum yield.

The remainder of our time was spent in a not so productive fashion as far as national recreation pursuit is concerned. We discussed the best system for fisheries management in California, scientific credibility, our overall political system and why some resources were not being utilized.

If there was one general area of agreement in the group it was that there should be a scientific basis for fisheries management and that much additional effort and money must be expended to acquire the necessary data.

IMPACT OF THE RECESSION ON THE RECREATIONAL MARINE INDUSTRY

*Patrick Doyle**

Many of you, when learning of the subject I am presenting, "The Impact of the Recession on Marine Recreation" probably shuddered, thinking that this presentation could well be a long, laborious, litany of statistics, and percentages.

*Mr. Doyle is Manager, Environmental Communications, Outboard Marine Corp., Milwaukee, Wisconsin.

Whenever I listen to a speaker launch out on one of those long dissertations filled with statistics of all types I think of the story about a professor at a West Coast University who taught Mathematics and Statistics. One day he was standing, dressed in his bathing suit, at the edge of a swimming pool on the university campus when a beautiful coed accidentally dropped her camera into the deep end of the pool. She called to the elderly professor for help. He said he would be glad to dive down after the camera, but first wanted to know why she happened to choose him when there were so many young men within easy reach to do the job. She answered, "Professor, you have apparently forgotten me, but I am in your large statistics class, I have found that you can go down deeper, stay down longer, and come up drier than anyone I know." I do not propose to go down too deep, stay down too long, or come up too dry with the facts I am presenting.

The first half of the decade of the '70's has certainly seen the worst economic conditions since the thirties . . . featuring two recessions and successively higher waves of inflation. And yet, in spite of this 5-year period of unstable conditions, recreational boating has notched some very exciting victories. In fact, in 1973, boating hit its all time single high year as far as total dollar sales, and boat, marine engine and boat-trailer units sold. In 1973 our export sales also reached an all-time high peak, doubling its dollar volume over the preceding year. So, although the first five years of 1970 have provided economic uncertainty in many other markets, the recreational marine industry has enjoyed a most successful growth period.

This is not to say that the current subsiding recessionary period has not had some adverse impact upon our market. We have experienced this economic squeeze, and we have lost business as all other markets have, but it hasn't been as severe and as cruel in boating as it has been in many areas. And, I'm most pleased to state today, that the marine recreation industry, from current indicators, will be recovering faster than a good many markets.

It is germane to our discussion of the impact of the recession on marine recreation, to mention that last February and March—at the very apex of the economic uncertainty throughout the nation and in our market—a crucial legislative development took place in Washington which could have struck at the very heart of the nation's boating business. This event was the Energy Bill developed by the House Ways and Means Committee which, as originally proposed back in February, contained a provision which would have slapped a 20% excise tax on all new boat engines. We in the industry estimated that if this provision had been passed by Congress it could have reduced our business by as much as 40 percent annually.

Fortunately, the boating industry rallied its forces, created a special industry task force, descended on Washington armed with economic impact facts, and were successful in having the excise tax proposal deleted from the Energy Bill as being discriminatory to only a single segment of recreation.

Now, let's further examine business conditions in recreational boating during fiscal 1975, and discuss prospects for 1976 and 1977.

Specifically, this past year has seen boating experience a dip in unit sales of about 15%, but dollar volumes are down only 2½% from last year. A review of 1975 sales results in the outboard motor segment of the industry indicates that engines are off 20% from 1974, with dollar values down about 6% from last season. As the 1975 model year opened, with the economy soft and higher fuel prices developing across the nation, there was a feeling that perhaps there might be a strong move away from the purchase of higher horsepower engines . . . but the final tabulations of unit sales results reveal that this has not been the case. In 1974, 34% of all outboards sold were above 30 horsepower, and 1975 figures indicate that about 32% of all engines sold were in the over 30 horsepower category. At the low horsepower end of the scale, in 1974, 41% of total engine sales ranged between 4 and 9.9 horsepower, and this figure changed slightly in 1975 to 42½% in the 4 to 9.9 horsepower category. So you can see that there has been no dramatic changes in buying trends regarding sizes of marine engines.

Other examples of unit sales and dollar values by product line in the boating industry for 1975 are as follows:

Outboard Boats:	Down 27% in units, and 8% in value
Inboard Boats:	Down 18% in units, and 14% in dollar value
I-O Boats	Down 1.3% in units, but up 15% in value
Fiberglass Sailboats	Down 2.9% in units, but up 7% in value

Although I have indicated that dollar sales totals are really equal to last year, a goodly portion of these dollars have been a direct result of inflation. The margins of profit are extremely narrow . . . and the impact of this recessionary and inflationary period, coupled with the uncertainties of the fuel issue . . . have caused many of the smaller companies in our industry to have experienced some very traumatic developments in order to keep afloat, and stay financially solvent during this period.

Remember, most of the 2,500 manufacturers in the recreational marine business are small businesses . . . the OMC's, AMF's, Chryslers and Brunswick Corporations are the exception, rather than the typical companies comprising our industry.

To show an example of the trying times some of these smaller firms have experienced over the past two years, I'd like to read some excerpts from a letter written recently by a well-known boat builder (whose name shall remain anonymous) to his state Senator in Washington, and I quote: "We manufacture fiberglass boats, have annual sales of \$15-million, and employ 250 people. We have 500 boat dealers throughout the nation, have 5,000 shareholders, and there are over 200,000 of our boats in use on U.S. waters. Our Chicago bank has recently seized our cash, demanded our assets, and are attempting to shut down production by refusing to honor payroll due. Our runabouts and small cruisers are fiberglass, a principal component of which is polyester resin, a petro-chemical which has increased in price from 17¢ per pound to 39¢ within the past few months. During the Arab embargo this price shot up to 60¢ per pound, if obtainable at all during the shortage. We have lost sales as a result of the fear of gasoline shortages on the boat users part, and have lost money from being unable to pass along cost increases, and to cut overhead fast enough."

"After surviving 1973/74 petroleum problems, we were hit with the 1974/75 recession, which has affected sales and the money supply for retail dealer floor plan financing of our boat products. The interest rate we pay on our company's loan went from 7% to 14%. Last year we paid the bank over \$800,000 in interest."

This medium-sized boat builder concluded his appeal to his representative in the U.S. Senate by enclosing a booklet explaining how his company was taking gigantic strides in slashing costs and eliminating some more non-marine products in the hope of staying in business, in the boating market. He pleaded that his company deserved to survive this financial and economic problem, even though they are not of the size or influence of GM, EXXON, or the Chase Manhattan. "Please help us, Senator," he implored, "We need your help, advice and counsel in securing a loan guarantee under the Emergency Energy Shortage Economies Injury Act to counter the bank's foreclosure action." He said in his letter there was a bright spot. The Chicago Bank had agreed to discount his \$5.5-million loan balance if the company could buy out the note. He said his company was trying to refinance the firm to take advantage of the bank's offer. "We are hopeful of putting together a new financial package with banks and finance companies, although money is very tight again." "After learning of our financial problem, most of our employees have volunteered to work without guarantee of pay in hopes that we'll solve our problem and stay in business."

I mention this case only to document that the recession and energy issues have left a heavy imprint upon some very productive and solid citizens in the boating industry. Yes, we're weathering the storm quite successfully, but not without a great number of agonizing situations. We have "defenses-in-depth" in our market, but we also have some soft spots

which have been exposed by the economic slow-down, the energy situation, and the financial squeeze faced by smaller firms, during these inflationary times.

Recreational boating is a seasonal business, and trying to maintain a cash flow and a level employment in the face of high interest rates, and the need to build inventory for the short selling season has required some very masterful techniques during the past two years, especially on the part of the small and medium-sized businesses in our industry.

What's in store for the future? After a rather shaky winter and spring period—during which there were employee lay-offs, slow sales, and periodic production line shut-downs throughout our industry—I can tell you that the nation's boating business at this time is gaining strength, and in some of our major markets, business is even good.

Just two weeks ago, the industry's major trade show and dealer meeting was held in Chicago and we have never seen such activity, nearly every square-inch of Chicago's vast McCormick Place was filled with exhibitors who occupied over 850,000 square feet of exhibition space. That's the equivalent of about 23 football fields of display area. In fact, up to show time there was a waiting list of firms whose exhibit space requirements couldn't be filled, and the strong vibrations among the record number of manufacturers and dealers attending the show were a high spot in the industry's history.

At the base of these prospects for outstanding business in recreational boating is the boater himself. We have long maintained . . . and I believe it has proven to be true throughout the history of boating . . . that America's boaters are enthusiasts, dedicated to their pastime, who will make sacrifices in many other areas during these times of inflation, recession, higher fuel costs, and economic crisis, in order to continue boating. This summer about 50-million Americans went boating, and government researchers predict that by 1980, over 93-million people will enjoy boating recreation. By the year 2000—estimates are that 153-million Americans will participate each season in boating activities.

Recent educated conclusions by the Research Survey Center at Ann Arbor, Michigan, in studying consumer buying trends, tell us that boating falls into the category which market researchers call ego-intensive goods. These are products that are very close to a person's own lifestyle or standard of living . . . an extension of a person's own personality. These are the types of products, like wearing apparel, which tend to continue to do well even in a period of an economic upheaval at a time when resources and capital are limited, people continue to protect their own individual life-styles and standard of living. Boating, according to the consumer research survey and marketing experts, is that type of product, and speaking for the industry, we are optimistic about our current and future business prospects.

Without exception, boating business leaders we have met with in every segment of the industry feel that the 1976 model year will be considerably better than 1975. I am not completely convinced that 1976 will be the top year ever, but it will show a nice growth . . . building to a point at next season's end where we'll see 1977 achieve even better levels in dollar volumes and unit sales achievement.

The 1976 new line introduction meetings which were held during July and August by boat builders and engine manufacturers in nearly every part of the country have shown strong interest on the part of retailers in new merchandise. Buying has been heavy, even with some prices edging still further ahead. There is good reason to believe that in general the industry is entering the new model year with low inventories in most dealer showrooms, and with little left-over merchandise in manufacturer and dealer warehouses.

There is also a gratifying desire on the part of an increasing number of retailers to stimulate business. The consumer's interest in boating has strengthened considerably in recent weeks. This acceleration of consumer interest was particularly evident in late summer and early fall as sales have continued strong in many areas of the country far beyond the normal tapering off period, which previously came after the fourth of July.

The two big questions are, what type of boat, motor, and trailer will they buy, and how quickly will they buy them. Nobody knows for sure at this point. We do know that consumers have felt the pinch of inflation. We also know that confidence is gradually returning. But it is likely to be a more gradual process than we have sometimes seen in the past because of the severity of the period now ending.

It seems more probable that the average purchaser (if there is such a thing) may be a little more conservative than in the past . . . especially as 1976 unfolds. Then, as confidence grows strong, incomes catch up with inflation, and we learn to accept price increases and make them a part of our everyday lives, sales will climb faster. And, that is the time, we believe beginning in model year 1977, when we can look forward to solid growth in unit sales in the pleasure boating industry.

You might well ask, why should we—at this conference dealing with the recreational aspects of our coastal zones—be concerned with the effect of the recession on the boating industry?

The answer to this question lies at the very heart of the reasons for holding this conference. Namely, that the recreational marine industry will continue to be a vital contributor to a healthy national economy provided that our national land use planners, and managers of our coastal zone water resources, take the necessary action to provide the maximum recreational opportunities in meeting the public's growing demands for more and better outlets on your coastal waters. Yes, these coastal regions hold a great potential for expansion of our boating markets, but more important, they offer tremendous recreational resources for a vast majority of the American public. This part I'll enlarge upon shortly.

At the risk of stealing some of the statements which may be presented with workshops that follow today, I want to touch on several pertinent points covering the recreational use of our coastal zone waters. These will cover the public's need for outdoor recreation; the impact that recreational boating has on our economy; and several opinions on how all of us—manufacturers, governmental regulators, and others in the public and private sectors—must work in harmony to make our coastal waters more accessible for our nation's growing recreational demands.

The abiding philosophical premise underlying the subject of the recreational use of our coastal zone water may, I believe, be aptly compared to a compromise position between the contradictory views expressed by that famous character, W. C. Fields, and Carrie Nation pertaining to popular, age-old and still misunderstood beverages.

Fields, of course, operated under the contention that if a "Little is good for you, then a large amount is wonderful." Carrie, you will recall, flipped the coin and followed the precept that "Poison is poison . . . regardless of amount or circumstance." With a little license, it is easy to further the analogy and equate the public, with its desires and needs for more and better water oriented recreation areas, to W. C. . . . and those who want all lands and waters to be "put off-limits" with Carrie. Either position carries the real and present twin danger of over-simplification and subsequent over-reaction.

The goal we are pursuing in the marine recreation industry is to strike a harmonious balance between the "wise use" and the "no use" philosophies concerning our coastal zone lands and waters and the recreational potentials these areas hold for our public. Permit me to share with you an overview of how vital recreation and leisure pursuits are for our society.

Recreation spending . . . which includes recreational products, equipment, vacation spending, recreational trips, second homes, and the like . . . contributed more than \$105-billion to the economy last year, and employed over 4-million people . . . or about one in 20 jobs in this country.

At this point, I believe it is essential to expand upon the underlying human needs which have brought about this phenomenal growth in leisure activity, and what these needs mean to all concerned with coastal zone management.

Basically, the list of human needs is a long one, and while government cannot apportion laughter, or love, or excellence, in the same manner it can provide food subsidies or build housing, or regulate our many other social programs, it can and must strive to set the stage—to create the environment—wherein these deeply personal activities may flourish. Even more basic, government at all levels must be cognizant of the full impact of its policies in these areas relative to influencing the ability of its citizens to satisfy their very individual needs in various forms of outdoor recreation.

Recreation has long been recognized as a chief contributor to man's physical and

mental well being. Sociologists and philosophers invariably comment upon the integral nature of recreation and work in our lifestyle. One has stated, "Leisure and labor are two sides of man's shield, both protect him, labor enables him to live; leisure makes the good life possible." And Aristotle, in his treatise entitled *Politica*, suggested that, in fact, "We labor to have leisure." Margaret Mead addressed the relationship between labor and recreation within the context of her "model week" for the industrial world. She said, "Recreation is something done to get you safely back to work again."

Given these preconditions, recreation—as a resource for fulfilling man's non-quantifiable needs—must be accorded an influential role in policy making. This is particularly essential in our modern day and age in light of the continuing and mounting pressures of urbanization, industrialization, and our increasingly crisis-oriented society.

Having established the overall importance of recreation in the life style of modern man, and having mentioned the growing pressures we face in our daily roles in society, I wonder how many of us realize that over 74% of our population in the U.S. lives on only 1-1½% of our land. This is a startling, and little publicized fact, but it is documented by the Department of Interior, and is proof of the statement that we are a predominantly urban-oriented society, and with the pressures of daily life growing at unprecedented levels, one of the prime necessities facing our government is to assist our urban dwellers, and cooperate with them in seeking periodic relief from the demands of metropolitan living. One sociologist said simply, "Let's make it attractive and easy to get our city folks out of the urban environment and out into our woods and onto our waters in order for them to escape the humdrum of the city and the anxieties of the work-a-day world." Unfortunately, the woods are far away from many of our homes, but the waters border most of our major metropolitan areas . . . a large majority of which are located on our coastlines.

Against this back-drop of \$106-billion spent for tourism and recreation, which I mentioned earlier, let's look specifically at the boating industry contribution. A very quick review of the national economic impact of this industry reveals the following impressive facts:

The recreational boating business is comprised of 19,000 firms engaged in producing and selling marine products. This consists of 16,500 retail dealers and 2,500 marine product manufacturers. It provides jobs for ½-million employees with retail sales exceeding \$5-billion. Other facts showing the industry's vitality include: An annual payroll exceeding \$2.25-billion. The value of all engine-powered recreational boats in the nation represents assets worth \$15-billion, and our 1974 recreational marine product exports totalled about \$140-million, and, of great significance to our discussion today, more than 50-million Americans go boating at one time or another each season.

I promised not to belabor statistics, so I'm not going to dig any deeper into boating's economic contribution, but I did want to touch on the tremendous impact leisure spending in the tourism sector, and specifically the boating business, has on our economies. Concerning this subject, I can't help but refer to a statement made to our boating industry representatives at a press conference by former Federal Energy Administrator, and now Secretary of the Treasury, William Simon, during the first energy crisis of a year and one-half ago, when he stated,

"Regarding fuel allocations, we are going to deal with the entire, and I emphasize entire recreation industry, in a fair and equitable manner, because leisure, recreation and tourism to certain states and regions is as important to those areas as some of our basic industries in this nation are to other states and areas."

While on the subject of fuel, it may be of interest to those at our conference that the 50-million Americans who boat for recreation each season, use less than ½ of 1% of the nation's total petroleum consumption. This amounts to only 880-million gallons of the 102-billion gallons of gasoline consumed by U.S. engine-powered products.

Speaking of fuel in the boating industry, and since we are in California, it may be of

interest to tell you the state of California issued a fuel consumption report on August 18 which stated that motorists in California consumed 880-million gallons of gasoline during the month of June this year. This is as much as the entire boating industry uses annually.

Let's take my earlier remarks about our urban-oriented society one step further and show its impact specifically on our coastal zones. In 1970, the number of people who lived in our 30 coastal states totalled 173-million, or 85% of the total population. In fact, the population of just the coastal counties in the states bordering our ocean and great lakes is 50% of our national total.

Concerning recreational activities, we ask the question: "What do these people in coastal areas want?" It can safely be stated that they show a very strong bent for water related recreation. Bureau of Outdoor Recreation Research indicates that 44% preferred activities directly dependent upon water.

The B.O.R. has stated that the "Percentage of population within 50 miles of our shorelines is increasing far more rapidly than any other area of land in the nation. Not only are more people living within the immediate proximity of the shores, but more and more inland dwellers are visiting these areas as a form of recreation."

We in the boating industry believe that the near proximity of water to the majority of our population bodes well for our energy conservation programs. People will still be able to enjoy boating and other water recreation, and they are not going to have to go far to do it. However, in order for us to be successful in this mission . . . and the real heart of the matter for all involved in the management of our coastal zones . . . we must plan wisely for the development of more and better recreational outlets on these waters which are near our population centers. This will hopefully produce shorelines with ample water-oriented recreational attractions which can be used with a minimal amount of environmental complications.

All of these statistics are most impressive, but it still remains that the major problem concerning our coast is the lack of public access. Reflecting on limited public beaches, and the minimum amount of coastal zone recreational areas, real estate agent Calvin Trillin noted in a magazine article and I quote:

"The fight for a foothold on Iowa Jima may have been the bloodiest in history, but Martha's Vineyard and Cape Cod are no picnics either. In a soft economy, the only safe investment is in a company manufacturing "No Trespassing" signs." . . . "Any citizen can use the beach at East Hampton, Long Island, as long as he is willing to leave his car near Times Square and walk the rest of the way."

This point is clearly established in the following figures. Of the 101,800 miles of shoreline fronting on seas and Great Lakes in our 50 states, only about one-third is presently considered suitable for recreation activities. Only 5% of this shoreline is in public ownership, with 3% restricted to military use, and 91% in private ownership. On the Atlantic Coast, for example, only 336 miles of shoreline are publicly owned for recreation . . . and this is about 3% of the recreational shoreline. What we do with these tens of thousands of miles of shoreline as a source of expanded recreational opportunities for our public still remains to be decided.

The statistic that is so revealing in this shoreline analysis is the fact that 91% of this region is privately owned. In order to properly fill the needs of additional coastal recreation, we are going to have to make it extremely attractive for private developers to invest in these areas. And, this will be no small task because we have had such a proliferation of regulatory agencies since 1970 that private investment could well be hesitant.

In 1972, a Bureau of Outdoor Recreation draft for recreation planning stated that by the end of 1972, some 90 agencies, commissions, and committees would be engaged in more than 260 separate outdoor recreation related programs. In addition, there are countless state, regional and local programs. In addition, there are countless state, regional and local government bodies who are in the position to create regulations as far as land use and water recreation is concerned. We suggest that a major accomplishment in this area would be for

the formation of some governmental agency whose major responsibility would be to not only encourage private investors, but to lead prospective private investors through this vast network of regulatory channels. It is vital that we provide incentives for private investment in future recreational area development. Government alone cannot be expected to develop the coastal waters near our major metropolitan areas, and must take private enterprise as its partner.

In conclusion, let me re-emphasize again that our coastal waters are at the door-step of the majority of the nation's population. The waters and shorelines are there in great abundance. To fail to actualize the vast recreational potentials that these coastal regions offer our society would be a gross injustice.

We will require special areas to be set aside as wilderness areas . . . and we will need great regions which must be developed according to our "multiple-use" land management policies, in order to provide access by the public to these water-oriented recreational areas.

Man's recreational needs in these coastal zone regions will be aesthetic as well as material . . . and, hopefully, when he looks to our coastal waters for enrichment . . . these magnificent resources will always be available to him.

One final thought in closing. The boating industry's product is people's enjoyment during their recreational hours. It is up to us as manufacturers of these products . . . and to those in recreational land and water use planning . . . to ensure that today's youngsters, riding their tricycles and big-wheelers on the sidewalks of America, will someday find that their adult recreational products . . . in this case boating . . . will carry passports to even greater leisure time enjoyment; and that these passports will not have been invalidated because our generation did not act to provide for sufficient recreational areas on our shorelines when there was still time to do so.

Those thousands and thousands of miles of coastal waters should not be permitted to linger at our shores without a comprehensive plan for multiple-use activities. Let's get on with the job of developing that plan.



THE ENVIRONMENT

THE IMPACT OF RECREATION ON ESTUARIES

*Candace Oviatt**

A small boat marina forms an ecological system similar in many ways to that of a coastal salt marsh cove. However, important differences are apparent.

Both the marina and the marsh cove are estuarine environments with salinity and temperature stresses that result in low diversity and large standing crops of their relatively few species. While the emergent grasses of the marsh show high primary production, both the marsh coves and the marinas are heterotrophic systems, dependent on imports of organic matter. The development of extensive fouling communities in the marina may be analogous to the production of rich grass detritus in the marsh. The input of large pieces of organic matter from the emergent marsh appears to come in midwinter and early spring (Nixon and Oviatt, in press), while much smaller particulate detritus is added more regularly throughout the year (Shultz and Quinn, in press). The fouling communities with their maximum abundance in late summer, followed by their breakup into the water in fall, may serve as an important food supplement during the time when juvenile fish are abundant and larger numbers of adult fish are present in the marsh cove areas. Thus, in terms of the delivery of food, the marshes and marinas may be compatible systems.

Instead of dumping dredge spoil from marina channels in deep water or on the emergent marsh grasses, it may be possible, with methods described by Woodhouse et al (1972), to use the spoil to increase the area and shoreline of adjacent intertidal marsh. Since the main input of *Spartina* detritus comes from the band of grass along the edge of the marsh, an effort should be made to increase the effective length of shoreline by forming a rounded, dentate coast. It may also be possible to use grass plantings instead of rip-rap or bulkheading to stabilize filled areas.

At least in Wickford Cove, the production and respiration of the plankton community did not reflect any detrimental effects from boat use, nor did the respiration and abundance of sediment organisms. No evidence of environmental deterioration from boat-derived sewage or rubbish was apparent. Levels of copper, however, were higher in marina sediments, attached benthic algae, and fouling communities. Copper enrichment was not found in higher trophic levels.

There was no clear pattern of difference in fish abundance or diversity between marina and marsh areas, although Atlantic menhaden, a sensitive and important commercial species abundant in marsh coves, was seldom found in the marina areas. Preliminary evidence does suggest that sport fish are more abundant in marina areas, perhaps attracted there by large numbers of juvenile bait fish that prefer the marinas.

*Dr. Oviatt is a research associate and lecturer at the University of Rhode Island Graduate School of Oceanography.

Since fouling communities appear to be an important food source for fish, especially the juveniles which attract sport fish, painting the undersides of marina floats with antifouling paint should be discouraged. The environmental benefits of this practice may be much greater than the small cost associated with a slightly decreased life span for unprotected floats. It may also be possible to develop antifouling paints which will reduce or eliminate the amount of heavy metals which flake off of boat bottoms. Preliminary development and testing of an antifouling paint based on the antibiotic activity of seaweed has already been described by Sieburth and Conover (1965).

While many features of the marina make it the most acceptable of possible alternatives for marsh development, especially when compared to road construction, housing, dredge spoil disposal, and refuse dumping, certain qualifications must be added. For example, this study did not consider the often important details of species composition in the plankton or the infauna of the marsh and marina areas. The relative abundance and distribution of waterfowl and mammals in the two areas was not studied, and it seems very unlikely that either of these groups would rest in or make extensive use of marinas. Mallard ducks and other rugged species adapted to man may be exceptions. The acute and chronic effects of copper, hydrocarbons, and motor exhaust products on the survival and reproduction of estuarine species remain almost unknown.

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SHORELINE PROTECTION AND MARINE RECREATION

*Michael R. Krouse**

THE NATIONAL CONCERN

In recent years there has been a growing concern for the use and condition of the nation's shorelines, especially in relation to recreational use. It is estimated that over 60% of the developed shoreline in the country is used for recreation. This national concern is manifest in legislation such as in the 1968 authorizing legislation for the National Shoreline Study

*Mr. Krouse is U.S. Army Engineer, Institute for Water Resources. The views expressed in these remarks are those of the author and do not necessarily represent those of the Corps of Engineers.

which the Corps of Engineers completed in 1971; the Coastal Zone Management Act of 1972 and the Shoreline Demonstration Act of 1974.

There is, however, some concern that the problem of shore erosion is not being adequately addressed by all levels of government. A recent General Accounting Office report on beach erosion inspired a Washington Post editorial on *Shoreline Erosion* in which the closing sentence was . . . "Apparently, the erosion of official interest in preserving the shoreline can be as damaging as the erosion of the wind and tides." (Washington Post, 1975)

There is a lag between the need for shore protection and stabilization works and accomplished works. The GAO report sampled 57% of the nation's eroding shoreline and found that of 361 miles of critically eroding shoreline, for which Federal shore protection was authorized, only 35 miles were protected by completed projects. (GAO 1975) Notwithstanding the sheer magnitude of the cost of protecting all critically eroding shoreline (estimated to be in excess of \$2 billion), the reasons for the lag relate primarily to the continuing conflict for use and control of shorelines between public and private interests, limited ability of local government to raise funds required for cost sharing, uncertainty on the part of many about the potential effectiveness of a proposed shore erosion solution and difficulties in obtaining beach fill which is environmentally and economically acceptable.

THE FEDERAL INTEREST

In order to understand the current Federal role in shore protection, I will discuss a couple of important concepts underlying the authority for Corps of Engineers beach erosion control activities. First, there is *no* authority under existing beach erosion control legislation to expend Federal funds to extend a shoreline seaward beyond the historic shoreline or to create new beach areas. The Federal interest is in prevention and control of beach erosion and the key concept is "restoration."

The second overriding condition for expending Federal funds for beach erosion control is the requirement for "public use." Public use means recreational use by all on equal terms and open to all regardless of where they live. Beaches for the exclusive use of club members or hotel guests are not eligible for Federal funds for erosion control. The extent of Federal participation in beach erosion control is essentially a function of the "publicness" of shore ownership and use.

I might add at this point that the Corps is now authorized to provide technical and engineering assistance to non-federal public interests for developing structural and non-structural solutions to beach erosion.

SHORE PROTECTION MEASURES

The various engineering methods used for stabilizing and restoring shorelines and beaches are generally known. They vary in degree of effectiveness, ecological, esthetic and erosion effects on adjacent shores. I will briefly discuss some of these methods with respect to their relationship to recreational use of the shoreline. Keep in mind the methods are often used in combination though I discuss them as separate measures.

Beach nourishment and restoration is a method of erosion control which involves periodic placement of sand on the beach. The beach is widened and its slope is reduced to enhance its natural ability to reduce wave energy. The obvious advantages of this method are that it does not interfere with littoral drift, it is essentially a natural method, it is esthetically pleasing and generally results in a wide beach suitable for a variety of recreational uses. The disadvantages are that it is expensive (initially \$200-\$400 a foot of shore), it can cause ecologic disturbance at the borrow area and to a lesser degree possible adverse effects at the disposition site.

Dune stabilization and restoration is employed to reduce flooding or limit catastrophic shore regression induced by high tides and storm surges. Dunes may be stabilized or en-

larged by adding vegetation, wind fences or sand directly. The advantage is that it too is a natural, esthetically pleasing measure. The disadvantages include the necessity of restricted use by recreationists, blocked ocean views and possible adverse ecological changes at borrow areas if sand is added. I should also add here that it has been asserted by some that dune stabilization results in adverse changes in barrier beach vegetation and a narrowed, steepened beach berm due to restricted "oceanic overwash." (Dolan, 1972)

Groins are timber, steel, concrete or rock structures built generally perpendicular to the shoreline across the beach into the water. They may be permeable or unpermeable and used individually or in series. They trap sand moving along shore and widen the beach at that location. They are effective by themselves only when large amounts of sand are in transit. Their main advantage is that they are relatively less expensive and a fine recreational beach can be built up. They can increase the food available for fishes and thus improve sport fishing in the immediate area. On the other hand, groins can increase erosion on downdrift beaches if sand is not periodically replenished. Too, they are considered by some to be ugly and under some conditions can cause currents dangerous to swimmers.

Offshore breakwaters are massive, usually rock structures, constructed in the sea parallel to the shore. They prevent waves from reaching the shore, creating a calm which reduces along shore currents and results in accretion behind the structure. The advantages of this method include the fact that protection is provided without changing the form of the beach and sheltered water is available for boating and fishing. The disadvantages are high cost, accretion at the expense of downdrift beaches, ecological disturbance of the ocean bottom, and a surfless beach which can greatly detract from the shore experience for many recreationists.

Revetments and seawalls are structures placed along the beach line to reduce or reflect energy before it reaches the shore. These methods are generally used to protect high valued development located at or near the water's edge.

The main advantages of seawalls and revetments are that they provide a fixed backshore position and they can provide spot protection. They do not, however, maintain a beach, are considered unsightly by some, and can accelerate erosion at adjacent shores. On the other hand, revetments may be helpful in preserving marine life which is dependent on a rocky bottom near shore. (Corps of Engineers, 1971)

These methods for shore protection and stabilization which I've mentioned are some of the more commonly used ones. There are others such as jetties, dikes and sand by-passing mechanisms, as well as variations of these discussed, but the general advantages and disadvantages are similar. Keep in mind too, that the actual physical and ecological effects of these stabilization methods are not all that well documented. A complex and dynamic set of conditions in any given case can change the effects. There is a great need for monitoring programs to assess ecological and other physical effects of shore protection works in place.

I should mention here that another form of stabilization in coastal areas; maintenance of navigation channels and inlets used primarily for recreational boating can exacerbate shoreline erosion in some instances. Obviously, conflicts arise between boaters and other interests in these cases. Continued maintenance of a jettied inlet, for example, can affect the effectiveness and cost of a shore erosion control measure. Often sand transfer or by-passing solutions are appropriate in such cases.

EVALUATING SHORE PROTECTION

Now I want to move away from the physical aspects of shoreline protection and into the realm of evaluating these techniques in the context of their recreational implications.

A beach erosion control project can provide a variety of benefits. Those which Corps policy recognizes include benefits from . . . "land loss and other physical damages prevented, emergency and business costs avoided, enhancement of property values, increased recreational usage and prevention of loss of historic or scenic aspects of the environment. Benefits are measured as the differences in these values under conditions expected with and without the contemplated control measures." (Corps of Engineers, 1975)

Typically, the value of benefits attributable to the recreational use of beaches accounts for the largest share of total beach erosion control benefits. Without a substantial amount of current and expected recreational use few erosion control projects are justified under current criteria.

I'll briefly describe the current method used by the Corps in evaluating recreation benefits for shore protection projects.

Recreation benefits from beach erosion control projects are estimated by determining expected beach use based on . . . "the population of areas considered tributary to the beach and the prospective changes in the population within the project life." (Corps of Engineers, 1975) An average monetary value ranging from \$.40 to \$1.20 per visit is used for the benefit value and a minimum of 75 square feet per user is the established planning standard. The value selected for the benefit calculation is determined based on the degree of development of the beach area and shore ownership.

This evaluation method has several shortcomings not the least is that it is not clear what the arbitrary value per visitor day is supposed to represent. Aside from the arbitrariness of the values attached to a beach visit, there is another conceptual difficulty with the present evaluation method. that is, the recreational benefit attributed to the restored beach is considered only in terms of increased visitation capacity or quantity of visits. In my view, an additional value should be considered and that is the value of the changed qualitative characteristics of the beach experience, as a result of a beach erosion control project. (Krouse, 1974)

In the economists's view, the qualitative change in the beach would affect the demand for that particular beach. It would cause a parametric shift in the demand function. Given the data (albeit a big "given"), it would be possible to estimate the demand and value for the shoreline experience and measure shifts in that demand due to qualitative changes in the beach due to erosion control. Models do exist which can account for qualitative effects on recreationists' demand for a certain activity.

I believe that proper consideration for qualitative aspects of a beach erosion control project *vis-a-vis* the recreationists' experience will lead to better planning for erosion control and increase project acceptability. We who are involved in planning shore protection with its great impact on the marine recreation experience must be aware that the kind of solution itself can greatly enhance or adversely affect the very opportunities we want restored and preserved.

In order to estimate appropriate value to shore protection devices, it is necessary to realize that different segments of the population prefer different kinds of beach experiences and even the same people may prefer different kinds of shore experience at different times. Many recreationists now express a distinct preference for a more quiet natural undeveloped beach environment while others enjoy the vitality and social interaction of the beach at a crowded resort. If public marine recreation planners and policy-makers are going to do a good job, they are going to have to recognize that the value of a particular kind of marine recreation experience is to some extent in the eye of the beholder. That reminds me of hearing the exclamation of a fellow nearing the crest of the dune at undeveloped Assateague national seashore, upon seeing all of 20 or 30 people sunbathing on the entire stretch of visible beach, disconsolate, he shouted, "Oh no, it's just like Coney Island!"

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PRESERVATION FOR RECREATIONAL ENJOYMENT

*Janet K. Adams**

I've been asked to talk about the preservation of natural resources. By the definition that preservation is "keeping something safe", Prop 20 which was passed by a larger margin in 1972 than the "so-called" landslide of the presidential vote, may well have been intended by the voter to not only as sloganed "Save our Coast", but preserve it too.

I must state as a Coast Saver, Coast User and campaign director that preservation has the connotation of being musty with history and difficult to get on a bumper sticker. Perhaps in time Prop 20 will join the archives as a preservation act for the Coast of California, but right now it is a vital, innovative, useful and challenging legal instrument given to the state of California by the citizens when their duly elected legislators had abrogated coastal legislation for five concurrent years.

The history of coastal management in California, or lack of coastal management, dates back a half century to the first recorded flord resolution to "Save our Coast" passing toothlessly by the California Legislature. By the late sixties the citizens were sufficiently aroused and a few legislators sufficiently dedicated to initiate public hearings and immovable legislation. Legislation did survive long enough to build up a small cadre of support and a sorry record of death by lobbyists activities in the Senate. The "Pave it and don't bother to paint it green" clique did prevail.

By 1972, after two years of tremendously visible public support for coastal legislation being summarily ignored in the very first Senate committee the legislation reached, following a plus two-thirds vote to pass in the Assembly an initiative was circulated, qualified and passed as Prop. 20. The vastly expanded ranks of the conservationists which included organizational support from every spectrum had done what the professional petition peddlers said could not be done, the lobbyists said would never be done, had been accomplished by the Coastal Alliance despite the opposition waging what the Assembly called a "fraudulent" campaign against Prop. 20. The California Coastal Zone Conservation Act of 1972 created to develop "a comprehensive, coordinated and enforceable plan for the orderly, long-range conservation and management of the natural resources of the coastal zone" became law. A State Commission and six Regional Commissions were created. Some of the appointments must have been awesomely awful to one faction or another, but as predicted

*Ms. Adams is President and Executive Director of the California Coastal Alliance, the legal proponent of the initiative, Prop. 20, the California Coastal Zone Conservation Act of 1972.

by the proponents the even balance between representatives of local government and the public-at-large created the body to deal with coastal management in public view with every viewpoint being heard. Decisions, some good, some bad, many indifferent to various advocates, were actually being made that were "saving our coast."

Now the mandated coastal plan has been completed by the Commissioners. The section on recreation is thorough, creative and interrelated to the other elements of the plan. If implemented intact the recreation section could create not only superb recreation facilities but genuine demonstration areas for coastal resource management. It, as do all the elements, illustrates the interrelationship between every use, every impact, every need on the coast. The findings and policies are clear; the subject is complex. The partial, and I emphasize partial, solutions to some of the coastal management problems will occur, must occur, next year in the Legislature. If the Legislature again turns its back, of course, there could be another initiative passed. I believe that would be an irresponsible process to be



Photo credit: California Department of Fish and Game

forced to again by the refusal of even one individual or one organization or one legislator to try to move a mountain to find agreements over issues, short of turning to the initiative.

Within this room there is probably the philosophical and scientific wisdom to resolve the impasses inherent in a planning process which has by mandate included a remarkably broadbased public participation. Prop 20 is only a part of a mosaic of plans, regulations, and interwoven local, state and federal laws representing the variety of interests intent upon using the coast, not necessarily saving it or abusing it but enjoying all the facilities available in a rare natural resource. Prop 20 happens because of the time in its life to be the implement for coastal management very much in the view of the citizens of California.

A century and a quarter ago at Monterey, a historical, scenic, biologic and recreational treasure on the California coast, Walter Colton, the Alcade of Monterey and the publisher of the first newspaper in California, editorialized "If a cause be good, the most violent attack of its enemies will not injure it so much as an injudicious defense of it by its friends." That is a good cautionary note for all of us, because each of us is surely a friend on a part of the coast.

We are at a point in coastal zone management when judicious resolution of differences that exist could do far more for our common, or uncommon, interests at a local, state or federal level, than a resurgence of the clamor that preceded the present environmental laws. Hopefully the anti-environmental clamor in the halls of government by the hired guns and the pro-environmental clamor by the militant citizenry has been muted by the need to reconcile differences to meet many other priorities. Probably basic goals of either faction have not changed, but there has been change because many new laws do exist to solve problems, that were not enacted in 1972. Critical information to ease decisionmaking is more readily available not only through conferences such as this but in papers and magazines with wide distribution. Surely it has all had its impact and hopefully there has been a leavening process going on everywhere.

As a great many people have come to understand that destroying our wetlands, estuaries, salt marshes, any fragile natural resource is not in the public interest, as many people are aware that the tensions that exist in daily living need to be eased by utilizing every recreational resource. It would be foolish for anyone to proclaim that the citizen sitting at ease on the aft deck of a docked boat in a marina is not achieving the same restorative serenity of mind as the sailor beating towards the horizon, the surfer hanging ten or the sandcastle builder on the shore. Certainly each one of those people is capable as a part of a whole of the cumulative destruction of the resource they wish to enjoy. It is up to the experts to see that the adverse effects do not happen, but to establish the shalls and shall nots so the inviolates are acceptable, and the alternatives are found and developed.

It is everyone's responsibility to find the place where recreation can exist if the areas where it must not are to be kept out of bounds.

The same energies that created environmental controls and fought the creation of environmental controls must be channeled into working together for environmental solutions. A recent achievement that was initiated by Sea Grant is the Marina del Rey Plan. It was brought about by astute leadership, development of substantiating facts and willingness to find compromise solutions by many many people. That plan procedure must be expanded. This conference is obviously the place to start such procedures and involvement between the marine biologists and the recreation people. Possibly it would be wise to start with a vow to speak truths not propaganda. Yesterday's San Francisco Chronicle carried a column that could easily start an open war between boaters and birdwatchers—that type of article is purposeless in 1975 and irresponsible any time.

In 1972 I was proposing that Coastal Commissions be established to produce a plan for balanced coastal zone management. Today I propose that we start a "Committee of One". Each one of us should assume personal responsibility to find the individuals, or organizations, that have been opposed to our espoused point of view. We must sit down to talk and listen, and agree to research facts as presented, and if the facts, as substantiated, are adverse to our position to seek actively a compromise solution. Thoreau said it well—"it

takes two to speak the truth—one to talk and one to listen". The Alliance has been following the program to listen and talk and compromise for the past six months. We have found vast areas of agreement with people we formerly rarely spoke to except perfunctorily. We've all agreed that we don't always wear horns. The "Committee of One," one person or one organization, needs all of you and now. There are no dues. No by-laws. All it takes is time and the commitment to start the first conversation, the first meeting to speak the truth. It should and could be expanded by anyone to any group, governmental or non-governmental. All that would be needed as a formality would be to let your legislator, the final decisionmaker, know when you've found a compromise, a solution, that can be accepted. Good ideas need to be shared too, so share the how to's as well as the results and maybe start moving a bit of the coastal world towards center.

Shaw described the process by saying "Common sense is instinct, and enough of it is genius". Let's all be geniuses together, Now.

RAPPORTEUR'S REMARKS

*John Clark**

Our moderator was Bob Jones, a private consultant; who pointed out two important aspects of the environmental problems connected with marine recreation: natural areas and living resources, and improvement of management.

We talked about science, we talked about federal programs, and we talked about the country's most ambitious and exciting coastal zone management adventure now, the one here in California.

Candace Oviatt discussed the remarkably minor coliform water pollution that occurred in a marina study area in Narragansett Bay. We discussed shore protection and associated evaluation to determine the benefits.

Then Janet Adams gave us a kind of one-two on the politics of pollution aspects of the California coastal zone.

Our discussions, I thought, were quite informative and interesting on details of these subjects, but we did not wrestle seriously with concepts or broad problems. We just couldn't in the time at hand.

I think a major reason is that when we speak of the environment of marine recreation, we are dealing with an incredibly complex subject. We are talking about mud flats and marshes, bays and estuaries, beaches and dunes, kelp beds, hill sides, forests, farms, streams and so forth.

What is obvious is that this special environment is the basis for marine recreation, and that recreation has greatly benefited by the amazing national commitment to the protection of the general environment. But no national program has ever materialized to specifically focus on the recreational environment of the coast. I think I can summarize this best by reading to you from a marine recreation literature survey that I had previously written and have now edited for the occasion.

"The institutional response to the specific problems of marine recreational development and management is severely hampered by problems of mixed and uncoordinated re-

*Mr. Clark is Senior Research Associate for the Conservation Foundation

sponsibilities of local, state and federal governments. No one is in charge. The federal government is involved in 90 different agencies with no apparent pattern for coordination. Only ten states have coastal management programs that include a mention of recreation.

So ineffectual is the system in grasping the public mood that the federal coastal zone office put recreation second to the last on the priority list of information needs.

Real and rapid improvement in nationwide administration, planning, development and management can only be guaranteed by a major new federal thrust in policy resolutions and agency coordination."

All this thinking and pondering led me to see a solution: A partnership of state, local and federal programs through the coastal zone management program operated by NOAA. In theory, there is no further program that needs to be invented than the one in which the federal government joins in a partnership with the state and local governments, and gives them money for planning, and management. The partnership points out and establishes certain criteria for public access, for resource protection and for the continuance of a permanent high recreational experience. When we prepared the literature survey, it was our conclusion, and I think it still holds, that there is great promise for exercising some kind of coordinating mechanism through the federal government coastal management program to ensure long range natural resource protection and meet the national needs for public access and quality marine recreation.

RESEARCH AND EDUCATION

COASTAL RECREATION RESEARCH: A PAST, PRESENT AND FUTURE PERSPECTIVE

*Robert B. Ditton**

It is indeed a pleasure to be here today with you at this first National Conference on Marine Recreation. For those of us who have devoted our entire but brief careers to marine recreation research and advisory services, it's sort of like a coming out party. But in coming out, we will surely have greater responsibilities. To know who we are and what we are all about, we must have sense of where we've come from and where we're going. I will attempt such a task in the brief period allotted to me this morning.

Coastal recreation, like other forms of outdoor recreation, is a most complex area of

*Dr. Ditton is Associate Professor Texas Agricultural Experiment Station (Recreation and Parks) Texas A&M University System

study because both natural resources and people are involved. Further, that the "product" involved is an experience. Coastal recreation is not fish, is not parks and is not beaches. Coastal recreation is a human response to natural resources such as these. Experiences involve satisfactions and therefore we must understand the critical elements of motivation and satisfactions. In research areas such as these we are only beginning our investigative efforts.

It is very difficult to identify much pertinent research in the literature prior to 1960. The understanding we have today of man's use of coastal resources during leisure, we have gotten in the last fifteen years. The entire area of inquiry was given a major impetus by the nationwide research efforts conducted and published by the U.S. Outdoor Recreation Resources Review Commission (ORRRC) in 1962. Their National Recreation Survey was the first nationwide study of participation in outdoor recreation activities, even though a salt water-fresh water dichotomy wasn't made in their findings, and/or projections. Their shoreline report though did document the fact that the nation's coastlines were nearly entirely in private ownership. The ORRRC recommended legislation like the Land and Water Conservation Fund Act and an agency like the U.S. Bureau of Outdoor Recreation to administer land acquisition funding. The resultant grant-in-aid program led to the birth of recreation resource planning as we know it today. The need to develop State Comprehensive Outdoor Recreation Plans (SCORPs) led to the development of recreation and parks, curricula, academic courses in recreation resource planning and the training of planning and management professionals in this field.

Prior to the 1962 *U.S. Senate Document No. 97* which discussed recreation and fish and wildlife propagation as primary Federal water project purposes, few project development costs were attributed to recreation benefits. This change in policy was established by the passage of the Federal Water Project Recreation Act of 1965. Henceforth, full consideration was to be given outdoor recreation in project planning, project planning was to be coordinated with other recreation developments and non-Federal public bodies were to be encouraged to administer project land and water areas.

In 1966 the Stratton Commission was convened and the National Sea Grant Program was established to guide the development of statewide programs, many of which have conducted coastal recreation research. The National Environmental Policy Act of 1970 helped us to focus attention on the environmental impacts of coastal developments, many either involving or affecting recreation opportunities. Acts like the Federal Boating Safety Act have helped us to collect data on recreation equipment and activity and to establish a baseline for boating trends. The Coastal Zone Management Act of 1972 has many structural similarities with the Land and Water Conservation Fund Act. Both focus on state efforts, involve grant programs, encourage planning and management and impact on research and education functions and needs. Subsequent to the passage of the CZM Act, our Department of Recreation and Parks at Texas A&M University established its marine recreation management/development specialty to meet some of the manpower needs for coastal recreation managers, planners and researchers. During the thirteen year period through which I've just raced, the *Journal of Leisure Research* and the *Journal of Coastal Zone Management* were established and have since reported directly and indirectly related studies and findings. Articles and books on coastal recreation-topics have appeared with great regularity particularly in the 1970's. Such an information base enables us to teach a graduate level course in coastal recreation at Texas A&M University, an impossibility just a few years ago. And here we are today at Newport Beach as delegates to a national conference on the subject attempting to define roles and responsibilities to aid NOAA and other Federal agencies to establish coastal recreation policies.

Opportunities for the researcher interested in coastal recreation have continued to expand, particularly in the past five years. Many Federal agencies appear anxious to establish a visible presence in the area of coastal recreation. Some are prepared to do so and some are not. Some agencies are moving aggressively. In my judgement the National Sea Grant Program and its Sea Grant Colleges and programs have made the greatest contribution to

coastal recreation research and have the greatest potential for continuing to do so. Sea Grant is able to combine scientific inquiry, educational training and advisory services levels, a task particularly well suited to the college and university setting. This is not to deny the importance of recent research efforts of the Coast Guard or other NOAA agencies. However, most of these studies have been carried out on a national or regional basis to create administrative or management systems for the agencies involved to better implement their statutory authorizations. This research is more goal-directed and agency-specific.

The position of coastal recreation research has changed substantially from the early days when Sea Grant was run by the National Science Foundation. The conception of science has been broadened considerably to include the social sciences—a critical aspect if the human-resource dimensions of coastal recreation are to be fully probed. Many have argued and continue to do so that the Sea Grant Program doesn't fund coastal recreation research sufficiently—that it is more of an after thought often to gain some political advantage. This may or may not be true. There are, however, more proposals dealing with recreation being submitted to Sea Grant than ever before. Many of these I have reviewed for the National Sea Grant program. When I speak of future dimensions, I will base most of my observations on the Sea Grant research proposals I have had the privilege of reviewing in the past three years.

Several Sea Grant Programs have assumed a leadership role in the conduct of coastal recreation research; several others have maintained what seems like a "token" recreation project or have managed to ignore the area altogether. Beyond a need for more programmatic efforts in coastal recreation research and advisory services at Sea Grant institutions, we need to meet together as coastal recreation research colleagues as the Sea Grant lawyers do and communicate more freely. Most coastal recreation research to date has focused on boating and sport fishing. This has probably been due to the presence of active national membership groups in these areas. Research on activities like scuba diving, swimming, and beach use have found research funding considerably more difficult. Household studies that deal with total outdoor recreation participation and reflect non-participation have likewise found funding difficult.

This appears to be an opportune moment to evaluate where we are in coastal recreation research and where in my judgement we need to go. My comments are directed particularly to my Sea Grant research colleagues because I am more familiar with them and our common research interests. Implications for other agency's efforts may be clear. My comments are made in a sincere and constructive manner and should be taken accordingly.

1. There appears to be a proliferation of marina economics and other similar studies on a state by state basis. How many marina economics or charter fishing studies do we need to have some predictive ability in these areas? Is it the researcher's task to provide the necessary descriptive data and understanding to agencies involved in coastal management or does the researcher have a greater responsibility as well? I submit that the purpose of our research in coastal recreation needs to be more broadly scrutinized and defined. We need to complete a nationwide analysis of our research understanding in coastal recreation in which matters of research directions, design and needs are suggested. Instead of every state or program doing a study of their charterfishing fleet, we may only need to study representative fleets on our four coasts to have the necessary predictive ability and to establish appropriate study tools. Special cases and applications could still be pursued. With basic understanding and tools established, advisory services personnel could carry out the inventory studies with particular emphasis on management needs making full use of their field contacts and capabilities. A nationwide study of our coastal recreation knowledge is suggested not to restrict state and local prerogatives but rather to guide the most efficient allocation of funds, talent and effort.

2. Many coastal recreation proposals document cooperation with other state agencies and many do not. Greater effort needs to be made to tie recreation research projects into larger efforts underway by state agencies. Further, researchers should enlist the help of those state agencies, involved with recreation planning, registration and licensing to provide

more extensive and definitive data on coastal recreation activities. The state agency, if made known of further baseline data needs, may collect data in different or new categories allowing the researcher to deal with higher order research concerns. Relationships with other state agencies are not only mutually beneficial but prerequisite for meaningful research and application of findings.

3. Similarly, private business and industry needs to be involved more extensively in our research efforts. They have much to offer us in the way of information. Their marketing analyses and resultant understandings must find their way into our research arena. Industry must come to realize that a greater understanding of recreation participants and their activity may lead to a greater allocation of recreation facilities . . . which may induce more business. Their (industry) "fugitive" marketing literature must be somewhat "declassified" and made available in some form to those of us conducting marine recreation research. Only through such a partnership of effort will we be able to meet informational needs in this area. Only through such a partnership of effort will we be able to optimize the position of recreation in coastal zone management as well as provide the justification for needed resource and policy development. This effort can be undertaken by each researcher but is more appropriately effected on the national and statewide levels. High level executives from Chris Craft, AMF, Outboard Marine, Hobie Cat, Coleman, Mercury, Cal Yachts and other corporations need to be involved in an advisory effort . . . they have a business stake in marine recreation as well as our research efforts.

4. Some marine recreation proposals I have reviewed recently have not been tied to existing literature at all. If a bibliography tells where the proposal writer has been, many have been no-where. While there should be a particular field problem established, the proposal writer has a responsibility to build upon previous research efforts . . . particularly work funded by Sea Grant institutions and other NOAA agencies. This can be accomplished through a greater use of the Sea Grant Literature Indexes, the Pell Library Collection, NTIS and other computerized retrieval systems. Greater emphasis needs to be placed on recreation research project proposals to insure the project is not only a contribution to local problem solving but to the research literature as well. This can be done on the administrative level by insistence on more extensive reviews of related literature and bibliographic documentation.

5. Some research projects are more planning exercises than research. These solve very small local problems with little if any generalizability to other application situations. There is little multiplier of research and funding. Greater emphasis should be given to research proposals that have generalizability to other situations and geographic locations. This is not to in any way restrict the prerogative of local decision making but rather efforts to make greater use of limited funds and to develop a base of knowledge.

6: As mentioned earlier, outdoor recreation involves both people and natural resources. Therefore, coastal recreation research needs to involve individuals capable of such an interdisciplinary perspective. Neither the natural nor the social scientist has all the answers. Efforts need to be broadened to include human/resource perspectives in research. Many projects overemphasize the resource or inventory side of coastal recreation. Many projects that initially appear more comprehensive end up focusing on the natural resource because of an inability to deal with the human use of coastal resources [or with the lack of baseline data in this area] and most importantly, the human/resource interrelationships involved.

7. Many coastal recreation researchers want to tackle modeling and systems analyses without the basic data in hand to "plug-in". While resource inventory data is usually available, coastal recreation demand and participation data is not. We have measures and trends for outdoor recreation on a national scale. Knowledge of participation/activity deteriorates as we move to the state level. When it comes to the coastal zone within a particular state, we know practically nothing unless a special study has been concluded by a federal management agency or unless a State Comprehensive Outdoor Recreation Plan (SCORP) study has been conducted to probe both fresh and salt water activity. In those

states where baseline coastal participation data is not available, we either need to encourage state agencies to collect the data we require or we need to carry out this "missionary" work ourselves. When baseline participation data is available, and only then, advanced modeling applications, manipulations and systems analyses will be possible. "We need to crawl before we can walk and we need to walk before we can run." We will be able to apply a full range of statistical techniques in our analyses but we need to have the requisite data.

8. To date, there has been little uniformity in how recreation-related data has been collected. Socio-economic and background variable classifications have varied by researcher making comparisons of findings difficult. I believe this deficiency has been caused by a lack of communication among coastal recreation researchers. Researchers with Sea Grant and other agency support need to meet to establish some consensus on data collection categories. There needs to be some basic agreement on definitions of terms, socio-economic predictor variables to be included, units of participation and how they will be scaled, expenditure categories and the like. There is no intent here to standardize research to some predetermined or required format but rather to establish some basic elements to enable inter-study comparisons when possible or when desirable.

9. With the exception of the USC Sea Grant's work with the Mexican Government to study recreation problems and potentials on the Baja Peninsula, I know of no other efforts that have been made to bring coastal recreation researchers together to study nationwide and regional problems. The pressing problems in coastal recreation today appear to be public access, urban recreation opportunity, coastal recreation allocation decisionmaking and coastal use conflicts involving recreation. We need to confront these problems more broadly than we have in the past if we are to move toward understanding and solution. The National Sea Grant Program should encourage the development of nationwide and regional projects to probe nationwide and regional coastal recreation problems.

10. Lastly, how many articles dealing with coastal recreation topics have you seen in the *Journal of Leisure Research*, *Coastal Zone Management Journal*, *Transactions*, *Marine Fisheries Review*, *Water Resources Bulletin* or *Water Resources Research* that have been supported by Sea Grant research funds? I'll be generous and say "not many". I have read Sec 204 of the National Sea Grant College and Program Act of 1966 (P.L. 89-688) very carefully for some guidance in this regard. There is precious little. Sec 204(b) states that preference will be "given to research aimed at practices, techniques, and design of equipment applicable to the development of marine resources" and the Act supports "the object of importing useful information to persons currently employed or interested in the various fields related to the development of marine resources, the scientific community and the general public". I believe that our technical reports have been oriented toward communication with users in the field and the general public. Coastal recreation research must begin to stand the rigors of review by the scientific community if a literature base is to be established for this relatively new field of study and if contributions are to be of lasting value. Project reports dealing with recreation are usually unrefereed by one's peers and are usually written to communicate ideas to a non-technical audience; they become lost in the literature quickly and lack the preciseness in communication so necessary to scientific inquiry. We must intensify our efforts to publish our findings or modify our studies and their conceptualization so that our findings are worthy of publication.

Again my observations and comments for improvement of marine recreation research are made and intended to be taken positively. Agencies conducting research in this area can take heed as they desire.

None of my observations deal with the present or needed funding level for coastal recreation research. I do not intend to speak to this point today. It is not an appropriate time or place. Before we seek increased funding or a larger portion of the research pie, we have some housekeeping of our own to tend to. We need to confront some of the problem areas I've spoken to today. We need to provide greater generalizability and greater problem solving ability *with the funds we have now*. We need to demonstrate to research administrators that our research tools are as solid as anybody else's; we need to carefully and

deliberately develop our knowledge base in this area and lastly, we need to take the long view in our research and problem solving efforts, not sacrificing the quality of our work in the name of "comprehensive or terminal projects", visibility and other such short term strategies.

BIOLOGICAL BASELINE DATA REQUIREMENTS FOR PLANNING DECISIONS CONCERNING MARINE RECREATION

*Francis Williams and Donald P. de Sylva**

INTRODUCTION

There seems to be little doubt that the demand for marine-orientated recreation will expand at an exponential rate over the remainder of this century, despite any temporary problems posed by the present economic position. This demand arises from the continuing redistribution of the population towards the coastal zone (including the Great Lakes), higher personal incomes (and perhaps the availability of more cash for recreational activities), higher individual mobility, shorter working hours and longer vacations, and a growing "apparent" need to escape from the everyday pressures of modern living, especially in urban areas, and simply relax on or beside the sea.

The increasing utilization of the coastal zone (beaches, estuaries, and nearshore waters) for all types of industrial development (factories, refineries, power plants, ports), transportation, urban development, commercial fisheries, and mining, as well as recreation, has led to very major problems in recent years. These can only be expected to increase dramatically in the future. Many of these problems revolve around the continuing desire of the general public to have the ability to utilize a large part of the natural resources of the coastal zone for their leisure-time activities. We believe most of our colleagues at this conference will agree that the major difficulty is the lack of basic information, be it economic, sociological, biological, or legal, on which policy decisions related to marine recreation can be based. This assumes acceptance by all levels of government, private enterprise and the general public, not only of the principle, but also of the practice of effective planning and management of all coastal zone use.

WHAT DECISIONS HAVE TO BE MADE FOR WHICH BIOLOGICAL DATA ARE NEEDED?

To be able to provide baseline biological data for planners and managers we must be aware of the types of decisions they will be called upon to make. We have assumed that these primary decisions will relate to optimal utilization of the renewable resources by the various

*Drs. Williams and de Sylva are in the division of Biology and Living Resources, Rosenstiel School of Marine and Atmospheric Science, University of Miami

segments of the community. In other words the planners and managers must determine the proportion of use of the resources by commercial and recreational interests, as well as between the different types of recreational users. Of course, for certain resources it may be that optimal utilization could indeed mean exclusive rights for a particular user-group. Decisions will also have to be made regarding utilization for non-living natural resources for commercial and recreational purposes for which, nevertheless, biological data will be required, e.g., beaches, sand dunes, water for industrial uses.

Decision makers should be aware of new trends or types of marine recreation that may develop in various localities for a variety of reasons. For example shortages or increasingly high costs of fuel will restrict both travel to recreational sites and travel by boat or other means once at the site. Effort might be diverted from individual fishermen in their own boats to larger more economical party boat operations or to fishing from the shore. This could lead to a rapid increase in effort on a presently fished species or massive diversion of effort to lightly exploited species, to say nothing of site congestion. More exotic trends have been predicted such as recreational submersibles, underwater resort "villages", and even scenic underwater monorails.

To make rational decisions on the use of renewable resources it will be necessary:

1. *to obtain the rates of use of the resources at least on an annual and a seasonal basis, but for some species in some areas on an even shorter time frame;*
2. *to determine the methods used to exploit the resources (types of fishing gear, boats, baits);*
3. *to identify and understand, and if possible resolve, the conflicts between user groups and within the recreational user group.*

Conflicts can be further subdivided into a) competition for the same resource and b) use of interdependent resources. A few examples of typical conflicts are as follows:

1. Competition by recreational and commercial (national and international) fishermen for Atlantic bluefin tuna, billfishes, salmon, spiny lobster.
2. Fishing commercially for reduction to fish meal of forage species such as anchovies and sardines versus the desire by recreational fishermen to fish for predator species which use anchovies and sardines as food (anchovies in southern California; sardines and anchovies in Florida waters of the eastern Gulf of Mexico);
3. In the non-fisheries area there are the obvious conflicts between power boats and swimmers, beachcombers and dune buggies, and so on.

We wish to emphasize that the provision of the type of biological data mentioned above must be accompanied by complementary economic, social, legal and political data as they are all inter-dependent.

TYPES OF RECREATIONAL USES WHICH REQUIRE BIOLOGICAL (AND OTHER) BASELINE DATA.

The numbers and types of marine recreation activities vary considerably by geographic and climatic area as well as by time. The listing below is not in order of priority and is not exhaustive:

- * 1. *Sportfishing (angling)*
- * 2. *Recreational shellfishing*
- * 3. *Skin or Scuba diving*
 - a) *spearfishing or-the-like*
 - b) *for more intrinsic reasons such as photography, exploration, pleasure, etc.*
- * 4. *Swimming (safety problems related to water quality)*
- 5. *Surfing (safety problems related to water quality)*

6. *Shell collecting* and beachcombing generally
7. *Power boating*
8. *Sailing*
- * 9. *Nature study* (birds, reptiles, marine mammals, plants)
10. *Wetlands hunting*
11. *Picnicking*
12. *Camping*
13. *Waterskiing*

Those uses marked with an asterisk (*) are probably the most important in terms of need for biological data.

The supply of bait, such as shrimp and fishes, is vital to the well-being of sportfishing. Although baitfisheries are commercial operations, we consider that they (and the target species) should be studied at the same time as recreational activities in the coastal zone.

There are other recreational activities, e.g., use of dune buggies and recreational vehicles, as well as development of recreational facilities in the coastal zone, e.g., jetties, marinas, lodges, highways, which will require biological information for proper evaluation of their effects on the overall environment.

It is worth re-emphasizing that for most types of marine recreation the common problem now, and in the future, will relate to water access.

PARTICIPANTS IN MARINE RECREATION

It is essential to give you some idea of the involvement of the community in some of those recreational activities. A survey (NMFS, 1975) of 14 northeastern states (from Maine to Virginia) for the year ending June, 1974, calculated that no fewer than 22.8 million households had participated in six categories of marine recreation given below:

	MILLIONS OF HOUSEHOLDS
Swimming	7.5
Fishing	4.7
Beachcombing	3.9
Pleasure boating	3.4
Sailing	1.7
Shellfishing	1.6
TOTAL	<u>22.8</u>

The survey also produced data which indicated that at least 10.9 million persons from the same states had participated in marine recreational finfishing and shellfishing in the same time period. Previous national surveys had indicated about 8.2 million marine sportfishermen and revenue of \$789 million in 1965 and 9.8 million individuals in 1970, whilst projections for 1975 (NEMRIP 1969) were 16 million individuals and revenue of \$1.6 billion. The 1973/74 survey data suggest to us that it would be wise to estimate a minimum of 20-25 million marine sportfishermen nationwide in 1975 and revenue in excess of \$2 billion; this is for a single, though admittedly large, sector of marine recreation.

TYPES OF BIOLOGICAL DATA NEEDED

WHAT: 1. We must prepare inventories of the living resources in the coastal zone by principal groups and species, both for those which will be utilized directly, e.g., fishing, and indirectly, e.g., photography, or affected by environmental degradation. Such inventories require that the biota be properly identified and correct scientific and common names applied. Although there is a wealth of taxonomic literature for most parts of the country, we are lacking in less technical books and manuals for some kinds of biota, and particularly in some geographic areas (birds and shells are the usual exceptions). We are producing such

manuals under the University of Miami Sea Grant program which permit the identification of biota without resort to a microscope or a laboratory.

2. It is equally important to obtain biological data on the biota as without it resource management is impossible. Complete data would include size, life histories, pathogens, parasites, and diseases, behavioral and physiological characteristics, species interrelationships, habitat requirements, relationships to environment, and position in the overall ecosystem of the area. Obviously, depending on the geographic area and species, some data might be more urgently required than others, so priorities would need to be established.

WHERE AND WHEN: The geographic distribution of organisms is of vital importance to both managers and user-groups, as is the question of depth distribution for aquatic organisms. Similarly the occurrence of organisms on a diurnal, lunar, seasonal or annual basis is of interest if the resource is to be fully utilized or appreciated. It is also necessary to study variations in the spatial and temporal distributions. Such information can assist in determining the stability of a resource or ecosystem.

HOW MANY: Obviously this is a key question, as rational management decisions can not be made without good estimates of stock size for a given species. For marine resources recognized methods are available for such determination either by direct methods on the adult population, such as dock sampling, exploratory fishing, acoustics, or indirect methods, such as egg and larval surveys. However, the question of determination of yield levels for a given species is another matter. Although Optimum Sustainable Yield (OSY) generally has been agreed as a desirable aim, as it takes into account not only biological but economic and social data, no mathematical models exist for its computation. Certainly the social value—aesthetic enjoyment and quality of fishing—is extremely difficult to quantify; it is not even easy to accumulate the economic data on the salt water fishermen who are unlicensed, or on the infrastructure. Present yield models for recreational activities are mainly based on small freshwater systems where the species are limited, the fishermen are licensed and utilization of the resource was planned from the outset. An up-to-date review of OSY is presented in Roedel (Ed.) 1975.

It is not only important to determine the size of a resource and its OSY but also its availability to, and catchability by, the recreational participant (aspects of gear technology and behavioral studies).

Methods also exist for quantitative surveys of littoral or terrestrial resources of the coastal zone which will not be utilized in the normal sense of removal.

WHY: The relationships between the various living resources components with the environment must be investigated, though in some cases this will be difficult as the environmental conditions have already been modified by man to varying degrees. The determination of such inter-relationships is important if we are to assess the effect of future environmental modification by pollution and other man-made events. This is of importance as the coastal zone is usually a nursery area for many inshore marine species, e.g., in South Florida about 80% of inshore species are estuarine dependent, and hence environmental degradation in the coastal zone can have massive effects on distribution and abundance of biota. Such modifications also have a marked effect on man's recreational utilization of the marine environment itself, i.e., preferences for swimming in clear water and walking on beaches unpolluted with oil and sewage. It should be remembered, of course, that there are some species—perhaps with some future recreational value—which can flourish in polluted or otherwise changed coastal conditions.

HOW BIOLOGICAL DATA IS OBTAINED

1. Initially a search should be made for all existing biological information on a given species or geographic area. Biological information published in the scientific literature is not too difficult to locate. However, we find that present abstracting systems do not provide rapid retrieval of information on Marine Recreational use of living resources. It is necessary to sift through the huge data base on Outdoor Recreation. This is one area where immediate action could be instigated.

2. The biological data base for many important species and areas is known, or will be shown, to be inadequate for the formulation of policy and plans for recreational management. Thus it will be necessary to acquire new information as previously indicated. Finally we can use indirect techniques based on collection, analyses and interpretation of resource utilization data derived from present recreation, i.e., catch, catch-per-unit-of-effort, biological data on the catch. These sampling methods will also provide considerable economic and social information to feed back to issues such as "WHAT DECISIONS," "RESOLUTION OF CONFLICTS," "DETERMINATION OF OSY." Secondly, for many presently exploited resources, and for potential ones, we will need to use direct sampling techniques which do not depend on the individual recreational participant, i.e., separate programs. For the collection of new information it is imperative to have well designed sampling so that needed information *will* be available at the end of the study. This, of course, presupposes that the goals of the biological program are well defined in the first instance. Subsequent to the data analyses and interpretation, hypothesis and models should be formulated and tested relative to the ecology of the resources.

BUDGETS: To do an effective job in providing needed basic biological information to the decision makers will require that adequate funds are available for marine recreation research over an adequate time period. To be realistic, though, it is obvious to us that the massive funds needed for a crash-program will not be instantly available at any governmental level, nor do we believe that the scientific community is in a position to mobilize so rapidly in a rational manner. Over the next five years policy decisions will probably be made on an *ad hoc* basis to emphasize certain species and geographic areas. Certainly there is considerable disparity amongst geographic areas in the development of marine recreation data bases. However, even the relatively modest efforts mentioned above will require major infusions of research dollars in marine recreation. At present we see much greater expenditures for freshwater recreational research. We believe that the marine recreational industries should be required to contribute to investigations of the resources they utilize.

COMMUNICATIONS AND EDUCATION

For decision makers it is essential that the biological resource data are in a form which permits them to be evaluated equally with other data of an economic, social or political nature. In this respect we believe that biologists can do much better than at present in the data transmission process.

For the public in general there is an obvious need to provide educational material, at an appropriate non-technical level, on the resources used by participants in marine recreation. This is an extremely important task for members of the technical community and we can not overstress the need for well-informed marine recreation user-groups.

To assist both decision-makers and the public we believe that a series of atlases should be prepared of *actual* and *potential* marine recreational resources and their use, by type, in the coastal zone. Firstly, there could be a series by major coastal regions (Atlantic NE, Atlantic SE, Gulf of Mexico, Caribbean, Pacific coast, oceanic Pacific) and secondly, a series covering more restricted state or local areas. This latter series should also incorporate information on beach and water access, a key factor in marine recreational activities. The main aim would be to have a standardized format at least for the first series by major geographic regions. Well produced atlas series, as we are proposing, could serve two purposes i) as syntheses of existing knowledge of resources and their utilization for present and future participants and ii) as baseline planning data for decision-makers. Maps, using overlays for economic, social and environmental data, have been used for land-use planning, but not specifically for recreational use of marine resources in the coastal zone.

IN CONCLUSION: We wish to make a strong plea for a balanced program of research—economic, social, legal and biological—on the resources of the coastal zone and their utilization for recreational purposes. Coupled with this should be improved communication of the results of the research to, and education of, the general public and decision-makers with regard to marine recreation.

We would like to quote from a Fish and Wildlife Service Survey of the late 1960's, which was reproduced in the "Stratton Report" (CMSER, 1969), on the conflicts between sports and commercial fishermen and which we believe is valid for all user-groups:

"Too often conflict issues are permitted to reach emotional heights where scientific evidence is ignored and reason and compromise are pushed aside. Then misdirected public opinion and organized vested interests take over to influence expedient political decisions that can only lead to more bitterness and hostility."

Without doubt we have come a long way in terms of knowledge and planning since then, but regretfully there is still a great deal of truth to this statement. From this conference there should come concerted action with regard to the major problems facing marine recreation. Do not forget that Orwell's '1984' and the acceptance of "Ignorance is Strength" is only 9 years away.

ACKNOWLEDGEMENTS

We wish to thank our colleague Dr. Bruce Austin for his advice during the preparation of this paper.

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RAPPORTEUR'S REMARKS

*Robert Lutz**

The panel consisted of Francis Williams from the University of Miami, John Isaacs from Scripps, Robert Ditton from Texas A&M, Michael Heeb from Sea Grant was moderator. We discussed research and education.

While research and education, one might argue, are intimately related, I think it is fair to say the panel presentations focused more on the research aspect than on the educational one.

*Mr. Lutz is Director of the Institute of Coastal Law & Management of the University of Southern California

All three panel presentations seem to agree on the need for research in marine recreation. There was a specific plea by Francis Williams that there needs to be biological information so that decision makers can make informed decisions in planning. He identified several areas for research, of which I will point out three. First, we need more inventories of the living resources and the coastal zone; although optimum sustainable yield is a desirable goal, research is needed to develop mathematical models to determine numbers for this concept; thirdly, atlases for actual and potential recreation resources and their use in the coastal zone should be developed.

John Isaacs indicated that in scientific study, historically speaking, at one time we were taking things apart trying to analyze more on the interactions, and he thinks that is the proper focus, particularly with respect to marine recreation problems. He also pleaded for less directed science and more applied science.

He indicated that the commercial and sport fishing industries should not be studied or dealt with separately, for they are interrelated. Generally speaking, he said that there had to be a search for new ideas and a reassessment of the old assumptions and some of the research that has been done in the past. He cited some examples, like developing wave motion to build sand beaches or developing underwater radio which he has found successful.

Robert Ditton indicated an additional dimension: outdoor recreation involves natural resources *and* people. We should not lose sight of the fact that the product of recreation is an experience and a human response to a natural resource. He identified some of the more pertinent research of the last 10 to 15 years and then spoke on the quality of research in the marine recreation area.

We have to realize that there are two aspects of research, one is the funding and the second is research design.

I'd like to first address the funding aspect. The general conclusion was that Sea Grant was a very good agency for funding the recreational research that we need. Private industry is another valuable sector to consider and has been greatly overlooked. Research can benefit industry and thus those in recreational industries should be very cooperative allies in research. They should be willing to provide additional funding because in many instances their commercial interests are at stake.

Let me shift now to research design. Social science and policy and analysis research related to recreation appears to be greatly overlooked. Recreation research projects should be integrated into broader efforts, relating to coastal policies and social and economic assessment. We should look at regional and nationwide research. When I say nationwide, I do not mean national, but nationwide; in other words, different sectors of the country, being involved at the same time. The research should have some exportability value; it should not be done in a vacuum but should be done with an eye toward usability by other areas and other people throughout the country.

I would like to editorialize that the economic, political and legal research groups have been grossly overlooked. In our discussion this point was recognized but not addressed directly. To paraphrase Herb Hallman's comment before the Council on Environmental Policy regarding engineering, many of the things we need to do in recreation are already known. What is not known is how to do them. Economic and political research can provide information that would be very useful.

There are two aspects of education to be considered: public information and dissemination and development of skills and management concepts (i.e., training). I think as an example of the first is more education for safety in recreational activities. How to recreate is an essential emphasis in this aspect of education.

The point was also made that it's very important to develop methods of ensuring communications between the scientists and the public, with respect to recreation. We have to overcome substantial barriers presently existing to accomplish that.

There is a great deal of spin-off from research efforts, which contribute greatly to education, but we need to develop curricula to train and to develop recreational managers. We need to train these managers to deal with the diverse elements of the marine environment and the human impact of the environment in planning activities.

As a final note I would like to mention the frustration in education. I think it's best portrayed by a Jules Pfeiffer cartoon that I cut out of the newspaper a little while ago.

"In the sixties we believed that all we'd need to do was educate the people about what was wrong with America, and once educated, the people would demand change. So we educated them about the cold war, military boondoggles and Vietnam, and we educated people about the FBI, the CIA, the cult of intelligence, and we educated people about racism and we educated them about the failure of education, and nothing changed. Fifteen years later we face rising inflation and imminent depression and it's back to the books."

Maybe we have to concentrate a little more on how we're going to approach the educational problems involved in developing a responsibility for recreation problems.

APPLICATIONS OF SCIENCE AND TECHNOLOGY

ESTUARINE INNOVATION AND MODIFICATIONS

*John B. McAleer**

In many areas the engineering and technology has been developed to assist in providing marine recreation. My purpose is to outline some of the state-of-the-art technology available for marine recreation planning and management and then to see where more R & D work is needed, under such headings as Beach Recreation, Boating, etc.

Beach Recreation includes swimming, walking the beach, picnics, camping, hiking and esthetics.

There are not enough beaches to meet public demands. Only about one-third of the national shoreline has beach areas; 70 percent are privately owned and not available for public use; and many beaches are shrinking due to continuing erosion. Most of the best beaches are located away from the major population areas where people most need public beaches.

*Mr. McAleer is a Consulting Engineer

The technology is generally available to provide beach areas where they are most needed by methods of beach renewal, conversion or construction of new beaches. Surplus land fill or dredged material can be used for beach renewal. Sand can be confined by perching beach. An offshore breakwater or reef can protect the beach and trap sand, forming a tombolo. Beaches and swimming areas can be protected by use of sheet pile or rock breakwaters. This technique is also useful for small boat harbor development.

Additional shoreline can be created by dredging a pond and inlet. A new island can be created for beach recreation and swimming, using sand fill, and connected to land by a causeway or footbridge. The island can also be used for general recreation and marinas.

If water quality is a problem the recreation island can be partially closed to form a lagoon with a tide gate and clean water for swimming pumped in to maintain circulation.

The same lagoon approach can be used with warm water from a power plant to extend the swimming season; or used to keep nettles or other pests away from swimmers.

The island approach can be used to put the beach where the people are, in crowded and developed areas.

RECREATIONAL BOATING poses space problems. If you buy a boat where will you keep it? Many owners, dealers, and boat builders are discouraged by the shortage of space for berthing, mooring or storing outboards, sail boats and cruisers.

Again let's look at the options technology gives:

Keep the boat at home on a trailer. Trailers are available for boats up to 26 feet length. Launching ramps and hoists are scarce—it's up to state, local and private interest to provide right of ways/access, ramps and hoists.

Dry store the boat:

Shore side parking areas (boats to 26 feet)

Storage in buildings similar to parking garage. (Sail boats with masts stored on top deck.)

"Boatel" storage in racks three stories high, using fork lift for boats up to 26 feet or simple racks for dinghys and small sail boats.

Wet store the boat in marinas with convenient shore power telephone, etc. Bubbler will prevent icing in the winter season.

These methods help the space shortage by concentrating the number of boats in a very small area. Such boat storage can be provided on islands or offshore platforms or floating structures, and effectively combined with beaches, parks, etc.

Technology has brought boats to the public as a result of mass production of fiberglass boats. Low cost, low maintenance hulls have doubled the number of boats.

New fiberglass boats are lighter; this permits higher speeds or smaller engines; and more passengers or berths in small boats.

In order to avoid marine pollution, boats are being provided with heads with hold tanks, macerating pumps, etc.

Sport fishing is one of the most active areas and the number of salt water fisherman is projected to triple by the year 2000. Fishermen within one hour's drive of suitable marinas situated near good fishing grounds. Comments under Recreational Boating generally apply. Others include:

Artificial reefs for fishing purposes.

Artificial marshes using dredged material.

Fishing piers and use of breakwaters.

Surfing and skin diving are among the favorite marine sports. Both are heavily dependent upon technology with mass produced surf boards, surf board racks, thermal suits and various accessories.

Hydraulic model studies are being made to develop artificial reefs, which will enhance surfing wave conditions.



Surfing waves have been created on an island lake near Phoenix, Arizona to make a popular surfing area in the desert.

OTHER INNOVATIONS—Technology items, such as those listed above, could be listed for the entire spectrum of marine recreational activities.

More important for this discussion is the innovative use of land and water areas so as to combine recreational activities into attractive forms consistent with the natural coast line, which existed before construction of coastal railroad and highways, filling of marsh areas, and dumping.

For example, the San Diego Mission Bay area was sculptured with peninsulas and islands to accommodate a wide spectrum of marine recreational uses with allocations to:

- Public bathing areas—for swimming
- Public bathing areas—for surf bathing
- Camping grounds
- Trailer area
- Hotels, motels and resorts
- Boating facilities—public rental and private
- Public boat launching ramps
- Speed boat area
- Water skiing area—all hours
- Water skiing area—off hours only
- Museum—Sea World
- Golf course
- Model boat basin
- Sport fish landing, bait barge, equipment
- Shore fishing
- Privately owned waterfront (for private acquisition and building)
- Amusement park
- Channel to ocean for water circulation, etc.
- Undeveloped areas for future options
- Flood control channel and adjacent areas zoned for flood plain use.
- Indoor heated pool, swimming lessons
- Supporting services, roads, parking, waste disposal.

With present day technology it would probably have been possible to restore or retain all or part of the Mission Bay area as a living marsh, based on successful creation of

marshes for wildlife using dredged material. (This raises the question, would the funds be made available now or then to restore or create such a large marsh area, in preference to other activities?)

ENVIRONMENTAL QUALITY

Technology is an important tool in preserving the environmental quality of estuaries and other coastal regions. This includes base line determinations and monitoring of physical, chemical and biological conditions.

The critical issue in most marine recreation proposals is likely to be the assessment and prediction of environmental impacts. Some authorities have stated that until we can predict environmental impacts with sufficient accuracy to stand up in the courts, we will not be able to manage our marine resources.

The objective of science and technology should be to preserve and enhance the environmental quality of the marine environment.

RECOMMENDATIONS

Increased effort be given: (1) to developing an understanding of and monitoring the impacts of marine recreation projects; (2) determining the carrying capacity of the marine environment for such activities, and (3) developing guidelines and criteria for preserving and enhancing the existing marine environment and conditions under which new marshes and reefs can be successfully created.

Increased priority be given to the application of marine science and technology: (1) to providing recreation along urban shorelines and in near shore waters; (2) the establishment of marshes and fish and wildlife habitat; (3) multiple use facilities including adaptation of marine structures to recreation and fish and wildlife enhancement; and (4) improved aesthetic consideration in planning and design.

INDUSTRIAL INCENTIVES FOR CHANGE

*Byron J. Washom**

"E Pluribus Unum" may soon be replaced by "nothing in moderation." For in the U.S., when something catches on, it becomes big, bigger and biggest. No other nation can make this claim—except, of course, Texas. This is both an area of pride and concern, especially in the area of recreation. In this presentation, I would like to point out to you what I see as a pattern—not only in marine recreation, but other forms as well in the past two decades. My premise is that America's receptivity to new forms of recreation can be seen in what we call *fads*—surfing, hobie cats, hang gliding, offroad vehicles and others too numerous to mention in this paper.

The pattern which I mentioned occurs when a segment of the population, usually the young, catch on to a form of recreation, it becomes a fad, and an industry is built up around it which flourishes beyond imagination—all this happens BEFORE any effective planning

* Mr. Washom, now at Massachusetts Institute of Technology, was formerly Coordinator for the Marine Advisory Program of USC Sea Grant Program.

takes place to protect the environment and many times the individuals themselves—for no one, let alone agencies, could have foretold the popularity of these sports, some of which I propose to discuss here.

In the beginning, surfing was limited to a few teenagers riding 110-pound boards up and down the coasts of California and Hawaii in the late fifties. Then, almost two decades ago, a light, 20-30 pound, hydrodynamically shaped, polyurethane board was designed and developed that suddenly made possible spectacular acrobatics and a new public image that conjured up blond Adonis's with bikini'd "beach bunnies." A mini-culture was formed and immortalized in such forgettable movies as "Beach Blanket Bingo" and others. Annette Funicello and Frankie Avalon aside, the wet-set revolution has won a solid, respectable place in the sports establishment—and with it a multi-million dollar industry. Surfboards, which retailed up to \$200, netted more than \$8,000,000 in 1967, with an additional \$4,000,000 in accessories—including, I am sure, peroxide.

Surfing spread to the Atlantic Coast, the Gulf Coast, the Great Lakes and overseas. Planning for this sport and its increased traffic was nowhere in evidence as swimmer-surfer collisions increased and run-away boards wreaked havoc. Finally, local communities began to restrict these activities to out of the way, narrow stretches of beach or even curfew hours to limit activities. In Newport Beach, a surfboard tax of \$3.00 was levied. But, aside from the internal rules set by the U.S. Surfing Association, which were not enforceable, little or no education was provided to decrease the possibilities of pileups and other attendant injuries from a run-away board, not to mention the mess left by the Beach Blanket Bingo parties.

† Also a creature of the fiberglass revolution was the Hobie Cat. Hobart "Hobie" Alter was an early surfer who, still in his teens, started making and selling surfboards. Within eight years, it was the biggest company in the business. When this sport plateaued out in the mid-sixties, Alter, at the suggestion of friends who wanted a small, lightweight catamaran, created the sleek, twin-hulled "Cat" and soon began selling them at the rate of 4,000 a year. Business was big, as the 14 footer sold for \$1,400 and the 16 footer sold for \$1,900. But where there is a fad, there is an attendant industry boom.

Cat enthusiasts feel it is as close to flying as you can come and still be in contact with the water. Well over 425 Hobie Cat regattas are held each year, nationally and internationally. Because Hobie cats are portable, and don't require launching ramps, sailing the Cat can be accomplished whenever one is close to water. Planning for the tremendous traffic in Cats was lacking. Only in recent years have agencies, such as Sea Grant, done research into the possibility of hand-launched, boat facilities that could be removed so as not to eventually damage the environment or the aesthetics of an area. Most important, I feel, was that at each launching site, efforts would be made to educate the novice in how to launch safely and remain above water after that.

If you are looking for solitude and peace and quiet on your next vacation, plan to stay in Los Angeles, for the wilderness has become a haven for those who can remove mufflers to increase performance. The reason for this is that another large segment of the population has turned to outdoor recreation in the form of "fun cars and bikes". And, once again, their attendant industries boomed.

For instance, there are 2½ million snowmobiles being ridden by 8 million snowmobilers at a cost of from \$500 to \$2,000 a piece. Cold weather had suddenly become fun for more than just the skiers. As opposed to the older types, today's snowmobiles are more stable, quieter, and even offer headlights for driving at night!

The snowmobile phase brought with it two things—uncontrolled use and alarming physical danger. They hit trains, cars, trees and holes in the ice, they roared past quiet homes and trespassed through private property, they endangered crops, wild animals, domestic tranquility and the environment in general. Prodded by the threat of federal action, industries adopted voluntarily their own codes for coupling engineering advances with operation education, effective in time for the 1976 models. Noise has abated, brakes must be more reliable, controls have been standardized and moving parts must be shielded. Their efforts at education, along with snowmobile associations, have resulted in decreased fatalities. Also,

578 trail locations have been opened to the sport. But only as afterthoughts to a fad that got out of control.

Other off-road vehicles, such as the dirtbike, mini-bike, dune buggy and all-terrain vehicle, are also causing concern. All vehicles of this kind, when improperly used, have been accused by conservation groups of destroying fragile plants in the deserts, and the ecology of beaches and forests. Beach buggies tear down dunes, subjecting them to erosion. They are blamed for eroding some Atlantic beaches to the point where they may disappear. Tire tracks by four-wheel vehicles may last for decades in arid lands and trail bikes subject mountain trails to rapid erosion. Hiking associations and other groups complained about the noise, speed and rudeness of large groups of cyclists using wilderness trails originally intended for walking and horseback riding.

But still this industry boomed faster than controls could be instigated. In the decade of the Sixties, companies increased their profits fifteen fold to over \$60,000,000. Not to mention the profits of an auxiliary industry—the medical profession. For where there is speed, there is danger. Grown-ups and children alike are bounding across ditches and dales, and even hurdling over cars to imitate Evel Knievel, who, like them, usually ends up in the hospital. Officials estimated in 1972 that 1 million motorcycles, 700,000 pick-up trucks, 600,000 four-wheel drive vehicles, 80,000 snowmobiles and 50,000 dune buggies were using BLM-controlled lands, and that amount was expected to double. As a result, but not a precaution, the U.S. government clamped rigid limits on off-road vehicles in many parks, forests and other lands. Some states have also placed limits on the ages of operators and requiring licensing of vehicles. These are not always enforceable, however, and the planning once again responded to, not prevented damage.

Finally, a sport which has enjoyed almost instant popularity and an inherent industrial boom is hanggliding, probably one of the most eye catching and fast growing of thrill sports—and the most deadly. All that is needed is a fairly cheap device called the Rogallo wing, named for a NASA engineer who invented it. In just five years about 25,000 flights have been lofted off cliffs and mountains. Self-propelled flying is no longer a dream but a reality.

In 1973 the Southern California Hang Gliding Association alone counted 3,000 members, and more than sixty companies manufactured the skycraft or sold plans for home-made units ranging from \$250 to \$525.

It requires no license and little experience. All that is needed is a light wind and a hill—although one person used a little imagination and jumped out of a hot air balloon at 9,500 feet. Record flights have been set at over 12 hours.

Both the danger and lack of planning are most visible. The sport has claimed 85 lives as both experienced and inexperienced find themselves stalled in mid-air and plummet to their deaths. Also, some of their runways are sorely misplaced—such as the beginners run in Manhattan Beach which is directly over the new bike path. In California plans have been made to open areas to the public for this sport, and the U.S. Forest Service expressed interest in opening land for fliers. Commercial sites are opening up as well. Once again, planning was an afterthought, and even then, regulation and licensing, age limits, and reliable education are nonexistent.

Planning, regulation and education have been afterthoughts in all these instances. Almost all of these recreational activities have strived for internal regulation and education in the form of clubs and associations. And, in some cases, industries which have grown up around them have brought about self-regulation, most often in the face of possible federal or state controls. Communities and their citizens started to respond, after the fact, due to concern for the environment, safety, protection of private property and peace of mind. Recreation is necessary, but the coast must be protected from recreation as well. The *chance* for planning before strict control is necessary for coastal and aquatic sports can and should emanate from this meeting. For as sure as hang gliding is the latest craze, there will be another, and another, and another.

Organizations of a sport do more for safety standards (unenforceable) and regulations

than government (in abstentia). Proprietary nature of the industry's R & D and the competitive free market system indicate that, unless tremendously tuned to the times, any planning authority in marine recreation will always be planning to control a marine activity either during or after the boom of popularity has struck, seldom before. To plan before would mean tremendously visionary talents of individuals within planning agencies and stupidity of those same individuals for not patenting the idea themselves.

Planning must be done in an anticipatory manner of innovations forthcoming from industry. Such innovations will bring either increase volume of a particular activity or instigate a whole new type of use. Those public agencies mandated to provide quality recreational opportunities to their constituents must be knowledgeable of these innovations, anticipate the conflicts, and resolve without hopefully limiting any of the potential of any enjoyable and favorable marine recreational opportunity.

RAPPORTEUR'S REMARKS

*Robert Wildman**

Our moderator was Alex Bigler; our speakers, John McAleer, Byron Washom, and John Seymour.

We were to address the role of science and technology enhancing marine recreation through innovations and modifications and to explore the legalities which either hinder or enhance the development of new techniques. Many examples of technological developments which have stimulated new or increased marine recreation activities were cited, as well as some of the resultant problems. Likewise a number of areas requiring the input of science and technology were identified. For example, the shortage of beach space in many areas could be alleviated through the creation of new beaches and protection of existing beaches.

Similarly, new techniques for providing improved boating facilities are needed, and for meeting the expanding needs of the recreational fisherman and diver. Science and technology can develop the ways to accomplish these ends, but must do so in critical areas of need and in an environmentally safe manner.

One new approach to providing additional recreational capacity was proposed by John Seymour. He suggested that artificial areas be constructed and operated for profit by private industry. He then discussed the problems, legal, societal and technical, in making his idea a reality.

One of the fields in which innovations could probably be most helpful is in developing improved ways in dealing with "people problems," such as the conflicts arising from the demand to use certain limited areas by too many people for one or more types of recreation or other purposes.

One serious problem which is common to many recreational areas, particularly in the vicinity of large urban populations, is that new fads develop into major uses before any planning for that activity is done. This results in a situation requiring after-the-fact management of an over saturated space. Some mechanism is needed to assist managers in anticipating such new developments in time to incorporate provisions for such an activity into the overall facility use plans.

* Mr. Wildman is with the National Office of Sea Grant Programs.

Many local governments are facing an increasingly difficult problem in funding the management and enforcement costs of recreational areas within their boundaries. It was suggested that these costs be offset by user fees which are in effect in certain areas. However, there are several possible drawbacks to such a system in a public area including discrimination against the poor. This problem needs to be studied and potential solutions developed.

It was recommended that:

We need to develop the capability to plan and be prepared to manage the use of new technological innovations before that use becomes a serious problem.

A technology assessment procedure, including a forecasting component, should be established for marine recreation by NOAA.

NOAA should give greater attention to the human recreation behavioral aspects of efforts for relating its products and services to marine recreation, and increase its funding of sports fishing research.

All new coastal and offshore facilities being proposed or constructed should be evaluated for their recreational potential.

PEOPLE'S RIGHTS FOR RECREATION

SOCIAL, ECONOMIC AND LEGAL ISSUES

*Charles H. Odegaard**

Today reminds me of my youth and growing up in Wisconsin, when one of my young friends fell into a barrel of molasses and was heard to say, "Lord, give me tongue equal to the occasion."

I am pleased to be able to participate in this conference, and am honored that your conference program people have offered me this opportunity to discuss with you issues and roles and, as Dr. White said, "recommend policies and actions to improve the use of our coastal resources."

My specific role is to focus on social, economic and legal issues, to make recommendations for your consideration, and hopefully to challenge you to some new thoughts.

I would like to compliment the Office of Marine Resources of the National Oceanographic and Atmospheric Administration and the Sea Grant Institutional program, University of Southern California for sponsoring this conference.

* Mr. Odegaard is Director, Washington State Parks and Recreation Commission.

It is perhaps also worthy of note that within the last 12 months there have been several conferences dealing with the broad subject of marine policies, including the "Prospectus on Ocean Policy," a conference on the conflict and order in ocean relations on October of 1974 at Arlie, Virginia. Were any of you there?

Also, Expo '75, the first international ocean exposition, is being held in Okinawa and will continue until January 18, 1976. Have you been there, or do you plan on being there? Were you invited?

And in my own state of Washington there was a conference just last week called "Man, Government and the Sea—the Upper Puget Sound and the Straits of Georgia," sponsored by Western Washington State College. Were you there? Was I there?

Threaded throughout my comments today will be a concern for water—a water which is not inexhaustible, and is not only paramount to our life, but also a way of life in marine recreation.

Since we are dealing with water, I am reminded of the deep sea diver who heard the message piped down to him—"Urgent! Return to the ship immediately—we are sinking!"

And since I am sure that you are used to people, particularly after a meal, telling you jokes, I will tell you one more and also relate to you that it will probably be my last one today, as I feel this is a very serious subject.

A young honeymoon couple went to a resort area and throughout each day the young man, a great physical specimen, challenged his bride in tennis, golf, gymnastics, and all forms of activity, and soundly beat her. Each time when she asked where he learned that, he would respond something such as he had played on the college golf team, or he had been on the Olympics gymnastic team, etc. They finally got to the Olympic-sized pool and dove in, and she soundly beat him in several of the various water races. He was amazed and flustered and said, "My goodness, where did you ever learn that?" To which she responded, "I was a call girl in Venice."

Last week I telephoned a person who was listed as a personal reference for an applicant for a position which I am presently filling. The first thing the person did was to ask if I knew anything about him. Upon hearing my negative response, he proceeded to relate, very briefly, only those items which would enable me to know from whence he spoke, what was his frame of reference.

It seems to me that is apropos today, and I would like to briefly relate what my frame of reference is and hope that you would receive my comments in that context.

As president of the National Society for Park Resources and the National Association of State Park Directors, it has brought me comfort to learn that all of us across our great country have problems dealing with marine recreation, and that none of us has a corner on concern or on solutions. For example, for more years than I care to think about our national agencies have been trying to change just one federal law—PL 89-72—that, as most if not all of you know, deals with Corps of Engineers financial participation in recreation projects on Corps reservoirs.

As the Boating Administrator of the State of Washington, a state in which Puget Sound is known as the boating capital of the world, with 94 boats per thousand people compared to the national average of 41, and yet a state without a boating law or registration program, I have been privileged to listen and learn from public and private experts in boating utilization of our marine resources. And all of these fine people have not yet found the answers.

As Director of Washington State Parks, I am most provincially concerned with our state's water, the adjacent lands, and their very fragile interface, which today I will call the beach. Speaking of the beach, State Parks in Washington not only administers the ocean beach, but is prominently involved with the two and one-third thousand miles of marine shoreland; 4,000 miles of rivers of statewide significance; our Puget Sound, which is 90 miles long and contains 560 square miles of water; and the 60-mile salt water Hood Canal.

To conclude my remarks about my favorite state, Washington also has 7,864 lakes containing 600,000 surface acres of water. Again, I point this out only to indicate that in the State of Washington we are vitally concerned with marine recreation/planning/

development and operation. We are concerned with the recreational use of the water and also many other uses which I know are of concern to all of us here today.

What are the issues? I won't and can't break them out as being social issues, economic issues and legal issues, as they are all inter-related. I will discuss them by area and by activity, and then make some suggestions.

First of all, when we talk about the areas, we can't help but relate to the uplands. In the state of Washington, for example, there is the 1971 Shoreline Management Act, which basically addresses itself to both the rights of the individual and the rights of all individuals on lands close to navigable water—which includes just about everything (the story of Tolmie bridge).

With the upland, we also must consider such things as the development of ports for industry, agriculture, shipping; the acquisition of areas by private citizens and the development of private homes; boating access; industrial development; transportation. We must also give consideration to PUD's, the Corps of Engineers, and others who build dams on the rivers and the tremendous effect that has. In our state, of course, when we talk about uplands we have a special consideration called the San Juan Archipelago, with 172 islands, of which over 50 are partially or totally owned or administered by State Parks.

As we move down from the uplands to the beaches, one of the first considerations is the United States Supreme Court decision in the Hughes case, which in essence reversed the decision of the Washington State Supreme Court which held that the ocean beaches belong to the citizens. The United States Supreme Court held that they belong to the upland owners.

We must be concerned with food, the clams, oysters and mussels; also with the "superspills" and the not-so-super spills.

We must be concerned with the changing shoreline, as is so aptly depicted in the excellent movie "Rivers of Sand." And as set forth by author Murray Morgan when he said, "The growth of population, the building of roads, the increase in leisure, the development of concrete technology, and the assumption a man controls his own property has led to the damming of the rivers of sand that comprise our beaches. In misguided efforts accretion requires erosion. To enhance a bit of beach, they destroy the beach."

And we must be concerned with development. It was my privilege, before the ocean beaches in the state of Washington were turned over to our agency, to visit areas in New Jersey, Florida, and your own California, and study what has happened as man has crept out further and further in his economic, political, and social desires, until there is very little beach left for man to walk on.

Dr. James Crutchfield of the University of Washington School of Fisheries states in his book *The Pacific Salmon Fisheries*: "The most serious effect, according to competent biologists, has been the relentless destruction of small spawning creeks by urban construction and the rising tide of municipal and industrial pollution."

And then we come to the water itself. Probably one of the most far-reaching decisions in the United States with regard to water is now known as the Boldt decision, which was handed down by U.S. District Court Judge George Boldt in February of 1974. As stated by Congressman Lloyd Meeds before the Man, Government and the Sea Conference held at Western Washington State College, "Our fish resource is being depleted, while our civilization continues upward." By the Judge Boldt decision, 50 per cent of the fish are entitled first and foremost to the Indians. This will have a great effect upon all aspects of recreation and recreational water use. For your information, this decision was upheld by the Circuit Court of Appeals and will, in fact, go before the United States Supreme Court.

ACTIVITIES

As we all know, man has different thresholds of desires. Before leisure time pursuits come some of the more basic essentials. Let us first take a look at food. There is and there will need to be a much greater concentration on the food intake from our oceans, that dealing

not only with the shellfish and fish, but also farming of the ocean and desalting of water as our water supply becomes more limited.

There also is the concern for commerce, in which we have ports for agriculture, for oil or industry. And then we have our field—that of recreation, where we have waterfowl hunting, walking, camping, swimming, shellfish hunting and gathering, scuba diving. By the way, in the state of Washington we have nine underwater parks—and I might comment that we have a use for those pantyhose, as they, tied to sunken barges, attract the seaweed and the fish. Our concern for boating, surf and boat fishing, beachcombing, crabbing, driving on the beach (a very controversial subject in our area), and one of the opportunities that is so under-rated and yet one of the most important—that of just viewing the water and enjoying the tranquility that brings.

It seems to me that although all of us are here addressing ourselves to probably nearly all governmental aspects, perhaps first and foremost we are private citizens. We are citizens who enjoy fish and clams, and yet who heat our homes with oil. We are citizens who enjoy swimming in the backwaters in the reservoir and who read by the electricity from the dams, and yet damn the Corps of Engineers for the lack of enough sand to feed the disappearing beaches.

We are citizens who enjoy a good meal in a restaurant located like here on the ocean beaches, but who also cherish the open low bank and the opportunity to see the ocean across a wide expanse of open beach. We are citizens who believe in the rights of private individuals to acquire and develop for their homes, but who want the ocean beaches open to all. We are citizens who urge and beg for cooperation and who advocate sacrifice—by someone else. We are citizens who recognize a problem and who also recognize that it is not just a problem of recreationists, it is not just a problem of transportation, it is not a problem of just the food industry. It is the problem of all of us, not only as recreationists or people engaged in and concerned with recreation, but from all walks of life and from all levels of government and private enterprise.

RECOMMENDATIONS

I should like to make four recommendations for your consideration dealing with marine recreation, and also make a suggestion as to perhaps one way a program of "marine promise" might be implemented.

1. It seems to me that impoundment of the water in the streams and rivers on its flow to the ocean has one of the greatest impacts on our marine shoreline. Those streams and rivers are affected by the dams, and not only by dams, but also by other types of industrial and urban sprawl. I believe that first of all there needs to be a great deal of money devoted to research as to how to take care of necessities such as flood control and generation of power, while at the same time finding out how these programs affect the natural flow and the ocean beaches. Money for research might be provided by those who impound the natural flow of the river. I would also suggest that when those results and effects are found, the users of that water should pay for whatever corrective actions need to take place. So that there is no misunderstanding, I am saying that if it is found that the Bonneville Power Administration, with its dam on the Columbia, is having an adverse effect upon the oceans of Washington, Oregon and California, and others on an international basis, it should have as a part of its cost the correcting of the problem. If that means piping the sand on down from its backwaters, that is exactly what should be done.

There should be a requirement by the federal government that before a license for impoundment of water is issued or renewed, the impounders must provide funds for recreation acquisition, development and operational expenses to a suitable governmental agency at the lowest level of government that can properly implement the recreational program.

2. Another great factor with regard to the water, and it certainly affects us in the recreational aspect, is that no one should be allowed to use the water without putting it back in as pure a condition as it received it. No more complicated rule than that. Whether it is

the City of Newport Beach; whether it is some giant industrial firm; or whether it is a recreation use—we who use the water, should put it back as pure as we took it out. And if we don't, we shouldn't operate. And that includes, by the way, the government itself—the federal, the state, the local—we in government shouldn't only follow the same rules; we should set the patterns.

3. It seems to me that we need to strive to have established throughout the nation, that recreation is one of the prime uses of our marine resources. That *people* are just as vital and just as important as industry and transportation, and that whether it is consideration of the super-tanker or the development of a housing project or whatever, the concerns and inalienable rights of the citizens of our United States will be considered.

4. Roles. I see a need to develop and adopt what role who plays with regard to our marinas. I would like to suggest for your consideration that the federal role is that of research and dissemination of information. It is that of providing dollars for acquisition and restoration of our marine lands. It is that of putting forth rigid guidelines, with timetables. It is that of placing control on its own uses of the water, whether it be the mobile Navy or the Corps of Engineers or whatever.

Insofar as the state is concerned, it should have the responsibility for administration within those guidelines, as is already done on many pollution rules. I believe the state should be the underlying owner of all beaches and shorelines, with proper provisions for development by itself, by local government and by private enterprise.

With regard to local government and the private sector, it seems to me that they should have the opportunity for development within guidelines, and the operation and program that involves everything that we have talked about at this conference.

How might we implement a program for "marine promise?" We must first recognize that the salt waters of the United States, the coastal waters, are waters that belong to no one. They flow back and forth to all of the countries of the world, to all of the citizens of the world. It seems to me that we have a responsibility for the highest level conference that can be held. Perhaps it is international, preceded in this country and other countries by a national conference on marine resources which is preceded by state and other such conferences. Such a program needs to include the private individuals and the various users, also those who have the wisdom to know what is the right thing to do, and the courage to make recommendations. It must include the judicial, the legislative, and the executive, as well as the leaders in the private sector.

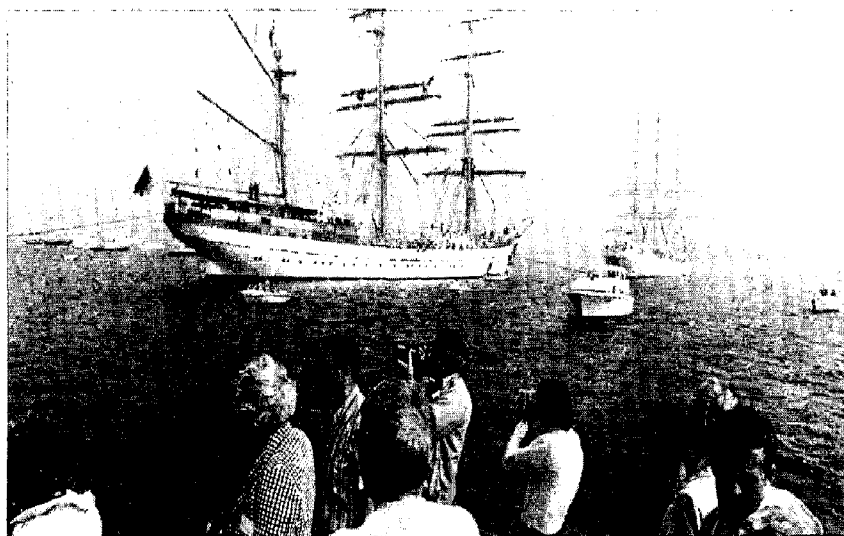


Photo credit: University of Rhode Island Public Information Office

Ladies and gentlemen, we must believe that man's leisure time pursuits are those things that enable him to live his life, as adverse to exist. That throughout the history of man, throughout the annals of time, what man has done in his leisure time is in fact what man becomes. And that we are all born with, or acquire at a very early age, these needs, these desires, for such things as food and water, sex—but that equally important is man's need to create, or destroy, to be recognized, to achieve, and a great deal of these he fulfills in his leisure time. And as these needs and desires are fulfilled or not fulfilled, so goes man and the society in which he lives. For they will be fulfilled. They will be fulfilled in a way either acceptable to man or not acceptable to him. They will be fulfilled in a way either acceptable to society or not acceptable to society. And we who are interested in the marine recreation aspect of man's leisure time pursuits must be aware of needs and its opportunity to aid in properly fulfilling them.

We need to speak up—and not with each other. You will recall at the start of my comments I listed three conferences and asked if you were there, if I was there, I believe the answer is no. And I would suggest that the day has long since passed when we can afford the luxury of talking to ourselves.

I hope that as a result of our deliberations yesterday, today, and tomorrow, we will come forth with some wise plans and that we will have the courage to implement them.

APPROACHES TO EXPANDING PUBLIC RECREATION IN THE COASTAL ZONE: AN OVERVIEW

*Dennis W. Ducsik**

The key issues in expanding public recreation in the coastal zone are the availability, accessibility, and suitability of the resource base. There are three general methods of improving opportunities for recreational use of marine resources, which will be developed in this session.

The "classical" approach is development of public rights through ownership. Here we must consider the recommendations of the National Outdoor Recreation Plan and state and local activity for acquisition.

The "romantic" approach considers public rights through tradition. From an international perspective we might look for example at common law in Sweden. In this country there are many precedents in state court actions and legislative declarations. The national interest has been especially articulated in the Open Beaches Bill. Again we will explore both opportunities and obstacles to the romantic approach.

The "progressive" approach ensures public rights through the police power. Land use controls for shoreline protection are an example of this approach. In particular the California Coastal Zone Commission through its permit process is exercising the progressive approach in regulating development to increase or maintain public access rights.

At the outset we have a diversity of tools and the need to combine them in a coherent strategy, tailored to specific circumstances. The approaches we will discuss vary in degree

* Mr. Ducsik is with the Department of Civil Engineering and Sea Grant Program, Massachusetts Institute of Technology.

of dependence on private action, in distribution of governmental responsibility, in relative weights attached to public interests vis-a-vis private prerogatives. There is a trend toward development of a larger and more positive role for government, especially at the state level, together with more innovative private actions and a trend toward dealing with the issues within a broad planning framework.

Further elaboration of these themes will be carried out by the panel. Patrick Noonan will build on the "Classical" theme in describing an innovative technique that works within the private property framework. Marc Hershman will build on the "Progressive" theme in describing a very positive utilization of regulatory powers. Darrel Peebles will build on the "Romantic" theme as well as the broad planning approach in describing the shoreline recreation situation in the State of Washington. John Thompson will develop the important dimension of suitability, which raises the often overlooked issue of the need for regulation of the *Public Right* to use recreational resources.

PUBLIC OWNERSHIP AND ACCESS WITHIN THE COASTAL ZONE OF THE STATE OF WASHINGTON

*Darrel Peebles**

The coastal zone of the State of Washington is roughly 2,700 miles in length, encompassing three basic and distinct regions:

- (a) The shores of the Pacific Coast;
- (b) The Puget Sound, i.e., the San Juan Islands and the Straits of Juan de Fuca complex; and
- (c) The area of tidal influence of the Columbia River.

The Pacific Coast region extends from Cape Flattery at the mouth of the Straits of Juan de Fuca to the mouth of the Columbia River. There are approximately 470 miles of public beach in this area. Physically, the coast is divided into two separate regions.

The north coast from Cape Flattery to the Quinault River is a glaciated region with off-shore rocky outcroppings, and narrow beaches bounded by steep, rocky cliffs, behind which are deep forests with dense undergrowth. The area is sparsely populated, and the population is primarily located in fishing villages. All but a small portion of the beach and adjacent upland area is either owned or controlled by the Federal Government or is included within Indian Reservations. There are no harbors and the area has no developed industrial use. The primary use is recreational in nature, consisting of hiking, fishing, and related activities with some commercial fishing and clam digging. It should be noted that the Quinault Indian tribe has restricted the general public from beaches within their jurisdiction.

The south coast river area from the Quinault River to the Columbia River is characterized by wide, sandy beaches, behind which are dune areas, grass land and forest. There are two bays with large estuaries along this stretch, the Willapa Bay and the Grays Harbor

* Mr. Peebles is Assistant Attorney General, Washington State.

Bay, on which industrial development consisting primarily of lumber and fishing, is concentrated. The beaches and estuarine areas have also provided an important tourist industry capitalizing on clamming, crabbing, fishing, and the natural beauty of the area.

Along the Pacific Coast, the hard sand areas west of the line of mean high tide belong to the State of Washington. Prior to 1967, the State had claimed ownership of all accreted lands lying west of the line of high tide at the time of statehood (1889). In 1967, *Hughes v. State of Washington* decreed that the accretion from the 1889 line, west, to the line of mean-high tide belonged to the upland owner. However, prior to this decision there had been many quiet title actions that established title in the State of Washington. As a result, the State owns much of the land between mean-high tide and the 1889 line; however, there are various lawsuits pending and anticipated, which attempt to return ownership to the upland owners. The State has further received dedication deeds for some of the lands between the line of vegetation and mean-high tide and holds and maintains access roads to the beach in cooperation with the counties.

The Puget Sound region, which includes San Juan Island and the Straits of Juan de Fuca complex, is an extension of the Pacific Ocean and involves approximately 2,700 square miles of water area. Except for the San Juan Islands it may be considered a developed area when compared to the pristine north Pacific coast mentioned above. There are several major population areas, most of which are located on the east side. Census figures for 1974 are 2.2 million within the Puget Sound area.

Puget Sound supports substantial fish and wildlife with major commercial and recreational fisheries for salmon, oysters, shrimp, and clams. There exists a strong tourist recreation and second-home industry within the area. Other competing industries are food manufacturing and forest products. The area has the highest boat ownership per capita in the nation. As a result, much of the shorelands that had been previously inaccessible, are bearing the impact of use.

There has developed an underlying conflict between recreational property owners (primarily in the San Juan Islands) developing their property on an ever-increasing basis, and boaters attempting to use what was once abandoned beach.

There are various public beach facilities and rather easy beach access throughout the Puget Sound area. There are approximately 400 different public beaches, totalling slightly under 300 miles of beach in this area. There are many boating parks, primarily in the San Juan Islands; however, there is no overall ownership and control as exists on the Pacific Coast.

The State does own the majority of the tidelands to mean high tide within this area, but in many places access is difficult except by boat. Within the past few years there have been various attempts to locate boat launch facilities or expand existing park facilities which have met with vehement opposition from local property owners as they attempt to protect their solitude.

The final region located near the mouth of the Columbia River has seen little development. It is used for salmon fisheries and navigation, primarily related to recreation and the timber industry.

The Washington State Shorelines and Management Act was enacted in 1971. The underlying policy, as stated in RCW 90.58.020, is to provide for the management of shorelines of the State by planning and fostering all reasonable and appropriate uses in order to ensure development of the shorelines in a manner that, while allowing for limited reduction of rights of the public in navigable waters, will promote and enhance the public interest. The Act recognized the ever-increasing use being placed upon the shorelines and the necessity for planning. It recites the fact that much of the shorelands and uplands adjacent thereto are in private ownership, and that uncontrolled development of this area is not in public interest.

In RCW 90.58.050, the Washington Shorelines Management Act attempts to share administration of the program between the local authorities and the State. Local governments have the primary responsibility for permit issuance and development of Master Pro-

grams pursuant to state guidelines. The local government, in creating its Master Program must classify all the shorelines within its jurisdiction. This, in essence, amounts to a comprehensive land use plan for the shorelines. The State plays a supportive role with primary emphasis on ensuring compliance. Master plans must be approved by the State (RCW 90.58.090) and become regulations when implemented.

The Act establishes a category of shorelines known as 'shorelines of statewide significance.' Normal shorelines are defined as all water areas of the state, including reservoirs and their associated wetlands together with the lands underlying them. Those shorelines which are not included are those on segments of streams upstream of a point where the mean annual flow is 20 cubic feet per second or less, those shorelines on lakes less than 20 acres in size, and their associated wetlands. The term wetlands is defined as those areas 200 feet landward in all directions as measured on a horizontal plane from the ordinary high water mark. All marks, bog swamps, flood ways, river deltas, and flood beds associated with the streams, lakes or tidal waters are subject to the provision of the Act.

Shorelines of statewide significance are specifically defined in the Act. They include all of the areas on the Pacific coast under state jurisdiction, including harbors, bays, estuaries, and inlets, from the ordinary high water mark to the western boundary of the state; certain areas of Puget Sound and adjacent saltwaters in the Straits of Juan de Fuca between the ordinary high water mark and the line of extreme low tide; those areas of the Puget Sound and the Straits of Juan de Fuca with adjacent saltwaters north to the Canadian border lying seaward from the line of extreme low tide; those lakes whether natural, artificial, or a combination thereof with a surface acreage of 1,000 acres or more measured at the ordinary high water mark; and certain defined major rivers.

The uses along the shorelines of statewide significance are meant to be more stringently controlled and managed due to the priorities established by the Act. The priorities set out in this regard in order of preference are as follows:

1. Recognize and protect the statewide interest over local interest.
2. Preserve the natural character of the shoreline.
3. Result in long-term over short-term benefit.
4. Protect the resource and ecology of the shorelands.
5. Increase public access to publicly-owned areas of the shoreline.
6. Increase recreational opportunities for the public in the shoreline.

RCW 90.58.100 specifically provides that in a development of a Master Program the following policy should be followed to the extent feasible:

The master programs shall include, when appropriate, the following:

- (a) An economic development element for the location and design of industries, transportation facilities, port facilities, tourist facilities, commerce and other developments that are particularly dependent on their location on or use of the shorelines of this state;
- (b) A public access element making provision for public access to publicly owned areas;
- (c) A recreational element for the preservation and enlargement of recreational opportunities, including but not limited to parks, tidelands, beaches, and recreational areas;
- (d) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities, all correlated with the shoreline use element;
- (e) A use element which considers the proposed general distribution and general location and extent of the use on shorelines and adjacent land areas for housing, business, industry, transportation, agriculture, natural resources, recreation, education, public buildings and grounds and other categories of public and private uses of the land.
- (f) A conservation element for the preservation of natural resources, including but not limited to scenic vistas, aesthetics, and vital estuarine areas for fisheries and wildlife protection;
- (g) An historic, cultural, scientific, and educational element for the protection and

restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values; and

(h) Any other element deemed appropriate or necessary to effectuate the policy of this chapter. (RCW 90.58.100 (2))

The Shorelines Management Act establishes a permit system, administered by local governmental entities. A "substantial development permit" is necessary for any development the total cost of which has a fair market value in excess of \$1,000, or any development which materially interferes with the normal public use of the water or shorelines of the state.

The act provides certain exemptions. The primary exemptions are single family residences, maintenance of existing developments, certain agricultural developments, channel markers and anchor buoys, emergency construction, and a private noncommercial dock where the cost does not exceed \$2,500.

Any permit granted must be consistent with the applicable Master Program and the policies of the Act. Permits are reviewed by the Washington State Department of Ecology and the Attorney General, who, though lacking a veto power, may appeal both negative and affirmative permit decisions to the Shorelines Hearings Board. Appeals are allowed by any individual who can show a concern. The appeal procedure is as follows:

1. One wishing to file an appeal shall file a request with the Department of Ecology and the Attorney General's Office.
2. If either the Department or the Attorney General feels that the request is valid, the request may be certified within thirty days after its receipt to the Shorelines Hearings Board.
3. The Department of Ecology and the Attorney General's Office may intervene anytime within forty-five days from the date of filing of a request.
4. Further, the Department of Ecology and the Attorney General's Office may obtain a review of any final order on their own motion within forty-five days from the date the final order was filed.

Construction may not begin under any circumstances until forty-five days from the time a permit is granted. Further, a permit is stayed during any appeal including any appeal from the Shorelines Hearings Board to Superior Court *ad infinitum*.

Thus, the Act in itself balances private and public development along all the shorelines of the State, with particular protections for areas within the scope of the coastal zone pursuant to their statewide significance classification. The Department of Ecology has attempted, within areas of statewide significance to require private developers to provide public access to the shorelines. However, thus far, the attempts have not been successful.

Essentially, the Act provides land use planning and can only indirectly induce access. It should be noted that although the Act is and has been successful overall, it is my opinion that in the areas of statewide significance it has been the local interest which has prevailed in the Master Programs.

The State of Washington began to regulate the Pacific Coast area in 1902 when it adopted RCW 79.16.170, which provides as follows:

Columbia River to Peterson's Point tidelands declared public highway. The shore and beach of the Pacific Ocean, including the area or space lying, abutting or fronting on said ocean and between ordinary high tide and extreme low tide (as such shore and beach now are or hereafter may be) from the Columbia River or Cape Disappointment on the south to a point three hundred feet southerly from the south line of the government jetty on Peterson's Point, state of Washington on the north, be and the same are hereby declared a public highway forever, and as such highway shall remain forever open to the use of the public.

At the same time, the legislature adopted RCW 79.16.171 which provides that no part of the lands shall ever be sold, conveyed, leased, or otherwise disposed of. RCW 79.16.130

through .140 and RCW 70.16.160 through .161 apply to the areas of the north coast of the State of Washington.

In 1963, pursuant to RCW 79.16.172, the legislature declared the area between the vegetation line and mean high tide to be a public recreation area forever reserved for the use of the public. It is clear from the judicial interpretation of this legislation by the court in the *Hughes* case that the legislature in the above statute was mainly declaring what public rights had already existed.

In 1967, the State adopted the Seashore Conservation Act. The purpose as stated in RCW 43.51.650 is:

Declaration of principles. The beaches bounding the Pacific Ocean from the Straits of Juan de Fuca to Cape Disappointment at the mouth of the Columbia River constitute some of the last unspoiled seashore remaining in the United States. They provide the public with almost unlimited opportunities for recreational activities, like swimming, surfing, and hiking; for outdoor sports, like hunting, fishing, clamming, and boating; for the observation of nature as it existed for hundreds of years before the arrival of white men; and for relaxation away from the pressures of tensions of modern life. In past years, these recreational activities have been enjoyed by countless Washington citizens, as well as by tourists from other states and countries. The number of people wishing to participate in such recreational activities grows annually. This increasing public pressure makes it necessary that the state dedicate the use of ocean beaches to public recreation and to provide certain recreational and sanitary facilities. Nonrecreational use of the beach must be strictly limited. Even recreational uses must be regulated in order that Washington's unrivaled seashore may be saved for our children in much the same form as we know it today.

RCW 43.51.665 provides for the principles to be followed:

Principles and purposes to be followed in administering area. The Washington state parks and recreation commission shall administer the Washington State Seashore Conservation Area in harmony with the broad principles set forth in RCW 43.51.650. Where feasible, the area shall be preserved in its present state; everywhere it shall be maintained in the best possible condition for public use. All forms of public outdoor recreation shall be permitted and encouraged in the area, unless specifically excluded or limited by the commission. While the primary purpose in the establishment of the area is to preserve the coastal beaches for public recreation, other uses shall be allowed as provided in RCW 43.51.650 through 43.51.685, or when found not inconsistent with public recreational use by the Washington state parks and recreation commission.

RCW 43.51.655 establishes the Seashore Conservation Area between ordinary and extreme low tide or from a line establishing extreme low tide. The line has been established in Long Beach area around Ocean City slightly inland from the line of visible vegetation. This line was agreed to by upland owners and surveyed and monumented. Jurisdiction over this area was granted to Washington State Parks and Recreation Commission pursuant to RCW 43.51.660. The State Supreme Court, in *State v. Wright*, 84 Wn.2d 645, 529 P.2d 453 (1974), upheld that the State Parks Commission has reasonable powers to regulate beach driving. This was an action brought by local citizens when the State Parks Commission attempted to prohibit driving on specific beaches at specific times. There has been conflict between those elements of the public who want unrestricted beach driving and those who want no driving at all. One result may be to allow driving on certain segments of the beach while maintaining others for strictly pedestrian access, i.e., Ledbetter Point which is on the north tip of Long Beach peninsula.

The State now regulates the use of motor vehicles on the ocean beaches and it is now in the process of drawing comprehensive regulations for other beach activities as well.

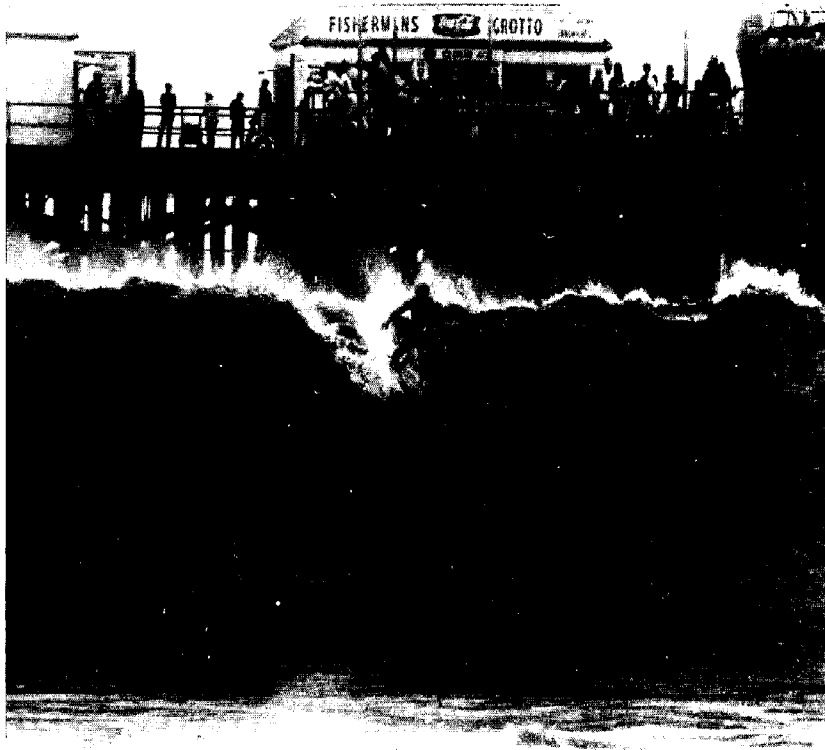
Historically there has been much friction between the State and private interests along the Pacific Ocean Beach area. This primarily has been a result of what the local resort

people feel is the unwarranted exercise of powers by the State Parks Commission in their area. Another point of friction has been the regulation of driving on the Ocean Beaches, which the local tourist industry feels inhibits their business.

In summation, the Seashore Conservation Act is an activity use controlling device on public lands that are not suitable for building or development. It applies only to those ocean beaches on the Pacific coast within State jurisdiction and specifically does not apply to the Indian Reservations.

The doctrine of custom has been asserted on the Pacific Coast shorelines by the Washington State Attorney General's Office. However, the issue has yet to be asserted in the courts.

The Washington position is best stated by the Oregon Supreme Court, in *Thorton v. Hay*, 89 Ore. 887, 462 P.2d 671 (1969). In essence, the court there held that because the public had customarily and habitually used the beaches of the Pacific Ocean in that state as a public recreation area, at least since the advent of recorded history in the Pacific Northwest, such use had ripened in the eyes of the law, to a legal right applicable to the entire coast of Oregon.



The doctrine has its roots in ancient English history. According to 1 *Blackstone Commentaries* 75, to obtain the status of law, a custom must be ancient, continuous, peaceable, reasonable, certain, general and not repugnant or inconsistent with other customs or laws.

This is a part of our common law heritage and shall stand as far as it is consistent with reasonable interpretations of newer laws. It is presumed that the legislature in enacting new law, does not change the common law, unless such intent is clearly stated or manifested. RCW 4.04.010 provides:

The common law, so far as it is not inconsistent with the Constitution and laws of the United States, or of the state of Washington nor incompatible with the institutions and conditions of society in this state, shall be the rule of decision in all courts of this state.

Custom has been specifically recognized in the State of Washington. *Issac v. Barber*, 10 Wash. 124, 38 Pac. 871 (1894). The above case used custom for the establishment of water rights.

The doctrine of custom was used by the *Hay* court in place of prescription, because prescription can only be applied to the specific property under adjudication. The doctrine of custom can be extended to an entire area.

The State of Washington has adopted a State Environmental Policy Act (SEPA) which is virtually identical to NEPA. SEPA provides an additional impact with regard to development in the coastal zone, basically through the EIS requirements.

It is interesting to note that the Act has been used to inhibit both public and private development. Most Shorelines Management Act questions and appeals have "SEPA attached thereto and incorporated therein." All attempts to locate public launching and access facilities by the Washington State Parks and Recreation Commission on the lower Puget Sound have been defeated due to challenges, within the scope of Shoreline Management proceedings, as to the adequacy of the EIS. Although the usual course of events finds the permit granted by the local authority, the time involved in the appeals normally run two years, which coupled with the automatic stay, renders the project economically unfeasible.

LANDS IN PUBLIC TRUST

*Patrick F. Noonan**

My remarks today are given from the perspective of being a professional planner, a member of the American Institute of Planners, a professional land appraiser, a real estate broker, a member of the American Society of Appraisers, and President of a national, non-profit land conservation organization.

It is from this perspective that I shall address our coastal zone management issues.

It has been said that 90% of all millionaires made their fortunes in real estate. In fact some investors have said that land is not only the best way, but the *only* way to make a million dollars. Unfortunately the appraisers who control to a major extent the destiny of land have defined the highest and best use of land solely in terms of economics. Traditionally, little thought has been given to land as to its value as a nonrenewable resource. Marshlands in particular have been viewed as wastelands and a commodity to be bartered and sold.

The United States Environmental Protection Agency indicates that by the year 2000,

* Mr. Noonan is President, The Nature Conservancy.

the area consumed by urban sprawl will be an additional 19.7 million acres, an area equivalent to the States of New Hampshire, Vermont, Massachusetts, and Rhode Island. Given today's values and understanding, this is our grim land use forecast. Complementing this startling projection is the fact that four billion tons of sediment are washed in the streams annually as a result of land mis-use. In the last three years, it is estimated that over five billion dollars, five billion tax dollars, have been allocated to disaster aid and that 90% of the losses came as a direct cause of over-building on flood plains.

Yet we have an obligation to protect the natural land. It is an asset which, once developed, will in all probability never again be available for broad public purposes. Today estuaries, wetlands, beaches, flood plains, swamps, rivers, and the scenic uplands are all threatened by haphazard development. While the cure for polluted air and water is frequently economic, more dollars mean better systems to deal with the waste, there are no easy solutions—at any cost—to restore misused land to its complex and dynamically balanced natural productivity. We must live with our mistakes for generations and in some cases, forever.

We are faced with two critical challenges for land use in America: the need to accommodate growth and simultaneously the need to protect natural lands with their inherent natural components.

It's not a new problem. On October 2, 1907, President Theodore Roosevelt at the historic conference with State Governors on conservation remarked, "The conservation of natural resources is our fundamental problem. Unless we solve that problem, it will avail us little to solve all others." The 1907 Conference has been recognized by many as the formal beginning of the conservation movement in America. Gifford Pinchot—Roosevelt's Chief Forester and Adviser on Conservation—wrote that the Conference may well be regarded by future historians as a turning point in human history. The Conference, Pinchot said, "was the first national meeting in any country to set forth the idea, that the protection, preservation, and wise use of natural resources is not a series of separate and independent tasks, but one single problem. It spread far and wide the new proposition that the purpose of conservation is the greatest good for the greatest number for the longest time. It further asserted that the conservation of natural resources is the one, most fundamentally important material problem of all. And it drove home the basic truth that the planned and orderly development of the Earth and all it contains is indispensable to the permanent prosperity of the human race."

We require at this point in our history to recognize a land ethic which respects the land, and the life it shelters, as a limited resource which if used improperly can have a devastating effect; an effect that in long time importance can be far greater than the immediate impacts of air and water pollution. The land deserves protection equal if not far greater than that currently given to air and water qualities.

In classical economics the land was seen as a source of surplus value over and above the cost of production. Emphasis was on the extent and bounty of the land with no thought given to the possibility of depletion or destruction of its value. No thought was given to the role of land in the life cycle because nothing was known of the later discoveries of the various interrelationships.

C. Lowell Harris has written that the average investor is the ultimate realist. He has relatively little interest in making the city attractive for the sake of making it attractive. If he's old enough and successful enough he may reach a point where he likes to build monuments to himself, but in general the interest is strictly in making money. In recent years, the average investor has had little expectation of rising land values and eventual profit through further concentration of economic activity. On the other hand, he expects rising profits from an increasingly active development in the suburbs. Unfortunately, our pricing system, the heart of our supply and demand free economy, is ineffective when it comes to preserving natural environment as long as the life support and other associated economic values of the environment in its natural condition are not considered in making land use decisions. Traditionally our pricing system has considered only man-made values and has completely ignored life support systems.

The time then has come to extend economic accounting to what have heretofore been the free works of nature. Real estate appraisers must come to understand that the value of one acre of salt marsh is not solely determined in terms of real estate development potential. More importantly, the value is determined by the natural processes which are undertaken by the marsh itself. Dr. Eugene Odum, a prominent Georgia ecologist, has determined that one acre of salt marsh in Louisiana is worth over \$82,000 to the general public in terms of its value as a buffer from storms, as a pollution filter, and as a nursing ground for aquatic species. As the ecologist begins to place the common denominator, dollars, on the free works of nature, we begin to better understand the economic importance of leaving certain natural lands alone. When one realizes that the one acre of marsh can produce up to ten tons of nutrients per year, as against the finest wheat field producing 2-3 tons, we can better understand the natural world as an essential ingredient in a wholesome, productive life.

And let's not forget that the natural beauty of our coastal areas does more for a man's spirit than all of his own man-made monuments.

Recently, Mr. J. E. Reinman, International President of the Society of Real Estate Appraisers said, "Ecological awareness can mean the difference between profit and loss, success and failure, and in some instances can be responsible for averting financial ruin." In reality this amounts to a major breakthrough in the U.S. For nowhere else in the appraisal profession to date has the question of ecological awareness been raised. Clean air, water, and land itself have become increasingly scarce and costly goods. It makes both appraisal and economical, as well as environmental, sense to maximize their protection.

We have found at the Conservancy that when we discuss intelligently these facts with landowners, be they individual or corporate, they too are genuinely concerned and interested in the wetlands as a resource. However, rather than conservation coming last—the first question should be "where not to build." We must systematically inventory our fragile lands and areas which when manipulated result in the higher internal and external cost to the public at large. Critical areas, flood plains, wetlands, steep slopes, as well as natural or unique wild areas can be found and mapped. Their inherent values can be documented in terms of life support systems and habitat.

To illustrate a practical application of the "value" logic—the Corps of Engineers has recently concluded that rather than undertake additional channelization of the Charles River in Massachusetts that the Corps should acquire the flood plain and leave it alone. This philosophy of letting nature take its course represents a dramatic change from the traditional Corps approach to flood control. At Cape Hatteras, North Carolina the National Park Service after years of pouring millions of dollars into building artificial dunes and constructing jetties and groins has determined to let it be and to allow the Cape to return to its dynamic balanced, natural system. These simple solutions are sometimes needed when working with land and nature—more respectful humility and less engineering ingenuity.

We have an obligation in the world of rapid, rapid change to counsel for a direct approach and a general philosophy in which the land itself determines what goes on it. We may also have a parallel obligation to channel speculators—many of them don't know any better—away from critical and fragile lands. And as land speculators or land gamblers need to be educated—so do the lenders. In very few instances will you find environmental questions being asked by banks or other financial institutions before making lending commitments. This lack of early awareness of environmental concerns frequently results in developers ending up in court being battled by environmentalists and wasting enormous energy, when in many cases the developer and conservationist could work together.

An example of what I believe is a successful start is a program we at The Nature Conservancy have recently initiated here in South Carolina. A joint effort with the State and private sectors, the South Carolina Heritage Trust Program is systematically identifying and inventorying, using sophisticated automatic data handling methods, the most significant and outstanding natural areas throughout the State and the program will seek to develop the best means to protect the critical natural areas.

We have actively solicited information from residents throughout South Carolina as to which areas should be protected. The result has been a far greater understanding by indi-

viduals from all backgrounds of the need to safeguard the especially important places. Probably the greatest spokesman now for the protection of South Carolina marshes are the fishermen, commercial and sport, who realize that their "catch" is dependent upon the quality of their marshes. Historically, in South Carolina marshes had been looked upon as a wasteland to be developed or exploited. No longer. For today they are seen as scarce irreplaceable resources for all citizens and not a limited resource for those controlling the surface rights.

The citizens of every state as in South Carolina are proud of their heritage. We can learn a great deal from programs that involve people in protecting their land and that direct growth into areas where it can be accommodated. Regardless of our backgrounds we are all interested in a quality environment. For programs to be successful there must be interaction between the birder and the industrialist, the hunter and the housewife, the appraiser and the fisherman, the planner and the developer. The message is not to stop growth but to work within the private enterprise system to protect not only those natural amenities which we value, but to also provide for the economic need of a growing America.

No longer can conservation organizations afford to pay \$25,000 an acre, industrial prices, for land that has been zoned in wetlands for heavy industry use. As many of us know, two-thirds of all zoning actions in the United States are taken without benefit of any land use plan. What I am talking about is a judicious blending of planning and profit motivation. This is what I believe to be the key to protecting our coastal lands.

Land investment is entering an era of regulation. As a result, we must comprehend the economics of land use to be able to approach development with balanced understanding. The idea is to direct the entrepreneurial spirit in such a manner that it makes land use planning a reality.

ARRANGEMENTS FOR CONTROLLING RECREATIONAL USE OF MARINE RESOURCES

*Rear Admiral John F. Thompson**

Let me first trace briefly the legislative history of boating safety in the United States. The Motor Boat Act of 1940 was the first attempt to establish a law upon which regulations could be established for the guidance and protection of the boater. This Act prescribed certain mandatory equipment to be carried aboard boats, depending on their class which was for the first time identified. This was necessary for obvious reasons so that the small motor boats wouldn't be overloaded with equipment before any people went aboard. Further, for the first time there were penalties prescribed for failure to comply with the Act and also for negligent and reckless operation which incidently in the 1940's was rather formidable, with a maximum of 10 years or \$10,000.

In August of 1957 Congress approved the Act which became effective on June 1, 1958 and which went much deeper into the protection of the public principally in the area of

*Rear Admiral Thompson retired from the U.S. Coast Guard as Chief of Boating Safety in June 1975.

certain vessels carrying passengers for hire. Prior to this time under the Act of 1940 carrying passengers for hire required only that the operator hold a valid Motor Boat Operators Certificate issued by the Coast Guard. This was in effect a license to carry passengers for hire but in no way affected the boat or vessel. This new Act did not affect materially the Act of 1940 which remained in effect with certain amendments but it did require that certain vessels carrying passengers for hire be inspected and certificated by the Coast Guard. This was applicable to vessels carrying more than six passengers. As a result of this requirement to secure effective provisions against hazard to life created by passenger carrying vessels, rules and regulations were established by the Coast Guard and the inspection and certification of these vessels was commenced and of course continues today. The inspection required among other things that the vessel be initially dry-docked and then periodically dry-docked for examination by an inspector to ensure its current and continuous sea worthiness. All the machinery, equipment, firefighting and prevention equipment, lifesaving devices, etc. were examined. The inspection was made every three years with intermediate examinations on an annual basis. Additionally, and of considerable importance and effect, the operator of the vessel had to be duly licensed to cover the size of the vessel and the route upon which the vessel was to be operated. An inland operator's license examination was far less extensive than for an operator navigating fifty miles off shore.

As time progressed, the recreational boat activity mushroomed particularly in the 1950 to 1965 era during which time the number of recreational boats reached a high of over 6 million. In 1965 Congress became concerned with the increasing number of fatalities. Although this number was not that great compared to vehicle traffic on the highways the rate of fatalities (average about 20 per 100,000 boats) did compare on a near par with other recreational fatalities. Congress recognized that the Acts of 1940 and 1958 were not in themselves accomplishing what was needed. There were some 2500 builders of boats in the U.S. in the late sixties, by now 7 million boats, and over 40 million Americans using them. There was no uniformity in the manufacture of boats with respect to safety of design, equipment, or lifesaving and fire prevention considerations. As a result the Federal Boat Safety Act of 1971 was approved on August 10, 1971. It was the declared policy of Congress and the purpose of the Act to improve boating safety and to foster greater development, use, and enjoyment of all the waters of the United States by encouraging and assisting participation by the several states, the boating industry, and the boating public in development of more comprehensive boating programs, establishment of national construction and performance standards for boats and equipment. The Coast Guard starting in August of 1971 has been involved in the implementation of this Act. I will try now to discuss with you what has been accomplished, how the Coast Guard goes about it and to some extent, what the future holds. I will restrict my remarks to what I think you as the people involved in planning, management, and use of marine resources are interested in to provide recreation opportunities in the marine environment.

Congress by its declaration of policy and purpose in the FBSA of 1971 gave the Coast Guard a strong mandate to develop regulations and standards for boats and associated equipment. This is not the kind of a task that is done by sitting behind closed doors and doing a lot of scheming and dreaming although I am sure that many of you may think that is the way some of the Consolidated Regulations and Programs come out of Washington. Please note that the acronym for this is crap. I can assure you that this is definitely not the case with the Coast Guard and I believe I will be able to prove it to you. Time does not permit me to cover individual items but I can and will give you generalities, and then if time permits, I will be happy to respond to specifics.

The Act of 1971 was developed with Coast Guard headquarters using statistics and information available from all sources with inputs from the boating industry, the boating public and from the states. Once the Bill (as any Bill that goes to Congress for approval) reached Congress, extensive hearings were held and all interested parties were heard at these hearings. When the Act was finally approved it had gone through some very extensive massaging and in its final analysis was acceptable to all. This does not mean that the

implementation and the rules and regulations developed thereunder are totally acceptable and we would be remiss if we thought we could write rules and regulations that would be accepted by all people all the time. The Coast Guard directed its attention principally to *safety regulations and standards* for boats and associated equipment, towards uniformity of numbering of boats, and individual state boating safety programs. In the latter case, the Act provided for the encouragement of greater state participation through a federal financial assistance program. This is a five year program which ends in fiscal year 1976 and it has had a very positive and beneficial effect. For this purpose Congress authorized 7.5 million dollars annually.

Under the Act of 1971 the Secretary of Transportation was required to establish a National Boating Safety Advisory Council to advise the Coast Guard on the need for and extent of regulations and standards and whether any proposed regulations or standard was reasonable and appropriate. The Council is composed by law of twenty-one members selected by the Secretary of Transportation who are considered to have a particular expertise, knowledge, and experience in boating safety. To assure balanced representation members are drawn equally from (1) state boating officials, (2) boat and associated equipment manufacturers, and (3) boating organizations and members of the general public. This advisory council concept is nothing new for the Coast Guard. Several such councils exist in other fields of interest. This council has functioned particularly well and let me assure you right off it is *not* a rubber stamp for the Coast Guard and never will be.

With that in mind let me tell you in a little more detail how the National Boating Safety Advisory Council operates. Incidentally, original membership was for 1, 2, and 3 years and after the first year all appointments were made for three years, so you can see there is a rotation of people and the capability to bring in specific expertise when needed. The council has been meeting on the average of three times a year on the call of the Coast Guard. Before any regulation or standard is prepared for publication in the Federal Register it is presented to the council first on a need basis. To establish need, the Coast Guard really has to do its homework and this is principally established by statistics, unfortunately in the form of fatalities, but on the plus side a showing of how a regulation or standard will substantially reduce fatalities. Once the council agrees that there is a need, and this is done by vote, the Coast Guard develops the regulation or standard and comes back to the council for their approval of the wording and just what will be required by either a manufacturer, dealer, or user. Many times this takes months of research work. The research work is usually demonstrated to the council live, or through movies. Upon approval of the wording by the council, the proposed regulation or standard must be submitted to the Coast Guard Marine Safety Council composed of the heads of the Offices of Engineering, Merchant Marine Safety, Research and Development, Boating Safety, Operations, General Counsel, and Environmental Affairs. The next step is the notice of proposed rulemaking published in the Federal Register which invites the general public to comment if they wish. On some occasions public hearings are held. Finally then after this process, a regulation is published and an effective date is indicated. I have gone into this in some detail so you might better understand how a regulation or standard is established. I am sure you can see it comes under microscopic examination before it goes on the books, but even then sometimes the test of time brings out the need for amendments.

Some of the regulations and standards resulting from this process of implementing the Act of 1971 are:

1. Authority for Coast Guard boarding officers to terminate use of a boat because of especially hazardous conditions or direct corrective measures.
2. Requirement for manufacturers to notify retail purchasers of safety defects in boats or associated equipment.
3. Certification plates and hull identification numbers.
4. Uniform numbering system.
5. Requirements for personal flotation devices.
6. Manifestly unsafe voyages.

Other regulations that are under development and are expected in the future are:

1. Electrical systems standards. NPRM now under review in legal at headquarters.
2. Fuel systems standards (NPRM as above).
3. Starting in gear protection (NPRM as above).
4. Visual distress signals. Need approved. R&D in process of developing technical specifications.
5. Level flotation standard. Need voted at last NBSAC meeting, and research is proceeding.

For the past several years there have been pressures from many areas to require licensing of boaters. There are those who believe that licensing would make boating safer for everyone. The Coast Guard does not share this opinion and instead believes that a combination of voluntary education and building safer boats is the answer. The statistics do show that the trend already shows a significant reduction in fatalities. As I have already shown you some of the most significant standards to make boating safer are not yet on the books. It will take time to get all boats with the new standards and the Coast Guard feels that the statistics of the future when full implementation of the Act of 1971 is accomplished will indicate that boating will be safer. Education must continue, however, because it certainly is not the intent of the Coast Guard to try to have manufacturers produce idiot proof boats.

The voluntary education program has been expanded tremendously in the past several years. The federal funding to the states, among other programs, has expanded their education programs and the Coast Guard auxiliary, the U.S. Power Squadrons, the Red Cross, and the Boy Scouts of America have all developed expanded programs so that today well over a million and a half boaters per year are being educated through the efforts of voluntary, no-cost education. There are still plenty of clients, however in the boating world, as there are now about 50 million boaters in the United States so these programs must continue.

Additionally, the Coast Guard and others make extensive use of all forms of the media. Right here in Newport Beach, for example, a boating safety spot for T.V. was made at the Balboa Bay Club. Several T.V. and movie stars have made spots for the Coast Guard and for the U.S. Power Squadrons. Extensive use of radio spots has been made with many of the same movie stars. At all boat shows throughout the country you will find a Coast Guard, Coast Guard Auxiliary, and U.S. Power Squadrons booth with the emphasis on education. During the past three years at the dealer's boat show in Chicago, the Coast Guard has stressed to the dealers that they have a very important interest in education because a happy boater is a repeat customer and a happy boater is one who knows what he is doing.

Let me just emphasize again the fact that voluntary education is working and licensing would not accomplish what has been done up to now and what is planned for the future. *With licensing the education programs would be of little significance.*

In summation I want to leave you with just one statistic that I believe will indicate that this country's boating program is on track, is continuing the fun in boating, and will not be an over-regulated recreational activity.

Since 1961 the Coast Guard has had the responsibility to publish annually boating statistics (CG 357). This book is available to the public and can be obtained at any Coast Guard Office. The statistics contained therein would be of important significance to you as planners and managers.

In 1974 the Coast Guard Office of Boating Safety conducted a nationwide boating survey which was the first of its kind and has been of significant value to the Coast Guard in analyzing our programs to learn where the weaknesses are and to strengthen them through whatever means are indicated. This book is available to the public through the National Technical Information Service, Springfield, Va. The price is \$7.25. This too, would be a valuable document for any person involved in setting up boating programs, marina, etc.

There are many factors that you will need to consider in planning, management and in developing general use of marine resources for recreation, and I am not going to discuss them in detail but in generalities, your emphasis must be directed toward safety and education in such areas as fuel pumping docks, safety around launching ramps, provisions for strategically locating fire-fighting equipment, life-saving equipment availability, and strong enforcement of all safety standards around the area, both in the water and about the facility.

Safety is what the Coast Guard knows best and what they are involved with every day and 24 hours a day. You have heard, I am sure, of the other programs of the Coast Guard besides recreational boating safety—such as merchant marine safety, and port security, to mention two. When you come to set up your programs, you must consider safety as one of the most important, if not the most important, item to consider. If you need help in this, the Coast Guard is “always prepared” to give you a helping hand in safety matters. Thank you for this opportunity to talk with you. I will be pleased to respond to questions when the time comes.

RAPPORTEUR'S REMARKS

*Peter Douglas**

We come now to report on the workshop on public use and private rights.

For a good overview of what issues are raised in this area, I commend to you our moderator, Dennis Ducsik.

We talked about public use and private rights in the context of three approaches. The classic approach enhances public uses through acquisition of less than fee interest. Secondly, governmental intensive information encourages public uses in the private sector. We talked here about the romantic approach customarily used, such as implied proscriptive easements for public use. Then the progressive approach was discussed in the context of the modern concept of property rights as being a bundle of rights seasoned with social values, and concerns with how the land resource affects the quality of our lives. The tool for applying this progressive approach is the regulatory process, that is, through development controls.

I think the consensus, if there was any, of these approaches was that we should use a balanced mixture of all three in maximizing recreational or public uses. Maximizing public use should be balanced with private rights. We should recognize that acquisition of all the recreational areas that might be desirable would be too costly, and look particularly at innovative use of development, rights transfers, and taxation, rather than just full acquisition. We hit on the need to involve the private sector more. The private sector should be relied on more heavily in recognition of the political realities and economic realities—the economic realities, being the tax advantages—of setting aside certain lands for public uses, either today or in the future. Economically the business of development is becoming more and more costly. Economic incentives could persuade the private sector to set aside more public land for increased social benefit.

Also, we have to look at private property rights more in the context of the quality of life. The discussion there centered on the need to educate people who own property in the idea of wise use being to their benefit as well as others because it does enhance the quality

*Mr. Douglas is currently Chief Staff Member to California Assemblyman Charles Warren.

of life. The point here really was that we should make greater use of private stewardship, that is, purchasing land, perhaps the purchase of development rights on the land, but allowing the owner continued use of that land for 10, 20 years, whatever; sort of putting off for the future the public use, but protecting the resource in the process.

We recognized that regulatory processes alone will not, necessarily, enhance public opportunities, and we ought to look at other ways to enhance public recreational opportunities. This might include the use of mitigation enhancement and compensation in major projects. We also had a discussion on the need to be careful on how closely we regulate public recreational uses. We might get beyond just protecting the public.

We decided that federal support for coastal zone management programs should be given the first priority in establishing goals for marine recreation policy.

I was more stimulated by what wasn't covered in the workshop than what was. There is a need for better definition of what the needs are, to define what we mean by quality of experience, thereby getting into the area of carrying capacities, not only of the environment but of the private rights. Speaking about the public uses, we have to distinguish between legal rights and perceived rights. I think the latter is talked about in terms of conflicts which do not coincide with legal rights. We have to know the dimensions of these private rights if we are going to understand how to resolve the conflicts with public uses.

Another thing we did not discuss, which we should have, is the extent to which the government should be expected to protect these rights and uses. Should government get into that at all? What should be the government role in delaying the public use by buying land but letting the owner continue to live on it, until some future time?

AVAILABILITY OF RECREATIONAL OPPORTUNITIES—INTRODUCTORY REMARKS

*Fred L. Jones**

INTRODUCTION

Today we recognize that the coastal area is no longer just a place to visit but also a place to live and work. How fully and wisely we use our marine resources in the decades ahead will affect our security, our economy, our ability to meet increasing demands for food and raw materials and the quality of the environment in which our Nation's people live.

In 1970, the population of the coastal counties in the coastal zone states was 49 percent of the U.S. population. This concentration of half the U.S. population so near the coast causes severe problems in the coastal environment.

Man's damage to the environment too often is ignored because of immediate economic advantage. Recent achievements of technology in the sea have focused national attention on ocean resources to a greater extent than ever before. The sea's potential as a source of food,

*Mr. Jones is Assistant Director of the Bureau of Outdoor Recreation for Federal Programs and Planning.

drugs and particularly minerals has been much publicized. Vital though marine economic development is, it must be tempered by other considerations.

Of these, the demand for outdoor recreation in the coastal zone is of equal importance. If adequately protected, the sea and the shoreline can provide unique and valuable opportunities for recreation.

NATIONWIDE OUTDOOR RECREATION PLAN

The Bureau of Outdoor Recreation in preparing the 1973 Nationwide Outdoor Recreation Plan—*Outdoor Recreation—A Legacy for America* recognized the pressures for access to the sea.

We have assessed the full spectrum of recreational problems and out of this analysis we have included in the first Nationwide Outdoor Recreation Plan seven exhortations to the Federal agencies, states, local governments and private interests to improve access and use by the public of the nation's shorelines and beaches.

To increase public recreational use of the nation's coastal zone areas, state and local governments are called upon to:

- Ensure public access to existing but underused recreation resources such as beaches, shorelines, islands, and other unique natural areas.
- Evaluate present laws relating to ownership and access, and where necessary, take steps to provide public access to beaches and shorelines.
- Develop plans and programs to utilize Land and Water Conservation Fund monies for acquisition of beaches, shorelines, and estuaries with recreational values. And encourage and assist conservation organizations in purchasing and obtaining donations of key parcels of shorelines.
- Undertake specific analysis of islands with high recreation or wildlife values and attempt to obtain public access to these suitable islands; Also, perfect title to state owned islands so that protection or development of those islands can take place unimpeded; consider underwater protective zones around islands.
- Adopt long-range plans to conserve island resources. These should be supported by effective zoning, ordinances, and other land use control measures. Islands with outstanding values should be considered for acquisition, while other means of assuring public access should be considered for lesser value islands.

Federal agencies are called upon to accelerate the evaluation of their holdings in the coastal zone to determine which beaches and shorelines can be made available for increased public recreation use.

Private nonprofit groups should work closely with public agencies to ensure identification of island values. Such groups may consider acquiring and holding islands which are threatened with development until a public agency can appropriate funds for acquisition.

SHORELINE OWNERSHIP AND RECREATION USE

These actions offer tremendous opportunity for conservation organizations, states, local governments and the Federal government to cooperate in the protection of the nation's remaining shorelines and estuaries for public benefits.

Today of the Nation's 84,300 miles of shoreline approximately:

- 45,300 miles or 54% is in Federal ownership. Of this 41,400 miles are in Alaska;
- 26,300 miles or 31% are in state and local government ownership;
- 10,100 miles or 12% are owned by private interests; and 2,600 miles or 3% are of uncertain ownership—this includes marshlands, some islands, etc.

Recent studies by the U.S. Environmental Protection Agency indicate that only 3,400 miles of public coast are presently developed for recreation (*Excluding Alaska*):

Public recreation	3,400 miles	9%
Private recreation	5,800 miles	16%
Non-Recreation Development	5,900 miles	16%
Undeveloped	21,800 miles	59%

We must give more attention to the recreational potential and management of the shore. Current beach attendance figures and the coastal population concentration attest to the demand for available facilities.

Toward this objective, I would like to concentrate on two important topics:

1. Making public those shoreline areas which for one or another statutory reasons are not now public; and
2. Getting strip access to public shorelines.

PUBLIC BEACHES — SHORELINES

As you are aware, private development and certain public projects are steadily decreasing the amount of shoreline which is available for public use . . . A number of States face heavy development pressures along the coast in the form of highly intensive residential areas, industrial complexes and exploitation of water itself. I am not demeaning the rights of these interests. In fact, their presence in many instances is necessary and essential. But this growth should not supersede the public right to enjoy the use of an oceanside or lakeside. One should not exclude the other.

Recreation should be recognized as having importance equal to all other coastal zone uses and deserving of equal consideration in planning and development.

The Coastal Zone Management Act will encourage responsible people to address this issue. Proposed amendments to the Act currently under consideration in the Congress would include a general plan for the protection of and access to public beaches and other coastal areas of environmental, recreational and historical, esthetic, ecological and cultural value. The State Plan is to define what it considers a beach. Although not stated, it is intended that the State also define what is a "public beach."

But we really must go beyond this. There is a definite need to standardize criteria for determining what are public beaches. . . . Once there is common agreement on what constitute public beaches the problem of ownership and use can be more readily resolved.

There has been a continuing encroachment on what has been in the past considered the public right to access to the sea and enjoyment of the shore. Private residential areas, military installations, large industrial complexes and resort developments have cut away public access. State laws differ.

In Alabama ownership or control of beaches and shores on tidal waters extends to the mean high tide mark, and although riparian owners have the use enjoyment of the "beach" fronting their premises, that area between the mean high tide mark and the water is legally open for use by the public, the same as is public owned land.

California's basic legal rights to ownership of tidelands were established under the Act of Admission of the State in 1850. Tidelands are defined as the lands between mean high tide and mean low tide.

The Beach and Shore Preservation Act of Florida governs construction, reconstruction and other physical activity along the coastline and also sets out guidelines for the creation of beach and shore preservation districts. However, the statute does not expressly discuss the right of public access. Questions surrounding public access and public use of the ocean and gulf shorelines in Florida have been determined by common law and case law rather than by statutory law.

In Maine the public has rights to use the ocean adjoining the coast and the rivers as far

upstream as the tide ebbs and flows, including the rights to fish, to boat, to moor a boat and of the passage across flats going to and from a boat.

Michigan has adopted a trust doctrine which could possibly be applied to shoreline access. Under the doctrine it is implied that natural resources are held in trust by the State, and that the State as trustee has a duty and obligation to conserve and preserve them in public interest. In theory this doctrine may be accepted under one set of circumstances and strongly opposed under others. Ownership by the Lake States of lake bottom and rights to control the use of waters along the shoreline of the Great Lakes is well established.

In 1959, the Texas Legislature passed what is known as the Texas "Open Beaches" Act. This Act: (1) directs the State Attorney General to protect any rights the public may have for access to and use of the beaches along the Gulf of Mexico either because of long-continued and uninterrupted public use of them, or because the State had never granted the owners of the land adjacent to the shore the right to use the beaches to the exclusion of the public; (2) establishes a presumption that the public has obtained a prescriptive right to use the beach; and (3) establishes a presumption that the State, in conveying the land adjacent to the Gulf retained for the public the right to use the beach.

State legislatures should be encouraged and requested to adapt model legislation along the lines of the Texas statute.

Open beach legislation would declare that the Nation's shorelines are by custom and tradition a "commons" and that all citizens hold a right to transit on and over them except in those few instances where old Spanish land grants and other grants from the sovereign specifically conveyed ownership of that right.

This legislation would open to the public for recreation use shorelines that for one reason or another are not now open. It would provide access routes to some of the beaches and also measures to acquire all interests in some unique beach area.

PUBLIC ACCESS

Since the remaining open beaches are becoming more and more limited, there is both State and Federal interest in protecting access and use of the nation's shorelines.

Bills which include provisions similar to the Texas statute (H.R. 3981 and S. 586) are before the Subcommittee of Oceanography of the House Committee on Merchant Marine and Fisheries. Hearings on these bills resumed September 3, and if enacted would amend the Coastal Zone Management Act of 1972 to require access to the Nation's Shorelines for public use.

The demand for outdoor recreation in the coastal zone is increasing. Yet, in 1955 only 6.5 percent, 240 miles, of the 3,700 miles of shoreline on the Atlantic and Gulf coasts were in public ownership for public use.

The large amount of coastline in private hands restricts provision of coastline recreation. Also, private holdings inland can obstruct access to a public beach. It is estimated that for this reason, only one-tenth of one percent of the shoreline of Chesapeake Bay is available to the public. At Miami Beach, most of the land adjacent to the beaches is owned by large hotels, excluding public access.

There are several methods for increasing access to the shoreline and coastline recreation opportunities:

- (a) *dedication*—creation of access corridors or passageways at selected intervals through public lands adjacent to the shoreline on which public use is not now entertained.
- (b) *donation*—private interests donating access rights on adjacent lands to the shoreline for public access;
- (c) *acquisition*—out-right purchase of shoreline areas of significant value for recreation or purchase of access rights across private holdings;
- (d) *quiet title action*—ascertain title of ownership of properties not yet determined or defined (i.e., some of our marshlands, island, etc.); and

- (e) *legislation*—statutory requirements at the State and local level which would prohibit private ownership from excluding access to public beaches.

COASTAL ZONE MANAGEMENT AND RECREATIONAL DEVELOPMENT: A CASE STUDY

*Mark S. Rosentraub**

1.0 Introduction

The need for greater control over the use and development of coastal resources in the United States has been identified by numerous environmental groups, academicians, state legislators, and the Congress.¹ A more direct and systematic governmental role seems to be especially needed in urbanized regions where cities frequently rely on their coastal zone to support numerous economic, political, and social aspects of urban life. While the use of marine resources in any particular urban areas is often influenced by individual needs or other aspects peculiar to a particular city, most metropolitan coastal zones are usually considered an integral part of an urban area's recreational infrastructure.² The importance of the recreational aspect of metropolitan coastlines is often underscored by the inclusion of objectives relating to the preservation, protection, and extension of recreational opportunities in legislative acts,³ Congressional policies,⁴ and electoral initiatives⁵ establishing new coastal zone management agencies charged with regulation of coastline resources in regions with urbanized areas.

The inclusion of development objectives related to the establishment or expansion of marine related recreational opportunities in legislative or electoral actions creating coastal management agencies represents only one in a set of demands for land and water use these new agencies must respond to. Other demands, while not declared in legislative or electoral actions, are actively expressed. Some individuals, for instance, have called for the establishment of areas for residential development in the coastal zone, while still other segments of society seek to develop points along the coast for industrial, commercial, and energy-related facilities. This competition among and between public and private interests for use of coastal resources, along with the demand for protection of the existing ecology and preservation of acceptable levels of recreational opportunities, has created the need for the development of coastal zone management agencies with the capability of 1) adjudicating the conflicting demands, and; 2) establishing a mix in coastal land use patterns that satisfies the needs of various segments of urban populations.

The desire to establish agencies which regulate demands for use of coastal land and water has emerged, however, without the production of a sufficient base of empirical performance data from which questions about the capability of chosen sets of organizational characteristics to maintain existing recreational facilities and develop new sites can be raised. The importance of the recreational value of coastal areas for urban populations suggests this is a significant problem.

* Mr. Rosentraub is Assistant Professor Institute of Urban Studies University of Texas at Arlington.

Furthermore, discussions and examinations of coastal management agencies do exist, but many of these works tend to focus on what the authors believe to be the organizational requirements for coastal agencies or simply describe existing laws related to the management of coastal areas. These materials tend to include information discussing the physical and biological impact of human activity on the ecology of the coastal zone, but not about the influence of regulation on socioeconomic conditions and access. There is little empirical data describing the impact and outcome of vesting authority in one level of government as opposed to another or how recreational opportunities and use of the coastal zone are affected if control is exercised over one mile of coastal land instead of one-half mile.⁶

A substantial base of legal research and commentary analyzing the conflicts between existing coastal land development patterns and the intentions of various state statutes to insure opportunities for access and use of coastal resources to all citizens of a state does not exist. However, while these important works have often served as a base for class action suits to enforce access easements and proposals for state regulation of coastal regions, they do not provide a comparative base of data useful in comparing and evaluating the performance of different types of administrative frameworks in guaranteeing public access or developing new opportunities for recreation.⁷

Similarly, although a wide array of research has been completed by recreation specialists pertaining to leisure opportunities along coastal regions these excellent works tend to focus on questions of needs by different populations and problems of restricted access. Studies providing empirical performance data for different coastal agencies with varying sets of powers and responsibilities are generally not available.⁸ These limitations in the present state of the coastal recreation literature are a result, in part, of the small number of agencies that exist. Yet, it is also true that much of the literature describes the legal and formal aspects of coastal units or solely addresses questions of the recreational needs of urban populations because of methodological preferences and limitations inherent in the capabilities of the data sources utilized.

Given this brief review of the research currently available, this paper establishes two goals. First, to present an analysis of the kind of recreational development taking place along a coastline in a metropolitan area. This description of recreational development is valuable as baseline data for the study area and will allow subsequent research to undertake time series examinations of the recreational opportunities available.

Accomplishing this informational task, however, will not address the need for information describing recreational development outcomes under different forms of regulation. The second objective of this essay involves an examination of the organizational characteristics of a commission through a description of the recreational projects presented to and approved by a specific coastal commission operating within an established set of powers. While the method of analysis does not allow a set of conclusions establishing the exact relationship between the authority given the commission and the type of recreational development approved, insight into the kind of powers necessary to encourage recreational development along a metropolitan coastline can be addressed. A study of the South Coast Regional Commission, charged with final authority for coastal land use in Los Angeles and Orange counties, will be the means of pursuing both the informational and organization objectives of this paper.

2.0 Marine Recreation and the California Coastal Zone Conservation Commission: A Definition of Terms

Before proceeding with the informational and organizational goals of this paper a set of definitions needs to be established as a reference point for the analysis presented. First, a degree of uniformity in the definition of marine recreation would be appropriate. Second, to

pursue the organizational goal, an understanding of the structure of the coastal zone management program is needed.

2.1 Marine Recreation

The term marine recreation can be used to describe a number of activities in the coastal zone. It can refer to swimming, boating, walking along the coast, underwater parks, bike paths, etc. Each of these opportunities not only can be publicly or privately produced but involves different sets of access questions. The number of problems as well as the different kind of activities covered by the term "marine recreation" suggests the value in establishing a finer definition as a framework for analysis.

2.1.1 Marine Dependent Recreation

To avoid some of the issues raised with the utilization of the inclusive label of "marine recreation," two main headings will be used here. The first of these, marine dependent recreation, will be used to identify all recreation activities which require the availability of water. Boating and swimming are clearly marine related if both utilize the ocean. Placing a swimming pool on or near the beach would not be considered a marine dependent activity as the pool could have been placed anywhere without reducing its recreational value. They are, however, a set of recreational activities which one might want to include as marine dependent although they could be enjoyed in various locations. These would include picnic sites, bicycle paths, vistas, etc. along the coast. The basis for including these activities rests on the assumption that the primary goal of users of these facilities is enjoyment of the seascape.

2.1.2 Marine Related Recreation

Marine related activities will be used to refer to those activities which, while enhanced by their location near or on the water, are not dependent on the water for enjoyment. These facilities would include swimming pools, tennis courts, baseball diamonds, museums, libraries, restaurants without seascape views, etc. The test for separating marine related from marine dependent should involve an analysis of whether the activity could be equally enjoyed at locations further from the coastline.

2.1.3 Method of Operation

The division between marine dependent and marine related recreational projects represents only one breakdown of marine recreation helpful in analyzing coastal recreational opportunities. Equally important would be differentiations within these two categories of the costs for using facilities. For instance some would be "free" in the sense that no admission charge is levied against users. Other activities produced both by government agencies and private firms charge a fee for use. Still other recreational facilities are private in the sense that only members of a club or the individual property owners may enjoy the facility.

2.1.4 Type of Project

One further delineation needs to be made for the purpose of this study. In analyzing the proposals reviewed by a coastal commission a separation should be made between those efforts which would be classified as simple maintenance as opposed to activities that actually increase a facility's capacity or produce a new opportunity for recreational activities.

These breakdowns of the concept of marine recreation establish the following matrix as a useful framework for pursuing the objectives of this paper.

2.2 Study Area: The South Coast Regional Commission

The coastal agency used for examination was the South Coast Regional Commission which has final responsibility for land and water use along the coastline of Los Angeles and Orange Counties. The coastal commissions in California were created in 1972 through a voter initiative action, Proposition 20, and assumed their responsibilities on February 1,

Characteristics

<u>Type of Activity</u>	Public or Private	No Admission Charge	Fee Charged by Public Agency	Fee Charged by Private Agent	Maintenance	Capacity Expansion	New Facility
Marine Dependent							
Marine Related							

1973. The Proposition passed by the voters not only established the regional commissions but set the following organizational characteristics for the agencies.

2.2.1 The Coastal Zone: Geographical Scale

Proposition 20 established two separate geographical zones. The coastal zone was identified as

that land and water area of the State of California from the border of Oregon to the border of the Republic of Mexico, extending seaward to the outer limits of the State jurisdiction, includes all islands within the jurisdiction of the State and extending inland to the highest elevation of the nearest coastal range, except in Los Angeles, Orange, and San Diego Counties, the inland boundary of the coastal zone shall be the highest elevation of the nearest coastal mountain range or five miles from the mean high tide line, whichever is the shorter distance.

Within this area, each coastal commission was charged with the responsibility of developing a plan that contained provisions for the "conservation and management of the natural resources of the coastal zone." This plan, the California Coastal Zone Conservation Plan, is to be presented to the State Legislature in the fall of 1975.

2.2.2 The Permit Zone

Within the coastal zone, Proposition 20 designated an area as the "permit zone." The permit zone extends from the mean high tide line, landward, for 1,000 yards, and seaward, for three miles. Any development in the zone,

the placement or erection of any solid material or structure; the discharge or disposal of any dredged material or any gaseous, liquid solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land . . . [or] any other division of land, including lot splits . . . construction, reconstruction, or alteration of the site of any structure. . . .

shall require a permit from the appropriate coastal commission.

2.2.3 The Coastal Commissions: Inter-Governmental Interaction

Proposition 20 actually created seven separate commissions: the California Coastal Zone Conservation Commission and six regional commissions. The membership of each commission reflected the balancing of many levels of government. The single state commission had twelve members: one delegate from each regional commission and six representatives of the public who are not regional commissioners. These six commissioners are appointed in the following manner: two by the governor, two by the Senate Rules Committee, and two by the Speaker of the Assembly. The state coastal commission hears appeals from a regional commission's decisions. The state commission, through its staff, has also provided technical leadership in the development of the California Coastal Zone Conservation Plan and channeling inputs into the plan from the public and regional commissions.

The primary responsibility for development of land or water in the fifteen coastal counties was divided among the six regional commissions. The membership of each commission was carefully delineated in the Act, and closely paralleled the membership of the state commissions. Each regional commission had at least six commissioners selected by the governor, senate rules committee, and the speaker of the assembly. However, the regional commissions also have up to six members selected by local government agencies or units.

2.2.4 Permit Authority and Application Review

The authority for approving and denying any development or redevelopment of any land or structures in the permit zone is vested in the regional commissions. All applications to the regional coastal commissions must first be approved by the appropriate local government. This means, for example, that developments in Los Angeles or Santa Monica cities

must have the approval normally required by zoning offices in those cities. If the local city approves a development proposal in concepts, a permit must then be obtained for a permit from the coastal commission.

2.3 Implications of Design Characteristics

Prior to the creation of the coastal commissions land and water use decisions were a function of policies developed by each of the local governments whose territorial boundaries included the Pacific Ocean. The development of the South Coast Regional Commission altered this process as all land and water use decisions made by local governments within 1000 yards of the mean high tide line must be reviewed by the coastal commission. The basic purpose of the new decision-making process created by Proposition 20 was a delegation of authority to a new governmental unit which would allow values publicly declared by the electorate to be reflected in the future development of the coastal zone. To accomplish these objectives, an organizational and decision-making structure was developed that was thought would reflect environmentally oriented views and the wider public interest in recreational development.

Three basic strategies were utilized in carrying out the intentions of Proposition 20. First, the scale of organization selected vested ultimate authority for decision-making in a state commission and six regional commissions. Although each regional commission makes permit decisions, the state commission has the authority to hear appeals of regional decisions and can reverse or alter the requirements of any permit. Second, a system of representation of the state and regional decision-making bodies was designed to reflect a wider public interest in reviewing options for coastal land and water use. This was done at the regional level by appointing at least six commissioners as public representatives joining six representatives of local and county governments. And third, given these characteristics, the design of the commissions assumes that the goals and content of Proposition 20 can be executed through the issuance and denial of permits for development within 1000 yards of the mean high tide line. This means that rather than initiate and fund development itself, the coastal commissions must respond to the initiative of other governmental organizations or actors in the private sector who have authority and resources to undertake coastal development. The commission is in the position of providing a yes, no, or conditional response, depending on its estimation of the extent to which the proposed development conforms to the criteria established by Proposition 20.

The data and analysis which follows is presented to provide information about recreational development in a metropolitan coastal zone and with the goal of testing whether the design assumption of permit review can lead to the protection preservation and extension of recreational opportunities. In this sense, what will be studied here is not the questions of the ability or scale of the organization or the system of representation selected to protect and extend recreational opportunities but, if given these characteristics, can the mechanism of permit review allow the commission to incorporate recreation development in land use pattern emerging from the decisions it participated in.

3.0 Recreational Development and the South Coast Commission

3.1 Summary of Commission Action

The South Coast Regional Commission reviewed 3558 applications for development and use of land and water in the permit zone of Los Angeles and Orange Counties between February 1, 1973 and December 31, 1974. More than two-thirds (67.7 percent) of all permit applications concerned single and multi-family residences. Commercial (10.2 percent), public utilities (6.8 percent), and industrial permits (4.1 percent) accounted for more than one-fifth of the total number of applications received by the Commission. The remaining 11 percent were distributed among recreation, demolition, dredging, and other types of development not described by the preceding categories. Housing, by far, was the dominant type

of development in terms of the number of permit requests. Recreational development was involved with less than 5 percent of applications.

The probability of a permit application being approved was high (94.5 percent). Only 195 of the 3,558 applications were denied. The denials were clustered, with 93.3 percent concentrated in three classifications: multi-family residences (135), commercial (26), and single-family residences (21). Even so, the overwhelming majority of applications in these categories were still approved at the levels of 85.9 percent, 92.7 percent, and 98.3 percent, respectively. It should be noted that this analysis of the number of approvals and denials from administrative records does not deal with questions of whether the small number of rejections is due, in part, to such factors as: 1) changes being made in application specifications to meet stated or implied questions about the acceptability of projects by staff members before a final submission is made; or 2) applicants have submitted only those proposals which they expected to be approved and have withheld others.

TABLE 1
SUMMARY TABLE OF SOUTH COAST COMMISSION ACTION

Project Type	Applica-tions	Acres	Approve		Deny	
			No.	%	No.	%
Commercial	358	912.6	332	92.7	26	7.3
Industrial	145	345.9	144	99.3	1	0.7
Single-Family	1,366	367.0	1,343	98.3	21	1.5
Multi-Family	1,016	699.9	873	85.9	135	13.3
Public Utility	240	260.7	236	98.3	3	1.3
Recreation	147	165.3	144	98.0	3	2.0
Dredging	16	40.5	15	93.8	1	6.3
Demolition	123	244.5	120	97.6	2	1.6
Other	1,103	87.9	99	96.1	3	2.9
Total	3,514	3,133.3	3,306	94.4	195	5.5

3.2 Recreation Development in a Metropolitan Coastal Zone

The "Summary Table" is presented to provide a general orientation to the level of activity in the coastal zone studied as well as the relative mix in the kinds of proposals presented to and approved by the South Coast Commission. To accomplish the objectives of this analysis, a much finer analysis of the recreation permits granted must be undertaken. While this will be done it should be noted that the data does not allow a specific measurement of which projects have actually been executed. Budget cutbacks or decisions to postpone activity are not recorded. This is an obvious limitation in the data but does not really affect the primary undertakings of providing a description of the kind of proposals approved for development of recreational facilities in an urban coastal zone and analysis of the kind of recreational outcomes likely under a coastal management agency with a specific set of powers.

3.2.1 Recreation Projects Approved: Marine Dependent and Marine Related

The "Summary Table" also provides a broad review of the recreational projects reviewed and approved by the commission. As indicated earlier, this kind of breakdown needs substantial refinement for critical analysis. Table 2 reviews the characteristics of each recreational project in terms of whether the project was marine related or marine dependent. A majority of the projects approved by the commission were marine related. Of the 180 projects that could be considered recreational, 38.9% involved marina or beach facilities. The remaining 110, while enhanced by their location within the permit zone, were not solely dependent on proximity to the water for their recreational value. Table 2 also

indicates that 77.2% of all recreational projects were public in nature. There was a concentration of new recreation facility development, 92.5%, in the marine related category. Finally, just over one-third of all recreation projects, 35%, involved no admission charge or direct cost for use of the facility.

3.2.2 Location of Projects

The South Coast Commission has authority for development and use of land and water landward for 1000 yards from the mean high tide line and seaward for 3 miles. As might be expected, those activities which could be described as marine dependent were concentrated in the area nearest the water. A total of 79 recreation projects were approved by the South Coast Commission within 50 yards of the mean high tide mark. Of these 79, 65 or 82.3% were projects that would be described as marine dependent. Twenty-five of these permits for development of marine-dependent activities, however, involved maintenance to marina facilities; only 20 represented new marine facilities. There were 13 permits for development of beach facilities, but three of these permits were for restrooms and one permit allowed development of concessions.

Two of the permits, 25%, for development of land 50 to 100 yards from the mean high tide line were for marine dependent activities. The remaining 6 permits were for swimming pools or maintenance work. In the remaining 900 yards of the Commission's jurisdiction, there was only one permit for development of marine dependent facilities. Table 3 describes the location of various recreational projects.

3.2.3 Development and Redevelopment

Almost a majority of the recreational projects approved by the South Coast Commission, 43.7%, actually involved the redevelopment of land already used for recreational activities. A total of 40.7% of the recreational permits involved land that was previously vacant. The remaining 21 permits involved conversion of land from residential, commercial and utility uses to recreational uses.

The greatest concentration of the redevelopment of existing recreational facilities took place in the land nearest the water. Of 82 projects, 41 or 50% were redevelopments. In contrast, less than 5% of the recreational projects more than 100 yards from the water and only 4.5% of the recreational projects 500 yards from the water were redevelopments of land already used for recreation.

The zone nearest the water also had the lowest concentration of development of vacant land for recreational uses, 34.1%. More than half of all recreational projects located between 100 and 500 yards of the mean high tide line were developments of vacant land.

3.2.4 Recreational Opportunities: Pre-Existing Patterns

A complete consideration of recreational development during the period in which the South Coast Commission was involved in the decision-making process for development and use of coastal land and water should include a review of facilities existing prior to the creation of the commissions. These facilities would not only indicate the level of recreational opportunities already available, but identify which kinds of activities exist and which levels of government have been involved in provision of recreational facilities.

In 1970, the Department of Navigation and Ocean Development of the State of California prepared a Comprehensive Ocean Area Plan (COAP) detailing land use along the coastline of California. Utilizing aerial photography techniques, the Department prepared a complete acreage index of land uses in a strip one-half mile wide along the coast of California. The result was the most comprehensive index of land use in an area extending almost 900 yards landward from the mean high tide line.⁹

The aerial photographs of the Department of Navigation and Ocean Development reported the use of 3,436 acres in Los Angeles County and 3,098 acres in Orange County for recreational activities. The 3,436 acres in Los Angeles represented 9.5% of all developed coastal land. The 3,098 acres used for recreation activities accounted for 23.4% of all developed land along the coastline of Orange County. Taken together, 12.8% of all developed coastal land in the South Coast region was used for recreational development.

TABLE 2
MARINE RECREATION DEVELOPMENT: SOUTH COAST COMMISSION, 1973-74

Type of Activity	Characteristics									
	Total	Public	Private	No Admission Charge	Fee Charged by Public Agency	Fee Charged by Private Agent	Maintenance	Capacity Expansion	New Facility	
Marine Dependent	70(38.9%)									
Marina Facilities	41	36	5	0	36*	—	20	15	6	
Beach Facilities	29	29	0	29	—	—	15	12	—	
Marine Related	110(61.1%)									
Park Facilities	28	28	0	28	—	—	17		11	
Tennis Courts**	28	10	18	—	3	7		7	28	
Restaurants***	26	26	—	—	—	26			19	
Swimming Pools	18	—	18	—	—	—			18	
Bicycle Paths	6	6	0	6	—	—			6	
Museum	2	2			2	—			2	
Hotels	2	2			—	2		1	1	

* Included in this figure are all lease management programs privately run with public agency approval.

** 16 of the 28 tennis court proposals were classified as commercial permits by the commission.

*** All permits for restaurant development were classified as commercial permits by the commission.

Looking at the pre-existing recreational facilities shows interesting differences between Los Angeles and Orange Counties. While marine dependent recreational activities constitute a majority of all recreational facilities in both counties, 75.9% in Los Angeles County and 74% in Orange County, marinas constitute a larger portion of the marine dependent facilities in Orange County, 41.4%, than in Los Angeles County, 21%.

The distribution of recreational facilities and activities indicates a wide array of participants in the planning and operation of recreational facilities. Marinas and beaches in 1970 were operated by local and county governments as well as state agencies. These were also a number of commercial facilities providing recreational opportunities that were owned and operated by private individuals.

4.0 Recreational Development and Coastal Zone Management: Policy Issues

Regulation of the future development of the coastal zone with a goal towards preservation and extension of recreational facilities is an area in which public policy options and proposals are emerging rather than settled. In an effort to provide a more secure base from which to discuss potential policies, this study established a goal of presenting an empirical record of recreational development along a metropolitan area's coastal zone. The preceding tables and discussions not only accomplish that objective, but appear to identify several crucial policy questions deserving closer scrutiny and additional discussion.

4.1 Recreational Development, 1973-74

The "Summary Table" and the discussion in section 3.2.3 indicated that a number of recreational projects were re-intensifications or redevelopments of existing facilities. To actually measure the changes in land use for recreational activities, two operations must be performed. First, the acreage of all recreational projects approved should be recorded. Second, from this total, the amount of acreage reported as recreational in describing the present use of land before new development began must be subtracted. The resulting figure indicates the net increase or decrease in land used for recreational activities.

The data from the commission's files indicates that it approved permits developing recreational facilities on 167.9 acres. However, these records also indicate that 134.7 of these acres were already classified as being used for recreational purposes. While it is possible that several of the permits redeveloping recreational land actually increased the capacity of existing facilities, subtracting the present use figure from the recreational acreage approved indicates a net gain of 33.2 acres. Table 5 illustrates the net changes of all type of projects approved by the commission and indicates that for every recreational acre added to the South Coast region, 28 acres of residential facilities were developed.

4.2 Public Recreation, Marine Dependent Facilities and Project Location

The "Summary Table's" itemization of public and private recreational development also raises a series of policy questions revolving around the issue of the kind of proposals approved, their location, and the general characteristics of the population likely to utilize the facilities. Looking only at the facilities open to the general public and those closed to the public indicates a substantial majority, 77.2%, were designed for the general public. A closer look at these "public" facilities, however, raises interesting issues.

In the category of projects classified as marine-dependent, 35 or 53.8% were maintenance programs, and 9 of the capacity expansion projects simply constructed restroom facilities. The grouping with the greatest number of permits creating new facilities within the projects classified as marine dependent is labeled "marinas." Although these facilities would be available to the public, their benefits could be seen to be concentrated among individuals able to afford marine craft. As this group could only be considered a small minority of the potential population of marine recreation users, it would appear the new marine-dependent recreational developments approved in 1973-74 actually served a small segment of the coastal zone's user clientele.

TABLE 3
 "LOCATION OF RECREATIONAL PROJECTS"

Projects	Less Than 50 Yds.	Distance from Mean High Tide Line			Total
		50-100 Yds.	100-500 Yds.	500-1000 Yds.	
Marina Maintenance	25				25
% Row	100				
% Column	31.6				
New Marina Facilities	25				25
% Row	100				
% Column	31.6				
Beach Development	—	1	1	1	3
% Row	—	33.3	33.3	33.3	
% Column	—	25.0	5.0	5.6	
Beach Maintenance	13	1			14
% Row	93.0	7.0			
% Column	16.5	25.0			
Park Development*	7		2	3	12
% Row	58.3		16.6	25.0	
% Column	8.9		10.0	16.7	
Park Maintenance	3	2	8	3	16
% Row	18.8	12.5	50.0	18.8	
% Column	3.8	25.0	40.0	16.7	
Swimming Pools	3	4	6	4	17
% Row	17.6	23.5	35.3	23.5	
% Column	3.8	50.0	30.0	22.3	
Tennis Courts	3		3	7	13
% Row	23.1		23.1	53.8	
% Column	3.8		15.0	38.9	

*Includes bike trails and golf courses
 missing observations: 22

**TABLE 4
“DEVELOPMENT AND REDEVELOPMENT OF RECREATIONAL LAND”**

Present Use at Time of Permit Application	Less than 50 Yds.	Distance of Recreational Project from Mean High Tide Line			Total
		50-100 Yds.	100-500 Yds.	500-1000 Yds.	
Vacant	28	5	11	10	54
% Row	51.8	9.3	20.4	18.5	
% Column	34.1	50.0	55.0	45.4	
Residential	9	1	2	2	14
% Row	64.3	7.1	14.3	14.3	
% Column	11.0	10.0	10.0	9.1	
Commercial			2		2
% Row			100.0		
% Column			10.0		
Recreational	41	4	4	9	58
% Row	70.7	6.9	6.9	15.5	
% Column	50.0	40.0	20.0	40.9	
Utility	4		1	1	6
% Row	66.7		16.7	16.7	
% Column	4.9		5.0	4.5	

Turning to the marine-related facilities additional, as well as similar, policy issues emerge. In only one category where admissions fees are not charged, bicycle paths, were a substantial majority of the permits for development of new facilities. Of the 28 permits for parks, 60.7% involved maintenance and all of 28 tennis court projects, which were new developments, were either private in nature or charged admission fees. While these fees may not have been substantial they still raise the costs of participating in recreational activities in the coastal zone.

4.3 Organizational Structure and Outcomes

The regional coastal commissions in California were established to pursue a set of objectives including protection of scenic and marine resources, wildlife, and the marine environment. Section 27001 of the initiative declared the coastal zone is a resource belonging to all citizens. The pursuit of the objectives contained in Proposition 20 placed the coastal commissions in the position of trying to adjudicate the conflicting demands for use of coastal lands and producing a land use pattern that could satisfy a complex set of demands articulated by different groups. The demands for use of coastal land as sites for residential, commercial, or certain types of recreational development came from certain groups whose demands can be seen to be related to market criteria. That is, these developers sought to produce the kind of land use patterns that would meet the demand for coastal land use articulated in the market place. This would have meant the creation of high cost residences, private recreational opportunities, and various types of commercial activities. The coastal commissions were charged, it appears, with not only evaluating market pressure in making their decisions about coastal development, but including in their decision making structure a set of non-market criteria relating to protection of the coastal environment and production and protection of recreational opportunities for all citizens regardless of income.

The coastal commissions in California have entered into the conflict between free market pressures and public recreation but the data presented may indicate they were designed without a set of tools capable of responding to and competing with the pressures of the market. The South Coast Regional Commission cannot, for instance, order specific developments, but must respond to initiatives and actions taken by other levels of government. Each proposal for a permit from the commission must have the approval of a local or county government and no proposal denied by the appropriate local government can be reviewed by the coastal commission. Given this structure, the coastal commission may be in a position where it can indicate the type of development it would prefer to see but not in a position where it can specify what developments it would approve for certain sites. The ability to refuse to grant a permit for any residential, commercial, or industrial development in an area where the commission would want to develop a public recreational facility is an option available within the present organizational structure. Exercising this option can lead to adverse or unproductive outcomes. First refusal to approve any one of a series of options for a particular site viewed favorably by a local government would appear to create an atmosphere of intense conflict between the coastal commission and this local government. As the coastal commission only regulates a 1000 yard zone, several of its policies, for complete implementation, may require the cooperation and support of various local government surrounding this 1000 yard zone. Forcing conflict between coastal agencies and local governments will not produce the kind of cooperation necessary to execute several aspects of a commission's policies. Second, and perhaps more importantly, the continual refusal to grant a permit for residential, commercial, and industrial development where the coastal commission finds it desirable to develop a public recreation facility is, by itself, not a guarantee that a recreational proposal will be presented. A local government or a developer may continue to offer the commission variations on the original proposal or decide to wait until the commission's view changes. From the developer's perspective—profitable use of land—and the local government's perspective—increasing the tax base to lower tax rates—keeping land vacant may be a position more preferable to development of a public recreational facility.

In addition to being designed as an agency reacting to initiatives taken by other levels of government, the coastal commissions in California were not given a financial base that could have been used to stimulate investment. Further, the coastal commissions do not have the power to provide tax incentives for recreational development relative to construction of residential or commercial projects. If it is more profitable for developers and local governments to have commercial and residential facilities developed, it may be unrealistic to expect any significant change in number or type of recreational projects reviewed and approved by the South Coast Commission.

The development of a coastal management agency with design characteristics that require the agency to react to initiatives of other public and private actors and which does not have a financial ability to undertake certain kinds of development or the authority to create tax incentive for particular kinds of development, may result in the maintenance of existing public recreational facilities—protected by the commission's ability to veto any suggested changes—but extremely limited development of new facilities. Private investment funds will continue to be attracted to more profitable outlets which cause the least opposition from a regional commission that reacts to public and private actors' initiatives. This may mean extensive commercial residential development in the land nearest the water. What commercial projects could be described as marine related recreation will benefit those citizens able to afford these activities at these facilities.

4.4 Recreation, Access and Coastal Commission with Permit Authority

The policy options available to a coastal agency with powers similar to the South Coast Commission to expand public recreational facilities and increase access to the coastline would appear to be limited. The authority to review and sanction development proposals establishes a veto power, but not the authority for dictating any type of development for a specified region. This may require a commission to consider alternative policies for expanding recreational opportunities.

A policy approach for a commission designed with characteristics similar to the South Coast but wishing to have an impact on public recreation might involve a coordination of activities with local and regional transportation agencies. The objective of these approaches would be to lower the costs associated with reaching marine facilities to populations unable to cope with the existing transportation costs. This kind of a program can insure maximum use of existing recreational facilities during non-peak periods and thus expand the size of the population serviced by existing facilities. This kind of policy approach under the design structure used in California requires a set of negotiations with appropriate local and regional agencies as the commissions do not have the authority to require changes in transportation policy.

The South Coast Commission, or any regional commission with similar powers, can also protect recreational opportunities through a continuous careful scrutiny of the implications for access of any pattern of developments in relationship to the proximity of the project to the water. Remedies for restricted access by any project should be sought. Another possible policy approach revolves around the location of recreational projects within the permit zone. Projects placed near an agency's permit control boundary would seem to require closer coordination with existing local governments to insure development of parallel policies for maximum utilization. For instance, if the South Coast Commission approves a park 950 yards from the beach, and the neighboring local government places a 400-unit housing project 51 yards from the park, there may be access problems for non-residents. Placing the same park 50 yards from the beach insures coastal commission control over land surrounding the park that could be put to a use that increases, rather than reduces, recreational opportunities.

4.5 Organizational Characteristics for Coastal Recreation Development

The experience of the South Coast Regional would appear to indicate that a coastal commission created with the objective of expanding public recreational opportunities for use of marine dependent and marine related facilities would require a set of organizational

characteristics different from the powers granted. It may not be possible, however, to prescribe the exact powers that would be effective for any coastal commission. Defining the exact and appropriate characteristic that would allow an agency to effectively preserve, protect, and expand recreational opportunities might be directly related to the particular area managed. However these specific design features would appear to fall into one of the following two categories.

4.5.1 Designation of Recreation Sites and Financial Strength

If a coastal commission is created to expand recreational opportunities it would be of particular value to design the commission with the authority to designate certain areas as sites where only public recreational development would be allowed. This authority might be concentrated in land nearest the water, but its existence would, at least, remove the designated parcel from consideration for any use but public recreation by local governments and developers.

The power to designate recreational development areas is not, by itself, sufficient to guarantee recreational development if the coastal commission must await action by other public or private agencies. It would seem beneficial to associate with a power of designation the ability to purchase the land at market prices to insure against inverse condemnation for existing owners¹⁰ and actually construct facilities. These characteristics for a coastal commission might mean consideration be given to moving aspects of marine recreation now associated with other state agencies to the commissions. A shift in resources might provide the flexibility for a coastal commission to develop public recreational facilities.

4.5.2 Tax Incentives

If private development of public recreational facilities is seen as an appropriate method for increasing public recreational opportunities some thought might be given to granting a form of certification authority to a coastal commission. The granting of a certificate by a coastal commission to an agency or developer creating a public recreational facility could be tied to a kind of income or property tax exemption. If substantial enough, this exemption could be sufficient to make after tax profits from recreational development competitive with profits now existing for residential and commercial developments.

The consideration of these kinds of proposals for organizational characteristics might increase a state's financial burden. However, without these kinds of powers, it seems unlikely that public recreational development of coastal lands can be achieved by a coastal commission. How these extra dollars would be raised is another question beyond the scope of this paper. But there may be some interest in exploring the creation of a permit application fee structure for individuals seeking to develop private facilities in the coastal area. Income from these fees could be used to finance development of recreational opportunities that guarantee the larger public's right to use the coastal zone.

5.0 A Concluding Note

The development of recreational facilities along the coastline of urban areas appears to be a goal commonly included in discussions of coastal zone management. Achieving this goal, however, will require the development of varied base of data that describes; 1) the recreational needs of existing populations; 2) the future recreational needs of an urban community; and, 3) the organizational structure of public agencies charged with the protection, preservation, and extension of recreational activities. This discussion has focused its attention on the third point and suggests the power of permit regulation, by itself, is unable to foster the development of new marine recreation facilities thought frequently to be needed by an urban population.

This conclusion is especially important not only because interest in marine resource management exists in most, if not all, states, but in light of the kinds of goals coastal zone management agencies are apt to identify for themselves. In its recreational plan for the future of the South Coast region the coastal commission declared for itself the goal of

providing "a wide range of recreational alternatives and . . . [a maximization] of the recreational potential of the coastline. . . ."¹¹ The South Coast Commission also wanted "To allow the widest spectrum of all economic groups to enjoy the coast. . . ."¹²

These, and other goals included in the *Recreation Element for the South Coast Commission* established a set of valuable objectives for any marine management agency. However, the empirical performance record of one coastal commission suggests the power given the California Coastal Commissions will not foster the kinds of development that will accomplish these objectives.

Itemizing the specific powers and organizational structure for a coastal management agency that will contribute to the development of varied recreational activities satisfying the needs of an urban population is not possible from the research completed here. While certain broad categories of needed powers can be identified the specific responsibilities that will enhance and extend recreational opportunities requires additional work in at least two areas. First, the question of measuring the marine recreational needs of urban population needs to be discussed at length. There would appear to be value in developing a set of indicators capable of reflecting the recreational needs of different groups within an urban region. Second, empirical studies of the performance of coastal management agencies must be carefully produced to allow a consideration of the outcomes evident under different sets of organizational characteristics. Without research in both of these areas, the ability of coastal zone management to protect, preserve, and increase marine recreational opportunities for all segments of urban populations may be no greater than chance.

¹ Commission on Marine Science, Engineering and Resources, *Our Nation and the Sea* (Washington, D.C.: U.S. Government Printing Office, January, 1969); Zigurds L. Zile, "A Legislative-Political History of the Coastal Zone Management Act of 1972," *Coastal Zone Management Journal*, 1, No. 3 (1974), pp. 235-274; Earl H. Bradley, Jr. and John Armstrong, *A Description and Analysis of Coastal Zone and Shorelands Management Programs in the United States*, University of Michigan Sea Grant Program, March, 1972).

² Mitchell L. Moss, "The Urban Waterfront: The Social Implications of Technological Change," *Coastal Zone Management Journal*, Volume 2, No. 3.

³ Bradley and Armstrong, *op. cit.*

⁴ Zigurds L. Zile, *op. cit.*

⁵ Robert G. Healy, "Saving California's Coast: The Coastal Zone Initiative and Its Aftermath," *Coastal Zone Management Journal*, Vol. 1 No. 4 (1974), pp. 365-394.

⁶ Michael J. Robbins and Marc J. Hershman, "Comments: Boundaries of the Coastal Zone—A Study of State Laws," *Coastal Zone Management Journal*, 1, No. 3 (1974) pp. 305-331.

⁷ Dion G. Dyer, "California Beach Access: The Mexican Law and the Public Trust," *Ecology Law Quarterly*, Volume 2, (Summer 1973), pp. 571-612; Eckhardt, Robert C., "A Rational National Policy on Public Use of the Beaches," *Syracuse Law Review*, (Summer 1973), pp. 967-989; D. David Branden, "Integrating Recreation and Open Space Facilities into Urban Development Projects," *Syracuse Law Review*, (Summer 1973), pp. 929-934; Daniel A. Degnan, "Public Rights in Ocean Beaches: A Theory of Prescription," *Syracuse Law Review*, (Summer 1973) pp. 935-966; Raphael J. Moses, "Water As A Tool for Recreational Land Use Planning," *Syracuse Law Review* (Summer 1973) pp. 1047-1056; Romero and Schenkel, "Saving the Seashore: Management Planning for the Coastal Zone," *Hastings Law Journal Stanford Law Review*, Volume 24, (Summer 1973), pp. 564-586; Sax Joseph L., "Emerging Legal Strategies: Judicial Intervention," *Annals of the American Association of Political and Social Sciences* (May 1970) pp. 71-76.

⁸ Abbott L. Ferriss, "Social and Personality Correlates of Outdoor Recreation," *Annals of The American Association of Political and Social Sciences*, (May 1970) pp. 46-57; Miller and Robinson, *The Leisure Age* (California: Wadsworth Publishing Company, 1963); Rodney, Lynn S., *Administration of Public Recreation* (New York: Ronald Press Company, 1964); Clawson and Knetsch, *Economics of Outdoor Recreation* (Baltimore: Resources for the Future, Inc., 1966); Oppenheimer and Miller, "Environmental Problems and Legislative Responsibility," *Annals of the American Association of Political and Social Sciences*, (May 1970) pp. 77-86; Anderson and Bonser, "Allocation, Congestion,

and the Valuation of Recreational Resources," *Land Economics*, (February 1974) pp. 51-58; Everett, Michael D., "Roadside Air Pollution Hazards in Recreation Land Use Planning," *Journal of the American Institute of Planners*, (March 1974) pp. 83-89; Ketchum, Bostwick H., editor *The Water's Edge: Critical Problems of the Coastal Zone* (Boston: M.I.T. Press, 1972); Symonds, Phillip J., *Equity and Efficiency in State Coastal Resource Management: An Application to Urban Recreational Boating Policy* (Los Angeles: University of Southern California Sea Grant Program, 1975); Moss, Mitchell L., *Urban Coastal Resource Management: Public Ownership and Leasing As A Development Mechanism*. Unpublished doctoral dissertation, University of Southern California, 1974.

⁹There are some limitations involved with the COAP data. First the aerial photographs covered only 900 yards of the permit zone and not the 1000 yards now considered the permit zone. Second, the COAP data predates the coastal commission by three years. Still, for comparative purposes, the COAP inventory is the best tool available. However, the limitations should not be overlooked.

¹⁰An excellent consideration of condemnation is contained in Miller, Douglas K., *The California Coastal Zone Conservation Act: Cases and Controversies, 1973-74* (Stanford: Stanford Environmental Law Society, 1974).

¹¹South Coast Regional Commission, *The Recreation Element for the South Coast Region* (Long Beach: South Coast Commission, 1974) pp. xvii.

¹²*Ibid.*, p. xviii.

MEETING THE URBAN NEED FOR MARINE RECREATION

*William Kornblum**

When Gateway National Recreational Area opened in the summer of 1974, it represented a major attempt by the National Park Service to bring "parks to the people." To the 20 million residents of the nation's largest urban area, the Park offered unique natural and recreational resources—26,000 acres of beaches, sand dunes, marshes, wetlands, islands, and historical forts. From the outset, however, it was apparent that 1) the long-term success of Gateway would depend on its accessibility from all parts of the region, and 2) the existing regional transportation network could *not* accommodate the Park's present and projected visitor demands for such access. Because the Park Service felt that the transportation systems serving the Park must provide visitors with inexpensive, efficient, and comfortable access to the various units and activity centers of Gateway, the Park's planners—in cooperation with the New York City Department of City Planning—immediately initiated short and long-range transportation planning. This planning is ongoing.

The metropolitan area is served by a complex of road and mass transit networks that crisscross all portions of the region. However, these systems, primarily accommodating weekday-work-travel to and from the metropolitan core, do not adequately serve the Park's visitors. Gateway remains relatively inaccessible to large numbers of city residents, especially by public transit. Serious congestion on the major arteries serving Gateway occurs on most summer weekends. . . . In several cases, motorists must travel through residential neighborhoods to reach a particular park unit.

* Mr. Kornblum is a Research Sociologist at City University of New York who has worked with the National Park Service New York Gateway Project. The text printed above is excerpted from the Gateway Transportation Study prepared in September 1975.

For those who use public transportation, existing levels of service to the Park areas are unsatisfactory. From most sections of the metropolitan area, double (and sometimes triple) fares, multiple transfers, and excessively long travel times are common. There is no direct subway, rail, or waterborne access to any of the Park units. Bus service is minimal—with only a limited number of routes going directly to Gateway—and, in most cases, the buses travel along the same arterials that are congested with motorists attempting to get to the Park. For the low-mobility, mass transit dependent citizens of the region—the poor, the autoless, the elderly, the young, and the handicapped—access to Gateway is a special problem. The long travel times and multiple transfers tend to preclude or discourage their use of mass transit for travel to and from the Park.

The New York City ferries have become almost as much a part of folklore as the American stagecoach or the clipper ship. Over a period of three centuries, they have provided inspiration for poets, a romantic setting for lovers, and a cool interlude for millions trapped in the steaming city. However, the dominance of waterborne transportation in this region ended in the early 20th century with the completion of the Holland and Lincoln Tunnels and the George Washington Bridge. Today, although the ferries remain a valid part of New York City's transportation system, the importance of ferry service for access and circulation has greatly declined.

In the last decade, several attempts have been made to apply newly available technology to waterborne transportation, including hydrofoil and hovercraft commuter services. These experiments were marred by complaints of excessive noise and spray, and were ultimately abandoned due to lack of public use.

At present, there is no direct waterborne service to any of the Gateway units. However, within the region, waterborne services and facilities exist that have the potential for Gateway application. Along the waterways of the region, many existing docking facilities could be developed as staging areas, and present operators of waterborne services have expressed a willingness to explore the possibility of providing access to Gateway.

The description of the present transportation system provides an overall view of access to Gateway and an overview of the components that make up travel to and from this recreational resource. More important for the transportation and Park development planning process, however, is the ability to understand the dynamics of travel to the Park, including visitor trip origins, modal preferences, socio-economic characteristics of present Park users and user recreational characteristics. In order to begin to understand these dynamics, a comprehensive Gateway User Survey was conducted during the summer of 1974.

Although Gateway is considered a regional recreational resource, at present it basically serves as four local parks. Present visitation rates to all the units of Gateway tend to decrease with increased distance from the Park and those communities within proximity of the Park with similar, but closer, competing facilities exhibit very low visitation rates.

Significantly, regardless of the public transportation serving a given Park unit, the dominant mode of access is the private automobile. When an automobile is available for the trip to Gateway, it will be used almost 99 percent of the time.

The (user survey) data indicates that travel cost, by itself, does not act as a major constraint to present Park users arriving by automobile. With the exception of bridge tolls and the \$1.00 parking fee at Riis Park (a Triborough Bridge and Tunnel Authority facility), auto users incur no out-of-pocket transportation expenses, exclusive of gasoline costs. There are no parking fees at Jamaica Bay, Great Kills Park or Sandy Hook.

Mass transit users, on the other hand, do experience significant transportation costs. Average round-trip costs (for Riis Park) are \$1.60 per person, indicative of the transfers and double fares required to reach the Park. (These costs are based on the fare structure prior to September 1975.) The structure of these charges tend to favor the automobile. Mass transit users pay individual fares. . . .

It would appear from the data that if mass transit is to compete with the automobile for a share of the recreation travel market, it must begin to approximate those characteristics that tend to favor the auto—its convenience, comfort, speed and flexibility. In addition,

incentives to encourage mass transit use and discourage auto use, and mass transit marketing campaigns, must be an integral part of the transportation and Park development plans. . . .

Because present access to the four units of Gateway is inadequate, a wide range of alternatives will be defined for upgrading the transportation system serving the Park. . . . Two major categories of alternatives are being investigated: 1) system modifications, and 2) new services and systems.

Improvements to the existing system are basically operational in nature and limited in their ability to significantly improve accessibility to Gateway. In order to provide quality transportation access to the Park and make Gateway more accessible to a wide spectrum of the region's population, alternative systems must be explored. Various options that have this potential include the following:

The express bus concept, which has proved successful for both commuter service and recreational travel, has the potential of minimizing the disadvantages of the existing mass transit system and thereby offering a competitive alternative to the automobile. In addition, for the low-mobility transit dependent population in the region—particularly the very young, the elderly, the handicapped—direct service is the only feasible mechanism for providing adequate access to the Park.

While existing direct mass transit to Gateway is inadequate, the region does have an extensive bus and rail network that terminates within close proximity to the Park. By providing shuttle services to the activity centers of Gateway from key subway and train stations on the periphery of the Park, the potential visitor is offered a wide variety of mass transit access options. As with system modifications, the institution of shuttle systems can be initiated in a relatively short time when and where a demand or potential demand exists.

Passenger loads on the access corridors to Gateway will substantially increase as the Park develops. It becomes necessary, therefore, to explore the possibilities available for increasing the effective capacities of the arterials. Bus priority systems will be explored for their applicability to Gateway. Potential systems range from the designation of simple bus lanes at key stretches of the roadway to the development of exclusive separated busways.

Utilizing existing or planned facilities in the region staging areas can serve a dual function. Located at key points, they can act as auto and bus intercept nodes for visitors to Gateway, as well as serving as Park-and-Ride facilities for commuter-oriented transportation. Attractive and efficient staging areas, with imaginative shuttles (ranging from regular buses to electric-powered vehicles) to the activity centers of Gateway, have the potential of reducing the congestion that now plagues the access arterials of all the Park units. Given the travel dynamics of recreationists in the region, however, auto-intercept points will become feasible only when complemented by automobile disincentives to the Park. Such strategies as limited automobile parking at Gateway, parking fees for cars, mass transit priorities on the access corridors, free or nominal fees for the shuttles, must be considered if a reversal in the recreation-auto syndrome is to become a reality. Auto-disincentive strategies are in keeping with National Park Service policy of limiting automobile traffic into its facilities.

Significant demand for one or several of the Gateway units might make feasible the development of fixed guideway systems. The options to be explored and assessed range from extension of existing subway lines to the installation of new technology systems, such as light rail systems or monorails.

Waterborne service is being explored because it offers a most attractive means of access to Gateway. The Park is a water-oriented environment. The extension of this environment to communities in the region is a prime objective of the Access Study. The use of the waterways of the area provides the mechanism for the Gateway experience to begin miles from the actual Park boundaries. A variety of origin and destination options will be developed. Several vessel types will be investigated for their potential application to Gateway.

Bicycle systems have been initiated in many parts of the metropolitan area. This Study investigates several potential bicycle systems for Gateway that will link up with existing or

planned systems in the areas adjacent to the Park. The range of possibilities will include simple bicycle lanes to exclusive separated bikeways.

New access systems such as the utilization by buses, bicycles, or fixed guideway systems, of existing, but abandoned rights-of-way near Gateway will be explored for their access applicability. Several possibilities for "para-transit," or demand-responsive systems may exist for several of the units. Their Gateway access and other-use potentials will be described and presented for possible future analysis.

Given the geographically diverse nature of the Gateway Units and the various elements within each unit, accessibility can not be considered only to the periphery of the Park. Access must be to and from focal areas within each unit. As part of the Study process, therefore, internal circulation will also be taken into consideration.

The various alternatives to be developed ranging from operational modifications to the existing system to the development of totally new access systems are not mutually exclusive. One is not necessarily a substitute for another. If the Gateway transportation system is to provide an equitable and optimal range of access opportunities for all segments of the region's population, a combination of alternatives is required. It is through the selection, refinement, and evaluation of the most amenable set of alternatives that the optimal multi-modal system will evolve.

Many of the transportation alternatives to be developed will not be implementable within the immediate future. However, areas of the park are open to public use today. In order to deal with existing transportation access problems, an Immediate Action Program has been developed which identifies certain critical problems that could be alleviated immediately with no major capital expenditures. These problems included such things as traffic congestion, parking deficiencies, inadequate transit facilities, service problems at transfer points, and inadequate signage.

WATER SPACE COMPETITION PROBLEMS

*Frank T. Moss**

A problem of marine recreation management that does not get much attention, but that is starting to become serious in many areas, is that of competition for the use of water space among recreational users, and between recreational users and others.

A nationwide survey by the U.S. Coast Guard last year reveals that 6.6 million households own 8.3 million recreational boats, of which over 53 per cent are outboards. Three-fourths are motorized and 96.1 per cent are under 26 feet long.

Seventy-eight per cent of U.S. households use their recreational boats most frequently for fishing. The next most popular activity is cruising and sailing, claiming 62.8 per cent of the participants. Obviously, many people combine fishing with cruising. Other important boat uses include water skiing, swimming, competitive sailing, racing, and a surprising amount of domestic living.

Recreational boating has become a tremendous effort involving millions of people. Competition for prime fishing, sailing, cruising, and watersport space is unavoidable, espe-

*Mr. Moss is Associate Editor, Yachting Magazine. He was unable to attend the conference but provided us with this text.

cially in those areas where great crowds of people try to get out onto the water during peak holiday and vacation periods.

What are the most pressing waterspace competition problems, and what can be done to alleviate them? Let us take a quick look at some outstanding examples with an eye to sizing up the chances that solutions to these problems may be found.

One of the most highly visible types of competition for waterspace is the running fight between sport and commercial fishermen, such as is witnessed on the beaches of Long Island and Cape Hatteras on the Atlantic shore. Another example is the confrontation between native Indian and non-Indian fishermen over Pacific salmon.

In the East, the conflict is over whether striped bass shall become game fish, not subject to commercial harvest or market. In New York State the problem may be solved if sport fishermen are able to muster enough political power to get a striped bass game fish bill through the Legislature and signed by the Governor.

On the Hatteras beaches of North Carolina, the situation is different. The primary site of conflict is along the beaches of Hatteras National Seashore under federal jurisdiction. Resolution of the quarrel there will come only after federal regulations are worked out to divide the available fishing space and time equitably between the contenders, clearly defining who may catch what fish, when and where.

In the Pacific Northwest, the hassle over the court decisions enforcing a liberal interpretation of old treaties giving native Indians fishing rights in perpetuity is viewed with considerable alarm. Officials of some state fish and game departments go so far as to say that the work of their departments may be completely wrecked if some sort of restriction is not placed on the salmon fishing of the Indians.

In this unfortunate, complex confrontation the only immediate recourse appears to be a less liberal interpretation of the old treaties by a higher court. If the U.S. Supreme Court refuses to review the fishing treaty cases, or finds the decisions of the lower courts to be correct, the Pacific salmon water-use problem may not be resolved until the salmon are exterminated.

An entirely different type of competition for water use takes place periodically in small waterways that are increasingly being used as avenues of movement by boats going from a berthing or other base of operations to a larger area for fishing, sailing, or watersports. Typical of this kind of chronically overcrowded waterway is the lower Manistee River of Michigan on weekends and holidays of late summer and autumn during the annual salmon runs.

Anglers come by tens of thousands, bringing boats on trailers or car-top carriers. By count, as many as 5,000 individual boats may pass between the breakwaters at the mouth of the river between dawn and noon. The big problem along this section of the Lake Michigan shore is a lack of navigable waterways entering the lake near the portions of the lake where the salmon congregate. Many other areas share this problem with Lake Michigan.

The problem of overcrowding on the Manistee River and similar narrow, popular waterways may be a self-limiting one in the end. People who arrive late and have to fight their way through a rubrail-to-rubrail phalanx of boats, and then have to battle swarms of boats for every fish that is hooked, may decide to try another fishing spot or give up the idea of fishing altogether.

In the Michigan area, courteous but firm control of launching and water traffic by the Coast Guard and local law enforcement agencies has reduced physical boat friction and human bad temper considerably. But there are definite limits of traffic on many bodies of water like the Manistee River. Carefully and realistically prepared traffic regulations plus widespread and continuing public education will be needed to keep traffic moving through congested areas with minimum inconvenience and maximum safety.

A third type of competition for waterspace is the shortage of suitable waterfront space for marinas and other service industry installations. In many urban or exurban regions, lack of berthing space for new boats is a definitely limiting factor on sales of boats and equipment.

This problem appears to be a politico-economic one. Some municipalities have spent

large sums to create public boat service facilities. Most of these operate at a profit. But public facilities of this kind often draw the fire of private boat service operators who view these public facilities as direct and unfair government-subsidized competition with their private enterprises.

Complicating the problem of lack of boat service shore facilities is the requirement of the National Environmental Protection Act that most new waterfront-using industries must file an environmental impact statement before the application can be reviewed or permission granted to build.

Lack of boat service space in many prime marine recreation areas acts as a sort of de facto form of limited entry on those who would like to participate in local or regional boating, fishing, and similar water recreation. As time goes on, this hidden but nevertheless effective form of limited entry may become a strong brake on the growth rates predicted for marine recreation in some areas.

One solution appears to be to encourage the building of quality shoreside boat service facilities in outlying regions within easy land transportation range of major population centers. Unfortunately, many communities and local residents do not look with favor on the "development" of local waters that now are relatively free of boat traffic and heavy marine recreation user pressure.

One of the toughest types of competition between users of recreation waters is that involving practitioners of marine recreation whose activities are sometimes mutually antagonistic. Take for example the ire that bursts forth among a group of quietly anchored small fishing boats when a large, fast motor yacht goes steaming by at high speed, or water skiers invade the territory.

Fishing usually requires quiet water. Most fish can tolerate slow boat traffic that makes low-volume noise in the water, but the quickest way to spoil good fishing is to run fast boats over the grounds. Water skiers, on the other hand, depend on speed and plenty of obstruction-free water for success in their sport.

A few cruising sailors regard anchored fishing boats as just so many more obstacles to their progress. Race committees are often hard put to keep posted race courses clear of interlopers. Arguments between would-be users of waterspace sometimes reach the bottle throwing stage.

Competition between like users of recreational water can best be regulated by a combination of public education and firm but fair local water use regulations. Public education is often decried as being a waste of time, but the experience of the U.S. Coast Guard in attempting to educate the boating public in water safety has paid off in falling rates of fatalities and a generally higher degree of appreciation of the hazards of marine recreation among boat owners.

As for specific regulations, these have to be tailored to the requirements of each locality, but can contain elements of the following points:

1. Channels and areas designated for through traffic should be clearly marked and adequately patrolled.
2. Speed limits should be realistic in terms of boat-wake and ability of various classes of boats to stop quickly in an emergency.
3. Special areas for water skiing and organized racing should be assigned and clearly marked.
4. Areas set aside for fishing should be away from major traffic routes. Maximum speed limits should be displayed and enforced.
5. Supervision of such areas should be vested in the most logical local, state, or regional authority with the complete cooperation of the U.S. Coast Guard and whatever state or federal agencies that may exercise jurisdiction.

There is pressing need for careful evaluation of the potential of many specific marine recreation areas to carry traffic and be available for recreation uses. Each marine recreation area has its own full potential of use beyond which the quality of experience begins to

deteriorate. It is most important that the quality of experience of marine recreation be kept as high as possible.

People who fish, sail, cruise, swim, waterski, and just fool around on the water look to aquatic recreation as a release from the tensions and pressures of everyday life. Quality of experience, not quantity of added tension, is what makes this recreation attractive. Experienced sailors, cruisers, fishermen, and watersport lovers are quite willing to participate less frequently if necessary if their recreation experiences are of higher quality.

These remarks are not intended to suggest that water sports and marine recreation be limited to an elite few. Rather, they are intended as a reminder that quality of experience is quickly lost whenever overcrowded, undisciplined conditions develop and grow out of control.

Right now we have a golden opportunity to set the stage for management of marine recreation on our inland lakes and rivers, our coastal waters, and on the adjacent high seas, to guarantee maximum freedom of choice and quality of experience for the immediate and more distant future.

This kind of opportunity does not come often. Let us make the most of it while our marine habitats and their living resources are still healthy and plentiful.

RAPPORTEUR'S REMARKS

*Rochelle Braly**

The title of our panel was "Availability—Nearness is not Enough", which I interpreted to mean that the beaches are there, but getting to them is a problem.

Our panelist moderator was Fred Jones who is Assistant Director of the Bureau of Outdoor Recreation. Speakers were Marc Rosentraub, Assistant Professor at the Institute of Urban Studies, University of Texas at Arlington; Dick Milovich, Director of Parks and Recreation, South San Francisco; and Bill Kornblum, who is a regional sociologist for the National Park Service and an Assistant Professor at the Graduate School, City University of New York.

Mr. Jones led off the discussion with the point that public recreation should have equal weight in state and local planning with commercial and residential and industrial planning and that federal agencies should evaluate all their public holdings in terms of public recreation use of their land.

He asked state and local government to look at the money within the Land and Water Conservation Fund for possible acquisition of beaches, and he also asked for private non-profit groups to hold property until there was acquisition money to acquire it.

He said that public policy needs to address the problem of access because private development has blocked it either because of intended or actual shoreline development. He urged all the states to adopt legislation that would be modeled after the Texas Open Beaches Act, which would clear the beaches to be public communes and ensure the public's right to beaches and the shoreline. This opens a Pandora's box of legal problems, but he stressed that that should be the intent of state legislature.

He also said that access can be acquired through dedication across public lands, through acquisition of access rights across private property and donations from private

*Ms. Braly is a freelance writer and editor who has recently prepared a series of publications focusing on the California Coastal Plan for the USC Sea Grant Program.

interest groups. All statutory requirements blocking public access to the beaches should be removed.

Marc Rosentraub, who recently moved from the University of Southern California, suggested the need to give public recreation equal weight in the permit processes of the California Coastal Commission. He tried to show that the permit review power does not really allow an active role in promoting public recreation. The Commission primarily is a regulatory body for permits that come before it, but does not initiate coastal projects.

Most developers are interested in either residential or commercial development so the Commission is mostly effecting changes in the residential and commercial character of the coast. What the Commission does do is deny the development of key parcels that it considers essential to the future of public recreation. It can veto developments it considers to have an adverse environmental impact or those which block planning options. That creates bad feelings among the developers who hold the property and pay taxes on it, and also for local jurisdictions who lose the revenue that would come from the development of the property.

Mr. Rosentraub's position is that the Coast Commission needs additional tools, the power to acquire property and develop it and possibly the power to give the developer a tax incentive in order to promote public recreation.

Mr. Milkovich described a marina project for the residents of South San Francisco. It is an industrial city with a rich tax base but poor in terms of recreational opportunities. This marina is the only one in the state being financed by gas tax funds from boaters for the express purpose of development. He used the marina as an example of the ideal combination of public recreation and fiscal responsibility. The marina has been the result of 33 months of planning, has had the approval of 40 agencies, both public and private. It is awaiting the final approval of the Conservation and Development Commission. The revenues from the marina would be about a million dollars per year with \$200,000 to the city. The marina fulfills recreational needs as well as private property rights. Private developers are being encouraged to develop adjacent areas compatible with the recreational use of the marina.

Bill Kornblum discussed urban needs, but his problem is far greater than that of South San Francisco. He was talking about the problems of Newark, New Jersey, and New York, and the needs of the inter-city people there for recreation. He is involved in planning of the Gateway National Recreational Area which involves the use of land and the water of Jamaica Bay.

He said within the National Parks Service there is dissension over whether urban parks—and there are two of them, the Golden Gate National Park in San Francisco and the Gateway National Recreational Area in the New York metropolitan area—are legitimate uses of staff and money and whether they take away from the protection of the national parks, such as Yellowstone and Yosemite. He described the era of Robert Moses who, with certain political figures of centralized power, could create parks at will. That era is over and we are now in an era where plans are exposed.

There was resistance not only within the National Park Service to the idea of urban park development, but resistance at the community level. This development means that inner-city people will begin to intrude in an area that formerly was considered free from the impact of outsiders. This is a racial problem. The Park Service staff members are proceeding gingerly because they have seen the example of the busing problem in Boston and do not want a blow-up over their park plans.

They have in mind a series of recreational activities, hunting, fishing, ballparks, tennis courts. The water is not yet swimmable in Jamaica Bay so they are waiting for portions to be reclaimed. Mr. Kornblum indicated that one piece of open space, Floyd Bennett Air Field, is capable of being developed, and that this has great possibilities.

In contrast to a lot of people who talk about the fragility of the environment, he said that the environment of Jamaica Bay is amazingly resilient; that it has had nothing but continual pollution over the last 10, 15, or 20 years, and that fish still thrive in the bay and life still goes on, so he has great faith that it can be reclaimed.

MARKET AND NON-MARKET FACTORS INFLUENCING COASTAL DEVELOPMENT DECISIONS

*Wayne R. Wilson**

INTRODUCTION

Some three months have elapsed since I moderated Workshop IX at the NOAA conference on marine recreation held in Newport Beach. Initially, I had intended in this paper to provide a summary of the papers presented and discussions held in our workshop. However, as I prepared for this effort I began to doubt my ability to adequately transmit the messages of my worthy panel members. Thus, I shall refer the reader to the original sources for an accurate account of our workshop activities. In this paper I shall draw on the workshop material and other sources to better define our subject and to reach some logical conclusions and recommendations with respect to the appropriate role of public agencies charged with coastline development decisions. Although my focus is on recreation development, it is not practical in most instances to totally segregate recreation from other types of development; thus, much of the discussion applies to any sort of coastline development.

The issue with which our workshop was concerned is the market and non-market factors influencing coastal development decisions. To put the issue in the proper context, it is critical to explore such basic questions as: Who makes the decisions? What are the decisions? What are the market and non-market factors? Following is a brief discussion of these important issues.

DECISION MAKERS

Who makes the decisions concerning coastal recreation development? The answer is naturally complex; decisions evolve from the interaction of many forces. By "development" I mean development in the broadest sense, including such facilities as resorts, roads, dwellings, military installations, and industrial plants as well as the less capital-intensive, lower profile developments such as bike and hiking trails, campgrounds, picnic areas, rest stations, and other public beach improvements.

Decision makers can be classified as belonging to the public and private sectors. However, business and government entities are groups of individuals, and we are all different publics at different times. Thus, the distinction between public and private sector groups (or between various groups within either sector) does become blurred.

In the private sector parties responsible for development decisions would include individuals acting alone or in concert with groups or other individuals; real estate development firms, agents, and brokers; industrial firms; financial institutions; and consultants to these participants. In the public sector they would include individuals acting alone and as a group in the form of citizen participation factions; city, state, county, regional, and federal agencies, sub-agencies, and commissions.

THE DECISIONS

What are the decisions? In simple terms these decisions relate to the following questions: To do? Not to do? How much to do? How to do? Who to do? Where to do? When to do?

*Mr. Wilson is President of Economics Research Associates

Thus, given the decision by one party to proceed with a development there are many questions to answer and many interested groups which have a voice in the decision and which must be satisfied with respect to their concerns before implementation is allowed to proceed. In some instances the group may have absolute power or authority to approve or reject the action as in the case of the California Coastal Zone Conservation Commission. In other instances the activity may merely have an opportunity to influence the ultimate decision maker such as an individual or citizen group testifying before a commission.

The decision process should be viewed as both a dynamic and sequential chain of decisions. All development projects begin as an idea or collection of ideas. An essential element is the active participant who desires to construct the facility. Given the idea and the active participant the stage is set for interaction with other active and passive participants who are directly or indirectly affected by the action or who are charged with the responsibility of evaluating, approving, administering, or monitoring the action. Within each decision entity there are many people making decisions and many decisions being made. The active participant may belong to either the private or public sector—for example, the business developer who desires to construct an oceanfront condominium project or the public agency which seeks to build a bike path along the beach. Whether private or public, the active participant is faced with many of the same hurdles in implementing his idea. These would include obtaining the necessary funds, building permits, EIR's, and so forth.

MARKET AND NON-MARKET FACTORS

Having established that there are many decision making parties and many decisions and sub-decisions, let us now address some of the market and non-market factors which affect the decision makers and their decisions. An exhaustive discussion of the factors would require identification of each decision making entity, evaluation of its motivating forces, and understanding of the relationships among the entities. Naturally, each major development decision involves a unique set of forces, but it may be useful to generalize about some of the more common situations.

To understand these underlying factors, it is important to know the goals or motivating influences for the decision participants. Although it is an over-simplification, we can hypothesize the basic goals of three major groups who participate in coastline recreation development decisions.

Private Sector—financial orientation toward profit or tax relief. Also, possibly image improvement, or self-aggrandizement, or eleemosynary motive.

Public Sector—to protect the resources of the people and to improve recreation opportunities.

Citizen Groups—to protect the special interests of a homogeneous group of people who have a vested interest in the outcome of the development decision.

In a given development situation, the private sector developer of coastal recreation facilities will be affected by such factors as:

- Physical characteristics of the site
- Development costs of the site
- Existing and future demand for the facilities
- Profit potentials in relation to required investment
- Level of risk
- Environmental considerations
- Laws concerning the development and operation of facility
- Difficulty of implementation, including zoning approvals, building permits, EIR requirements, etc.

A common situation is that in which the private developer initiates a proposal to build a facility. The public sector's role is that of approving or disapproving the development or working with the developer to modify his proposal in such a way as to render it acceptable. The relevant public entities may be the planning department, transportation department, city council, and coastal commission. Through the EIR review process, an even broader range of public agencies will become involved. The relevant factors affecting decisions will vary for each department or agency, but will certainly include the following:

- Environmental impacts
- Traffic
- Utilities
- Density levels
- Citizen attitudes
- Public benefits
- Political considerations
- Energy consumption
- Pressure groups

As initiators of recreation development, public agencies have been accused of being deficiency response oriented. That is, public agencies are subject to pressures of politics and pressure groups and are more inclined to respond to deficiencies (e.g. overcrowding) than to opportunities. Seldom does the public sector initiate major recreation facilities development based on outstanding comprehensive planning. There are, of course, some significant exceptions such as Mission Bay and Marina del Rey. Also, in defense of the public sector it should be recognized that few agencies are empowered and adequately funded to undertake such development. For the most part, major facility development is left to the private sector. A major problem, in fact, is the absence of consistency or a clear mandate as to what is the role of the private and public sectors with respect to provision of coastal recreation areas and facilities.

Factors affecting the citizen groups which are influential in the decision process include:

- Environmental impacts—such as effects on wildlife, noise and congestion levels, views, etc.
- Effects on property values
- Effects on the way of life

Citizen input to the decision process is extremely important. However, a major problem to date is that citizen input generally tends to be not representative. Those individuals who are aggressive or significantly affected tend to be the best organized and more effective in making desires known than the general public. Also, in the case of coastal development, the oceans and beaches exist as much for the recreation enjoyment of inland residents as for beach dwellers. In fact, the inland residents far outnumber the coastal residents, and yet they have much less influence in the coastal development decision.

As a general rule, citizen groups tend to be more concerned with preserving the status quo than with optimizing the general public's recreation enjoyment of coastal resources. For example, it is unlikely that a coastal citizens group would favor the development of low cost mass transit connecting coastal communities with interior cities even if it could be shown that millions more people could and would enjoy the natural marine resources.

RECOMMENDATIONS

In the past, coastal development decisions were often made irresponsibly and without regard to negative environmental effects. For the private sector, profit was the only consideration. For the public sector, cost/benefit ratios were the all important measure. As a result of

this single-mindedness and disregard for true public interest, congestion and pollution compounded as time elapsed and populations multiplied and migrated to the coasts. More recently, in strong reaction to the recognition of a deteriorating environment, the public has obtained strong legislation designed to prevent a continuation and worsening of these ills. In some cases, I believe we have overreacted to the situation, assuming that almost any new development is negative and virtually halting any coastal development of recreation facilities or access to facilities. Perhaps this has been a necessary phase of growth. However, the time has arrived when we should collectively achieve a more balanced and objective approach to coastal development decision making which takes into account the valid concerns of the growth and no growth proponents.

It is my opinion that there is a great unfilled need for public and private coastal recreation areas and facilities, and, by implication, means of access to such facilities. In fact, many of our studies indicate that this pent-up demand will increase significantly during the next several decades. There appears to be a trend toward increased length of stay at recreation destinations and a shift from day users to overnight users. The increased demand and change in user characteristics is a function of such trends as a shorter work week, early retirement, staggered hours, more four-day weekends, and increased energy costs (which encourage fewer trips to more distant places and a longer length of stay).

The implication of an expanding demand for coastal recreation is that if no action is taken to provide for the users, eventually crowding and congestion of the developed facilities and areas will spoil the experience for all. Thus, we must encourage responsible, implementation oriented planning which is responsive to the needs of the larger public.

All too frequently the public and the affected government bodies are in the situation of having to react to a developer's proposal without a solid basis for decision making. Needed is a long-term approach to public planning to provide a valid context for evaluating individual development proposals and to provide developers more direction as to public interest and need.

Demand for recreation should be reevaluated. Traditional methods of measuring recreation demand are no longer adequate. For years economists have relied largely on empirical evidence of recreation demand and have, as a consequence, significantly understated the public's desire for recreation. Studies indicate that there exists substantial pent-up demand for recreation, not exercised due to cost, density and congestion, transportation difficulties, and so forth. Many citizens are indirectly deprived of enjoying our common resources. It is time we took a more comprehensive and realistic look at the public's demand for recreation. In order to plan effectively we need to know the magnitude, value, and composition of public demand for recreation.

Given a greater emphasis on long-term comprehensive planning and more sophisticated evaluations and analyses of trends in public demand for recreation, it should be possible to match the physical development capabilities with consumer demand for recreation facilities. In this way, the planning process can optimize value to the recreationist while minimizing damage to the environment.

In conclusion, it is possible to economically develop selected areas of the coastal zone that are suitable for development and at the same time be responsive to environmental concerns of the citizens. The means to such responsible development is more comprehensive, implementation-oriented public planning, more sophisticated economic analysis of consumer demand, and more representative citizen input to the planning process.

ECONOMICS AND MARINE RECREATION¹

*Niels Rorholm**

There are three primary areas in which economic and business analysis, performed by people *who know something of the recreation sectors they are dealing with*, can be of considerable help to decision-makers, private and public:

1. The effect of a policy or a regulatory change.
 - a. How will affected firms react?
 - b. How will consumers react?
2. Impact on region, state, or locality of changes in recreational enterprises?
3. Improvement in recreational business organization and management.

So far, traditional analyses on the part of resource economists have not been very helpful to individuals having to make decisions about marine recreation, particularly at the state and local levels. I submit that a considerable part of the reason for this lies in the disparities among objectives of economic analysts, practitioners, and policy-makers caused by an unwillingness on the part of the latter two groups to view economics and economists as unable to cope *realistically* with anything other than real-dollar tradeoffs. Economists, for their part, reinforce this belief by failing to extend their analyses beyond the abstract solutions to resource exploitation or allocation problems to consider the fact that, operationally, marine resource use problems in the public domain are solved by business regulation and regulation of activities of consumers. To my knowledge, no governmental body has yet stated the nation's policy to be the maximization of "net economic yield" of public resources, or used some such single valued objective function.

Lest we should think that economists are the only people who ought to extend their thinking beyond a narrow discipline view, let us emphasize that the agency official who thinks he does not have to concern himself with the hopes and aspirations of fishermen—be they commercial or recreational—because the objective of his agency is to "make sure there is a stock of fish out there" is deluding himself no less than the economist who does not think he has to stay with the problem through the political process which desperately need his informed input to the process of evaluating tradeoffs.

With respect to the discussion above, I would recommend a re-reading of Francis Christy's paper from the first day of this conference. It represents refreshing and, I believe, necessary departure from the "conventional wisdom."

Social scientists need to be able to describe, so they can be treated analytically, the objectives of people participating in marine recreation. Economists need to be able to translate these into demand relationships, and to be able to characterize cost and revenue functions for firms supporting recreational activities.

Both analysts and policy-makers need to recognize the great diversity in marine recreation, both on the resource side and the user side—the supply side and the demand side. Attention needs also to be given to substitutes for marine recreation and to the components of this recreation that most quickly conflict with other uses of our coastal lands and waters.

* Mr. Rorholm is in the Resource Economics Department of the University of Rhode Island.

Some Characteristics of Boat Owners of Interest to Policymakers
and to Marine Businesses, Rhode Island, 1973

	Sailboats With			Powerboats With		
	Inboard	Outboard	Inboard	Outboard	Inb./Outb.	
Average Investment (\$)	21,190	4,835	9,807	1,148	5,206	
Average Annual Expense (\$)	1,958	690	1,862	323	867	
Three most important feelings about boating.	Relaxing Challenging Escape	Relaxing Escape Healthy	Relaxing Escape Healthy	Relaxing Escape Healthy	Relaxing Family Sport Escape	
Three most important factors reducing enjoyment.	Pollution dirties boat Pollution, can't swim Crowding	Pollution dirties boat Pollution, can't swim Crowding	Rising costs Crowding Pollution, can't swim	Rising costs Crowding Pollution dirties boat	Rising costs Pollutions dirties boat Pollution, can't swim	
Locational pull ¹	61	43	43	33	39	
Average Age of Owner	46	42	49	43	44	
Average Household Income (\$)	28,613	20,603	19,377	15,942	22,970	
Three most frequent uses of boat ²	Cruising Sailing Racing	Sailing Cruising Racing	Fishing Day trips Cruising	Fishing Water Skiing Cruising	Fishing Day trips Cruising	
No. of days or part-days used per yr. for boating including working on boat	87.8	66.4	101.0	55.6	79.5	

Source: URI-Sea Grant Survey (Sample size 937 boat owners)
¹ Percent who answered "strongly" or "somewhat" to question: "Was your interest in boating a factor in deciding where to locate?"
² if "Working on boat" were included, it would in all five groupings replace the third-most-important use.

The need for management is amply justified by emerging conflicts of use—the two most critical now are crowding, and private-public use conflicts—and by the fact that to the majority of marine recreational activities, use of the public domain is critical to achieving recreational objectives. To the extent that this use of the public domain is exclusive—that is to say excludes others from the same place at the same time; to that extent, it may be reasonable if we consider seriously a system of uniform fees for the privilege of using boats in the public domain. The revenue could be shared by state and federal governments in some proportion to the services they provide to the owners of boats. In addition, a low-cost saltwater fishing license would not discriminate against the low-income fishermen, but would help provide the kind of statistical base we need for management.

In addition to the revenue and data from the above, we need:

1. Uniformly collected census data made available through expansion or revision of SIC codes.
2. More detailed recreation studies that recognize diversity of opportunities and experiences.
3. Studies of recreational goals and motivations of consumers, and of behavior and structure of supporting industries.

¹Summary of 40 minute presentation.

RECREATIONAL POLICY—RESOURCE EVALUATION FOR DECISION-MAKING

*Philip A. Meyer**

A. INTRODUCTION

In addressing the question of resource evaluation for decision making in the private and public sphere—and with particular reference to method, or approach—I do not intend to survey the various methods—ingenious and otherwise—that are presently available. The literature will leave you with a far more lasting impression than I can do in the time allotted. Rather, I shall focus upon what, to me, is a more important methodological issue: namely,

“What should be the breadth of evaluation by the public decision maker in his policy making with regard to marine recreation?”

At the present time, it is my impression that the major thrust of economic inquiry—and, I suspect, of many of the other disciplines here represented—is focused upon such peripheral distributional questions as *optimal pricing, retrieval of rents and profits* by cer-

* Mr. Meyer is Chief of Economic and Management Planning, of the Fisheries Division, Environment Canada.

tain special user sub-groups who are identifiable and active in the private market, the cosmetics of designing facilities and areas, or—at the planning level—with the negotiated resolution of conflicting views and aspirations of interest groups firmly entrenched in one position or another.

I must confess that such an approach seems to me grossly inadequate to the task before us. For not only are we dealing with recreation—described by a California colleague as part of the social fabric of the community—but with the sea—whose mysterious attraction for man is captured by Masefield's lines:

“I must go down to the sea again,
To the lonely sea and the sky,”

and whose symbolic resilience was recognized by Lord Byron when he wrote:

“Roll on, thou deep and dark blue Ocean—roll!
Ten thousand fleets sweep over thee in vain;
Man marks the earth with ruin—his control
Stops with the shore. . . .”

I suspect that those two quotations set the stage for the concerns of this conference. Everywhere I go—in talking to experts in the field, in surveying the public, in private conversations—I encounter serious concern:

- concern over foreclosed marine area and foreshore,
- concern over vanishing marine species,
- concern over hassling to get to recreational areas and over hassling when you get there,
- concern over the exclusion of an increasing and identifiable portion of our public from marine recreation itself.

In fact, the sea and adjacent land area we recreate in today may not be as delightful as John Masefield found it—nor may it possess the omnipotent resilience attributed to it by Byron. Yet, we continue to stress what might be described, economically, as a marginal approach to recreational decision making—wherein we “patrol the fence”—monitoring who goes in and who goes out, designing, mitigating, aggregating rod days, beach days, boat days, and pier days—but spending little time or effort understanding the basic human experiences going on inside. Such policies and practices, I would suggest, proceed with little understanding of the critical role that marine recreation plays in our lives and in those of our fellow human beings.

At a time when the United States has become perhaps the most quality and safe-standards oriented country in the world—the recreational products of our marine areas remain largely ill-defined, and standards of quality for the protection of the enjoyment of the private consumer are virtually non-existent.

With regard to planning, which, by its very definition, can deal only with the future—it is my observation that all too often the life-blood of the future—time itself—is virtually ignored when it comes down to hard-headed negotiation—and the so-called planning process becomes one not that seeks where we shall go, but one that begins with entrenchment, and becomes preoccupied with where we shall not go. Such “static state” planning is antithetical to the effective determination of policy, for policy is, in essence, a future focusing concept.

B. COMPONENTS FOR COMPREHENSIVE EVALUATION OF RECREATION

It may be useful, before proceeding further, to provide a general categorization of the components of value that should be examined in a comprehensive consideration of marine recreation.

1. The direct prices people pay for Marine Recreation

This category encompasses user fees for boats and gear, user fees at marinas, launching ramps and other recreational facilities, charter charges, activity licensing, and so on. Because these values are defined in the private market—and a data base is consequently available, this area provides a very tempting target for the economic marginalist. Studies preoccupied with charging an optimal price, extracting an optimal rent, and so on, abound. When faced with such studies, I always wonder whether we economists can really tell the businessman very much about his profit margins. More importantly, as I have indicated, I do not believe this to be a priority area for analysis.

2. Indirect Market Expenditures on Recreation

In addition to those payments made for direct access, use, etc., recreators expend monies purchasing equipment to pursue their particular marine recreational pastimes. Again, such values are well established in the private sector, and have long been considered a legitimate component of the public evaluation procedure. And again, the combination of information availability and public acceptability has attracted the strong interest of public analysts and managers. In fact, it is these values, together with the direct expenditures just noted, that often provide the total framework for contemporary recreational decision making.

3. Public Expenditures for Marine Recreation

We, in North America, do not live in a system where marine recreation is governed solely by the right to private property. Public recreation, and the access to it, is provided out of the common purse, to a greater or lesser degree, in all parts of the land, and over adjacent marine waters—often at zero or nominal direct charge to users. However, once the facility is provided, subsequent evaluation of its worth sometimes becomes less complete—and may slip back into a discussion of licenses sold, revenue generated, etc., from the facility. In so doing, and unless explicit charge mechanisms are comprehensively covering access and activities associated with the facility, a part of its value, as indicated by the price someone seems willing to pay, may be subsequently lost to the framework for future decision making.

4. Land Values and Marine Recreation

A further important component of the value of marine recreation is reflected in the monetary premium placed on adjacent properties. And again, this value sometimes explicitly enters the decision-making process. More often, however, it does not, when shoreline decisions are being made. In fact, one of the most ironic spectacles we can observe is that of the steady seaward march of development in its search for more high value shoreline property—a march that often preempts existing shore-dwellings and inexorably encroaches on the super-sensitive strip of coastal area where sea interfaces with land—devouring, as it goes, the very origin of the worth it is seeking—a march welcomed by the coastal resident seeking relief from mounting costs caused by real shortages in energy, land, and other raw materials,—a march that shifts the burden of that inflation to the *new* coastal resident, but only for a temporary, and decreasing period of time—a march that ultimately accelerates living costs and social and environmental pressure in the coastal area.

5. Non-priced Components of Value

Finally, the marine recreator pays a “price” in terms of the time and trouble he experiences in getting to his recreational site. The inverted relationship between time/distance on the one hand and participation, on the other, is well known, yet rarely does the “time cost” associated with recreational access get included in full value statements. And, similarly, the impact of frustration in accessing recreational areas is seldom, if ever, considered in evaluation procedures.

6. Summary

In summary, it is now possible to envision a series of pricing points on demand curves of varying completeness, each one farther to the right and encompassing a greater value than its less complete predecessor.

It follows that to the extent that these components of total value exist, and to the extent that they are not captured in the decision-making process, marine recreational values will be understated, and supply will always lag behind that which would optimally satisfy real demand.

C. PRIVATE MARKET EVALUATION—ITS ADEQUACY FOR PUBLIC DECISION MAKING

Rather than taking the conclusion of the previous section on faith, it may be appropriate to examine the historical record. Certainly, the adequacy of public decision-making in the recreational area depends primarily on the decision to be reached. To the extent that one wishes to make decisions about private market pricing relationships, to charge rent to private entrepreneurs, etc., a "market only" approach may very well prove adequate. As I have said, however, I do not feel that these are the primary questions before us. Let me suggest that a more important question may involve the supply of the basic natural ingredients upon which and in which marine recreation takes place—the water—the foreshore area—recreational marine species.

A quick glance at the diagram will tell us what to expect from the decision maker who is using private market values as his only signaler of total marine recreational value in determining the place of recreation among other competing uses. Supply of recreation will chronically lag behind demand—resulting in overcrowding, discrimination between users and non-users, and an undervaluation of the importance of the marine area for recreation, relative to the values claimed by more market-complete competing uses. And so it has been in much of the United States—at least that I am familiar with—for a considerable period of time. The cry "We need more coast recreational area" is common through most of the coastal states—and I might add, coastal provinces of North America. And here, in California, we see another example of under-valuation, where the California Department of Fish and Game is entrusted with the management and protection of the valuable resources within their jurisdiction—but constrained, fund-wise, by rents that can be extracted from only a small component of the total resource value. Another quick glance at the diagram will indicate the result associated with collecting rents on the wrong demand curve—an overrun of responsibilities, relative to the resources made available to carry them out—and their officials tell me they are losing ground—grudgingly, but surely.

It is, then, this shortfall in the supply of recreational area or, if you like, recreational raw material made available by public policy, that is one of the principal non-results of only partial evaluation in decision making. Nor, surely, can the private businessman in recreation have anything to fear from a shift in public policy away from adjusting, examining, and tinkering with *his private policy*—and toward increasing the basic availability of water, foreshore, and natural living resources supportive of his activity.

D. THE QUESTION OF THE QUALITY OF MARINE RECREATION

Even if private market values could encompass the relevant range of public decision parameters—this would not remove us from the dilemma. For the amount of marine foreshore area available to be put into recreation is limited. This leads us to the two-headed dilemma of quality dilution on one hand, and social disenfranchisement on the other.

I will deal with quality first. Quality is, in my view, the least considered critical

variable in the recreational equation. *Shortening of the food chain, replacement of one recreational species with another, replacement of one recreational activity with another,*—these usually reactive events are becoming commonplace—and in most cases, without thought as to their social desirability, their eventual consequences for man, their effect in a dynamic sense, on the recreational products they facilitate. Positioned around the margin of the recreational experience, we have been largely ineffectual on this issue—in fact, we have all but ignored it! We have left it to the ecologist and the biologist to make what headway has been made in setting carrying capacity limits in parks and other recreational areas. What is wrong with setting these limits—not with the capacities of plants and animals in mind—but with those of people? The evidence is clear! In every study that I am aware of—people indicate that they do not want to be further crowded.

And limited laboratory verification of this fact can also be cited. Sommer, in “Personal Space, the Behavioral Basis of Design”, notes:

“Research with animal societies in enclosures indicates that spacial, as well as social orders, crumble under the onslaught of crowding . . . Family structure disintegrated, mothers do not care for their young, sexual perversion and cannibalism were frequent. Finally, the animals that survived became less aggressive and withdrew from social contact.”

How far along this path is recreation—particularly in some of our more crowded beach communities. And what are we doing about it?

I know it has been historically fashionable to say—population just keeps coming. All we can do is react to it. You can't stop progress! Certainly, life is an evolutionary process—one that does not stand still. However, in 1972, when faced with the implicit proposition that a progressive qualitative deterioration of their coastal area was necessary to keep the wheels of progress spinning—the people of California,—unarmed with the training, the knowledge, and the foresight accumulated at conferences such as this said, via initiative, “No!” And, in retrospect, they may be right. Population growth has stabilized. Immigration laws in North America are getting tougher all the time, and there seems to be no economic reason why a motel, set back an obstructed distance from the coastline, should be any less a money maker than one built on pilings. Look at Oregon!

So, the methodological issue at hand is—do we want to look inside the fence—do we give a damn about shortening food chains in our natural environment—or about crowding, and other enjoyment-reducing factors at our recreational sites, and on the approaches to them. In fact, what is marine recreation? Or is it anything it happens to become? Have we, in our desensitized and dehumanized deliberations on marine recreation through several decades improved upon the definition of substance offered by Masfield and Byron? And if not, can we afford to continue to largely ignore in our deliberations, the inputs of the doctor, the psychologist, the sociologist or even the poet. How many of these are participating at this Conference?

Let me now turn to the other horn of the supply-demand dilemma—social disenfranchisement in recreation—for one obvious way of keeping quality high in the face of demand/supply imbalance, is to disenfranchise large groups of potential users, either overtly, or by failure to take positive action—and this is being done to a considerable extent—usually on the basis of income, location of residence, and race. Let me suggest that recreation is, fundamentally, a renewing experience—a change from living-working pressure. If this is so—how many people in the United States are not presently being afforded this opportunity in the marine environment. How many of them are even aware it exists? How many of these disenfranchised people, in fact, live in coastal areas? And, once again, do we give a damn? I suggest we must—and from our own self-interested point of view. I suspect that this disenfranchisement has significant psychological, social and economic consequences that are negative, and that impact, in part, on us, the enfranchised section of society. And further, to the degree that large sectors of the population are not users, and, in fact, do not view use as a likely possibility, they will be, at best, only indifferent to the deleterious

inroads made upon marine recreation resources by competing uses. It seems useful to recall that for most of man's life on this planet he has engaged in a full-time struggle for sustenance with little time to devote to recreation—marine or otherwise. Marine recreation then, at least for the mass of the population is a modern phenomenon. There is a real question as to whether we will retain this broad distribution of recreational benefits in the years immediately ahead.

Finally, I made earlier reference to the all too frequent absence of future focus in present marine recreational planning. It is not reasonable to expect that, after a man has made an investment—committed his funds, and perhaps his livelihood, to a condominium or car-wash on the coast, that he should be wiped out by a sudden and quickening awareness of environment, or of shortfalls in recreational supply. And it is hardly surprising that, when he is asked to get out, he is not very likely to do so. Yet, the coastal planning dialogue for marine recreation seems most often to focus precisely on that static short term state. Planners and negotiators are given a mandate and a budget, and told to come back in one year, or two with a solution. And consequently, worthwhile objectives which are realizable in a longer time frame, become unattainable, and are often not even attempted. It is true that in a result-oriented society, featuring political accountability, it is often difficult to always consider longer term consequences—but it is clear that, as we press ever more closely upon our environmental limits—those longer term consequences are increasingly immediate—with the evident likelihood that the charging of present gains against the future recreation potentials available to our children may also be a charge against ourselves.

Yet, viewed in terms, not of what we will negotiate in the present, but what we will shoot for in the future, the possibilities for more effective use of our marine and adjacent environment are multitudinous and intriguing. What a terrible waste of our precious foreshore area, for instance, where it is pressed close by apartments, vacant by day—by offices, vacant by night—and by wet marinas, devoid of their human habitants for the greater part of time. I believe that the future holds great flexibilities—particularly with regard to the supply of marine recreational area—if only we do not stumble on the entrenched, and legitimate, rights of present users and on our historical conditioning that leads us to consider decision times only in the shortest possible discrete units. Manipulation of the time horizon for decision making may, in fact, be the most powerful tool for reaching agreement on positive and farsighted policies that we have at our disposal.

In conclusion, I have chosen, at this conference, to talk of the scope and focus of methodology for decision-making in the private and public recreational area—not of the methodological plumbing. For the most intricate system of plumbing in the world will be to no avail if it is not connected to the house.

Is it more important, for N.O.A.A. to work on some of the peripheral pricing and allocating questions associated with private marine recreation, or is it appropriate to make its major effort the *protection and enlargement* of the floral, faunal areal base available to recreation over time—leaving much of the activity of the private entrepreneur to the private sector? This question is *fundamental* in terms of the requisite breadth and focus of evaluation for decision making.

Will we continue to be relatively unconcerned about what goes on inside the recreational fence, content to count our rod days, our boat days, and our beach days, or should we ask ourselves what marine recreation is—what role it plays in the health of our society—what standards of quality need to be maintained to preserve that health? Does N.O.A.A. see this as an area requiring major policy effort?

Is it significant that a large, and perhaps increasing segment of the population are not marine recreators—that these persons can very often be identified by income, by location, by race? Is it more significant, for instance, that 19 scuba divers perished off California last year, or that probably thousands of times more children in the state did not visit the ocean during that same period? Which is the greater tragedy—for them and ultimately, for us?

When faced with the threat of a deterioration of the natural base for recreation due to alternative user demands, will N.O.A.A. insist on a full and comprehensive statement of

recreational value, including both private and public components? And will private recreational interests insist on it also?

And, finally, what should our attitude be toward the future—toward what is possible? Will N.O.A.A. develop a static series of policies, rigidly time constrained as to mandate and budget, focussing on the resolution of present problems—or will it generate dynamic guidelines, based upon present reality, but possessing sufficient time flexibility and continuity to encourage its staff and the responsible interest groups they interact with, to identify opportunities and to achieve them.

These are, in my view, the critical questions that must be answered. These questions dictate the methods and tools that will follow. They are, in the final analysis, questions for you to answer. What do you wish to do? What will you insist on? The choice is not entirely one of extremes—not entirely a choice between Persig's Funeral Procession, and a Utopian solution to all the world's problems—not a clear ethical choice between the vocation of the pirate and that of the priest—but rather, a question of emphasis—a determination of thrust and focus. Will we be able to so govern the use of our marine areas and foreshore that the quality of our recreational experiences will be preserved, that their benefits will be widely distributed and that, in Byron's words, man's ruin will in fact stop at the shore?

TOWARD JOINT TOURISM—RECREATION— CONSERVATION POLICY

*Clare A. Gunn**

Generally well known are the polarized positions usually taken by three specialized groups in America—tourism interests, conservationists and those who believe in the values of recreation. Less well known, however, are the interdependencies of functions between the fields of tourism, conservation and recreation. Seemingly conflicting ideologies actually have much in common. Furthermore, if the interlacings of tourism, conservation and recreation in the coastal zone could be molded into common policy, it would appear that many of the ills of present *laissez faire* development could be eliminated. Conversely, without such coastal policy, we may expect in the future even aggravated problems of congestion, degradation of natural resource assets, erosion of coastal scenery and increasingly limited access.

CONSERVATION, TOURISM, RECREATION

Historically, there are many good reasons for the three forces—conservation, tourism, recreation—to be clearly discrete fields. There is ample justification for modern leaders of these three fields to think of them as absolutes.

Conservation, over time and by different supporters, has had many meanings and colors of meanings. But, for all, it has focused primarily upon natural resource utilization for long-range good of society. Conservation, in the early history of both the United States and Canada meant efficiency—efficient use of natural resources, such as timber and minerals.

*Dr. Gunn is a Professor in the Recreation and Parks Department, Texas A&M University.

Conservation, in an esthetic sense, came much later. Defense of conservation as protection of scenic beauty is a complete capitulation of frontier conservation—mastery of nature. Today, a science-ecology definition and application of conservation is in vogue. This implies that a man-nature balance is not only desirable but may be necessary for survival. Most recent, especially in this country, has been the development of conservation of cultural heritage—the protection, redevelopment and interpretation of historic sites, events and artifacts.

Certainly, the conservation of coastal resources has been of increasing concern. Several coastal states have enacted legislation placing a moratorium of development on certain coastal areas.

Tourism, although now well accepted into the language, grew out of nineteenth century society and technology. Most definitions include such components as pleasure travel, expenditures of money—and therefore economic impact—and longer than a short visit. The mobility of modern travel, greater disposable incomes and a seemingly insatiable desire to see and participate in away-from-home activities have firmly entrenched tourism as a fact of modern society. Many cities, states and countries depend upon it for their basic economy. Developed nations cherish it as a favorable economic good—export trade to offset import deficits. Underdeveloped nations look toward tourism as the most ready means of building new economies.

Throughout the world, coastal attractions have been prime tourism lures for many years. If you were to map the tourist attractions of the United States, you would find a strong clustering along waterfronts.

Recreation, as pleasurable diversionary activity, has been practiced by man for centuries. Although it has met with varying social acceptance throughout history, it has been practiced by all people everywhere.

Much of recreation had its beginnings in social movement—reaction to the drudgery, confinement and strain of work. The first parks were established as an antidote to the fumes and filth associated with industries and industrial housing. In North America, recreation has become formalized and institutionalized as a role of government. It is now accepted as public policy and is upheld by the courts. While resource use varies, all recreation interests encompass programs that have welfare goals.

Nearly all recreation activities that occur elsewhere occur on the coast. Some, however, are especially unique to the coast—coastal wildlife observation and photography, coastal fishing, shell collecting, surfing and diving among coral reefs. But, probably of greatest significance is that of coastal esthetic enjoyment. If we knew how to add up our non-monetary and monetary values, my guess is that the relatively high cost of coastal land is due to its unique esthetics.

These three forces, then, have had separate origins and specific reasons for being. Taken individually, each one espouses noble and desirable goals.

COEXISTENCE

For a good many years, these three forces—conservation, tourism and recreation—with their separate leaderships and followings, functioned independently and without much conflict. It was a period of peaceful coexistence. Conservation was absorbed with soil-erosion control and reforestation issues. It saw no relationship with either recreation or tourism. Tourism was seen as strictly promotional. By merely adding the proper amounts of investment and advertising, instant tourism would result. Tourism saw no relationship with either conservation or recreation. Recreation was preoccupied with program emphasis and the establishment of playgrounds and parks. Recreation saw no relationship with either tourism or conservation. While each force was tacitly aware of the other, each saw its role as completely independent. Much of this posture remains today throughout our coastal institutions.

CONFLICT

As all three forces—conservation, tourism and recreation—grew in stature and extent, the next expression was that of conflict.

As more parks and conservation lands were established by governments, often primarily for resource protection, they became popular for mass recreation and tourism visits. While recreation leaders and tourism exponents supported this trend, conservationists began to decry this as land and water rape. Without doubt, no other federal agency has come under more fire from conservation groups than has the National Park Service—ironically created as primarily a conservation agency.

Of special importance to conservationists has been the water's edge, both along interior lakes and along the oceans. Encroachment by many of man's uses, including recreation and tourism was seen as destroying limited and valuable natural resource assets.

As tourism grew, states and cities became more and more competitive. As each state created and funded a tourism agency, it felt compelled to outdo the last. As millions of public dollars were expended for advertising, the competition for those limited tax dollars increased. In addition, more and more public moneys were spent on hard construction. New Orleans, for example, felt that it could no longer compete with Houston for convention tourist business and invested many millions of tax moneys in an even larger "Astrodome" of its own.

Very early, it was discovered that tourism, as an economic good, needed large volumes of visitors. As areas were developed and promoted, both conservation and recreation groups were often accused of building roadblocks to progress. Because tourism depended heavily upon the business sector, it saw the massing of public recreation and conservation lands as depleting the stock of desirable business locations.

As these ideologies came into greater and greater conflict with one another, two separate publics became increasingly frustrated, especially along coasts.

The visitor public—the tourist, conventioneer, recreator—met with frustrations of learning about the attractions, how to get to them and the many conflicting rules governing his behavior when he got there. The fragmentation of jurisdictions, ownerships and regulations forced him to fight his way through the maze in order to have his fun. He soon discovered that no one in an area could give him more than limited and often biased information. Frequently, such guidance was exclusively commercial or governmental—a kind of ownership knowledge in which the visitor has little interest.

As an example, I recently visited the very well planned and designed Mission Bay development in San Diego. The entrance drive leads one directly to a striking information center. However, no sign, no clerk and no informational literature gave me any clue to the very important fact that the entire 4600-acre tract is owned and operated by the city parks department. Furthermore, 75% of this area is devoted to public access for picnicking, swimming and beach use. Only 25% is leased to private enterprise and yet all the information one can get is for these business places.

It has been by personal experience in traveling across the country that even official tourist information centers, sponsored by cities and states, often give out misleading or inaccurate information. Certainly, this is not intentional but results from a narrow bias of the agency's ideologies rather than from an understanding of needed service to the public.

The second public to become frustrated is that living in and around the locality of the recreational destination, especially along coasts. While one segment of the local public sees economic opportunity of developing a major marina, another segment sees long-range advantages of protecting the existing salt flat marshlands for conservation, or for other forms of recreation and education in the future. While one business segment sees opportunity of building services and sales along the waterfront, another business segment sees this as unwanted competition, especially if they are located some distance from the shore. As a local sailing club sees opportunity for much worthwhile recreation activity along the city's

waterfront, it becomes frustrated by the waterfront dominance of services for outside tourists. Often, coastal counties spend great amounts of public funds upon waterfront development. As a result, taxpayers in the outback region of the county feel short-changed.

The net result of this conflict is that the decision-making groups themselves become frustrated and the entire machinery gets bogged down. Land use issues become ideological issues. Soon all become embroiled in arguments that increasingly have little to do with the real functions of coastal development. This, in turn, delays or completely foregoes action that might be desirable for all publics.

SYMBIOSIS

Conflict within and between the forces of tourism, recreation and conservation sets up a smoke screen that obscures the reality of functional interdependency. Increasingly, the functions of land development and use demonstrate the growing mutual benefit between these three forces.

Tourism cannot function without attractions. Little understood by conservationists is the fact that the storehouse of attractions today results primarily from conservation efforts. The millions of visits to conservation and historic areas generate the need for thousands of motels, restaurants, service stations and shops. While there has been an increase in visits to man-made attractions in recent years, it is the natural—and cultural resource-based areas that remain most popular. And, even the man-made attractions are located within regions strong in natural and cultural resource assets. Although tourism and recreation are not identical in meaning, the bulk of tourism activities fit professional definitions of recreation. Tourism, as an ideology, could not survive without conservation and recreation.

Recreation, although ideologically program oriented, finds itself expressed physically in land development. For most recreation activities today, lands, structures, facilities and products play a critical role. Many forms of recreation have changed dramatically in recent years due to technological advances, such as increased boating due to availability of fiberglass boat hulls. Recreation expenditures are a large part of tourism economics. And, conservation programs now include massive capital investments and operational budgets for recreation. Recreation, as an ideology, could not survive without the support of both tourism and conservation.

Although proponents of conservation often argue otherwise, their causes are often supported by tourism and recreation efforts. Since conservation efforts require public support and money, both recreation and tourism supporters and fundings are of benefit to the cause of conservation. Most "conservation" lands today would not have been created if the public did not believe they could have either real or vicarious access. Even so-called wilderness lands (still a small fraction of conservation lands) come about from support of potential wilderness users—tourists and recreationists. It is now being recognized that the largest conservation agencies of North America—the national park services of the United States and Canada—could not survive for long without complementary investment and management by touristic and recreational facilities and services. Conservation, as an ideology, and as it is practiced today, could not succeed for long without the complementarity of tourism and recreation.

Contrary to the conflicting ideologies of tourism, recreation and conservation, a strong symbiotic relationship is now being demonstrated by actual land development and use.

INFERENCES

From this discussion I would like to draw some inferences that may be useful in future policy development for coastal tourism, recreation and conservation—as a single mix.

1. Sole Institutional Policy-Making is Obsolete.

It seems to me that there is ample evidence to demonstrate that polarized and separate institutional policy-making among the various sectors on the coast is an obsolete way of getting the job done. While each one has primary roles that are bound by law, by tradition

and by ideology, there is need for each to look beyond such narrow confines. Functionally, as development becomes more intensive, the three sectors—tourism, recreation and conservation—have too much in common to continue to perform in this manner. Both society and the environment are being cheated as each sector tries to perpetuate its ideological boundaries.

2. Policy Collaboration and Cooperation is Possible

Gradually, we are beginning to find examples of instances in which these three sectors are developing collaborative policy. Although the following examples are not in the coastal zone, I believe that the principle of bringing conflicting ideologies together for common policy development could apply equally well to the coast. My first two examples are in Canada and the third is in Texas.

The provincial park system of Ontario comes under the Ontario Minister of Natural Resources. As such there is a built-in bias toward natural resource management. However, this park agency has learned that people do love and use their parks and therefore the many types of recreational use, from vacation homes to wilderness backpacking, must be incorporated into their policy. Furthermore, the economic realities of timber production and tourism employment cannot be denied.

Recently, a policy designating several categories of parks and delineating development and use zones within each park reflect a dramatic change in park thinking. Algonquin Provincial Park today has portions that are regularly logged by timber interests; has highly protected conservation areas that can be penetrated only on foot; has intensively used areas such as for resort lodges, museums, and for camping. Each one of these zones represents long and careful interface discussions with special interest groups in Canada. All three—tourism, recreation and conservation—have had a role in the formation of Ontario's provincial park policy.

Also in Ontario are two major canal waterways that now demonstrate the ability of the several sectors to work together. The Trent-Severn Waterway, running 240 miles from Lake Ontario to Georgian Bay was created over 100 years ago to avoid conflict with the Iroquois and the Americans. No longer needed for commerce, this unique waterway, containing over 40 locks, has been converted to recreational use. A similar, though shorter lock and canal system has been developed along the Rideau River between Kingston on Lake Ontario and the capital, Ottawa.

As early as 1967, it became apparent that many elements of tourism, recreation and conservation were involved. Furthermore the many cities, counties and jurisdictional entities along these corridors had developed separate and often conflicting rules for development. As a consequence the CORTS Committee—an acronym for the Canada-Ontario-Rideau-Trent-Severn Committee—was created. Representatives of fifteen separate federal and provincial agencies together with delegates from local groups have a voice in the development of policy through the action of this committee. At present, until regional plans can be developed, a moratorium on development along a ribbon 5 miles either side of the canals is in effect. Joint policy-development is in process.

The San Antonio River Walk, a single entity for recreation, conservation and tourism in the heart of San Antonio is now a huge success in spite of its origins from ideological conflict. It was a conservation group that originally stopped the paving of the horseshoe-shaped river bend. Now, a successful mix of conservation, recreation and tourism results from the joint policy of over six major agencies and organizations.

Personally, I see no reason why these same principles of joint effort cannot be developed along the coastal zone of the United States.

3. Needed is a Catalyst.

The main reason that these issues are not being resolved more generally along our coasts is that too frequently no catalyst has appeared to bring the separate forces together.

It is quite natural for each to maintain its own integrity and, I argue, this is desirable. In my opinion, it would be undesirable to create another and possibly competitive agency.

Instead, when the separate entities discover that their own individual goals can be fostered by collaboration rather than competing with each other, there is little difficulty in bringing them together on development of common policy. My experience on the Texas Gulf coast suggests that if the integrity of each individual agency and organization is not threatened, there is a very open and willing attitude of collaboration.

CONCLUSION

The conclusion I draw from this is that new recreational coastal management policy is very possible if one major obstacle can be removed—that of polarized support of conflicting ideologies. It is not so much new legislation, new agencies or new technology that is needed. Rather, a catalytic force is needed to demonstrate that individual integrity can be maintained at the same time that common coastal policy governing many mutually related functions can be agreed upon.

Instead of conflict between tourism, recreation and conservation, it is possible that we will see not only more symbiosis but even a new synergism between these very important forces.

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TANGIBLE AND INTANGIBLE VALUE OF RECREATION IN THE COASTAL REGION

*Francis H. Dean**

INTRODUCTION

Some of my remarks may be a replication of thoughts put forward before today in this conference, but I suspect they will be in a different vein.

As an environmental planner and landscape architect, I find it difficult to separate recreation from all other uses in the marine environment as recreation itself is a complex subject and integrally related to all other aspects of this region. Perhaps this separation of issues may be one reason we agonize so over decisions. And yet, man is destined to express his self-interest and certainly this has resulted in his enthusiasm, creativity and determination to push ahead in all his endeavors including his use of land. I suspect that if all land use decisions had been subject to established planning criteria in the middle 1800's in America, we wouldn't yet have crossed the Mississippi.

However, this is a different era—a different society and ever increasing demands upon limited resources challenge our present procedures. No less a personage than Judge Learned Hand stated that "we accept the verdict of the past until the need for change cries out loudly enough to force upon us a choice between the comforts of further inertia and the irksomeness of action." This is our era for significant change and might I say, an exciting one, with the knowledge we possess, the resources at our fingertips—we should not be fearful, but beware and understand that environment we work with—is most unforgiving if stretched beyond its limits. We know this. We can now measure its unforgiving nature.

In order to make rational decisions for the use of the Coastal Area, I would like to review a few points in order to focus on the process of arriving at these decisions.

DESCRIPTION OF COASTAL RESOURCES

If I may, let me first describe the Coastal Region as I see it. Others may see it differently.

- a precious resource for food; economic value, social uses and wonderment at its own ecological sequence.
- synergistic system—a phenomenal physio/biological ecological system that is beyond some of our comprehension.
- an area of mysterious magnetism which casts a spell over all of us—perhaps related in some way to our finlike origin.
- an area on which overwhelming demands are made within our social/economic and biological desires. Even more pointed in urban areas.
- area of greatest conflict relative to use, second only perhaps to food production and loss of agricultural land.
- an area where 80% of the population lives within an hour drive identifying the cause of the demand.

*Mr. Dean is a Consultant with EDAW, INC.

- an area of generally mild climate, clean air making it a desirable place to live, generally flat for the competitive uses of housing, transportation, urban societies, and great deposits of alluvium, ideal for agriculture.

These are only a few and I could go on. In addition, each segment of the coast is different from every other segment.

CONFLICTS IN PERCEPTION BY VIRTUE OF SELF-INTEREST

Each of us perceives the marine environment in a slightly different view. We are all in agreement as to use on some issues and 180° apart on others. We would all agree for instance that the coastline is great place to recreate—whether activity oriented, for meditation or whale watching. Oil companies and environmentalists may disagree violently on the use of particular areas. Both oil company representatives and the environmentalists would no doubt agree on the first. We are all several types of public at different times. It is not my intention to demean these conflicts—they are there. The question is—can you reduce the fuse-cap syndrome to a logical basis in order to move ahead.

For many decades and only recently beginning to change was the very strong assumption that technology was the answer to all of our ills—the measure was the cost/benefit ratio of development programs. This resulted in a myriad of governmental agencies directly related to the single purpose pursuit in order to expedite the purposes of society.

There were a few unique areas preserved along the way, whether as palliatives or just uneconomical to build upon or perhaps in some cases majority decisions to save for public use.

The conflicts of perception are easily understood when the competitive demand is as extensive as it is. Boaters, navigation, trade and sunbathing conservationists and scuba divers, oil refineries, water skiing, eating, hand gliding, fishing, park spaces, agriculture to housing, transportation, birders, swimming, parking, relaxation/viewing, cyclists, campers, model airplane, military, rock climbing and surfing. In addition, are the issues of the natural processes that must be understood and recorded. Geology, hydrology, sewage treatment, water quality, air quality, vegetation, climate, slopes, bluffs, exposure, wind, visual quality, river mouths, estuaries, wetlands, freshwater marshes, endemic fish and shellfish, birds, animals, noise levels, transportation, etc. The problem is so obvious it needs no expansion.

MAN'S CAPABILITY TO UNDERSTAND AND ACT

There is no question of man's ability to understand, he is privy to a greater body of knowledge developed in the last fifty years than all the other time in history. The process and understanding of the relation between man's social needs and the physical environment is by now well documented with the spinoff of information developed through several years of environmental training, extremely sensitive aerial photography from space exploration and environmental assessment of specific projects, our decision making capability is slowly becoming more and more dynamic. The ability to choose from various alternate programs based on solid data and analysis is helping direct programs into logical and reasonable choices and be ever flexible to adapt to changes in the environment or the physical/social needs. The major problem is our propensity to resist change and as crisis begets crisis only then will the political climate adapt to the needs.

Several years ago, we were involved in an early planning program in Mission Bay. In cooperation with the Corps of Engineers, the City of San Diego developed the 4,000 acre estuary adjacent to the San Diego River outfall at Mission Beach. The intent of San Diego

was to develop a high quality, revenue producing public and private recreation complex. Our participation was to aid in that objective with a planning and design approach that very carefully related the components of the recreation/resort needs to the marine environment in a logical sequence.

This project included swimming, boat repair, restaurants, parks, hotels, fishing, and spectator areas all working in concert. Especially important was the multi-purpose planning for all facilities as well as the support facilities—this was a most unique project at the time and still is. The visual quality both from land to water and vice versa was a very significant part of the planning program. It is a most successful operation and still is responsive to the flushing action of the tides and allows the San Diego River to proceed into the outfall under controlled conditions. It would be interesting to know if that same project developed ten or more years ago could be built under the present restraints on estuary development. The difference would be the political situation relative to any impact such as Mission Bay Development on the natural environment.

DECISION MAKING PROCESS

Ten years ago decisions relative to coastal development were determined with very little consideration to the natural environment except as it might negatively affect the engineering process. If the financial benefit would be greater than 1 : 1 over costs and sufficient attention was paid to other uses provided for the public it was usually built. The public was only involved to the extent that it was the major financial support.

We are all aware of the change in the last 10-12 years, culminating several years ago in the establishment of C.E.Q. and E.P.A., the requirements for the EIR and in California the additional EIR requirement for private as well as public programs. The Porter Cologne Bill, Air Quality Act, Pollution Control Act and then the California Coastal Zone Conservation Commission set up by initiative in this State. How did this come about—by pure frustration of the citizenry in California with their legislators—a precedent setting act having repercussions nationwide.

It is time now to set the polemics aside and get on to the resolution of problems that are at crisis proportions.

I am not here as an apologist for the CCZCC but the recent Preliminary Coastal Plan is certainly an important step in our continuing effort to arrive at a process that establishes policies based on a tremendous work effort in terms of knowledge of the marine environment. If we all have complaints about its adequacy—it is because our individual perceptions are askew. It is inadequate, but it is a measure of our own inadequacy in comprehension of the problem but is a major step. In my view, it only sets the stage for much study in the future relative to our precious heritage—now will we have the fortitude to move ahead.

It is not difficult to see some of the gaps in the plan. For instance, I believe the boating interests have almost been ignored. This is not a disaster—it merely means that in the process of further fine tuning of the plan, the boating interest will be defending their position relative to the issues of recreation, financial contribution to the coastal development and maintenance as well as marina development and education.

My message as a planner, is that we have now begun the task of updating our methods is absolutely necessary. More people know more about the coast than ever before in this State and that is a significant tool for the future.

It will be hoped that when a statewide plan is developed—the legislature will bite the bullet and fund it properly and focus on the necessary issues.

We are in trouble in Southern California especially. We are burgeoned by expansion, desirous of protecting our coastline, fouled up on transportation decisions and rapidly diminishing our agricultural land and need answers immediately. Our procedures are ponderous our body politic is moving slowly—perhaps I can tell you how we think it should move.

PROCESS FOR DECISION-MAKING

The key which I believe we will all acknowledge at this point is an enlightened and educated community. This may be hard for some to accept—there has been a gap for so long, but I can guarantee the decisions made by an enlightened community relative to any issue may be an impact on specific issues, but when it is in 'their' interest it will be better than any autocratic decision and generally in the long term interest.

New attitudinal characteristics of our society have created an awareness heretofore unknown. It is necessary, then, to develop a unique framework to respond to this awareness.

The requirement of EIR's for all projects has stimulated this even further. In our recent work, working with Water Districts, land development, parks and recreation districts and transportation issues we are keenly aware that reliance upon intuitive methods only will not succeed. The public is becoming very sophisticated and we need to encourage that and help to educate on all issues having to do with land use through all of the media.

Any procedure for making decisions must be capable of

1. bringing to bear the available knowledge at the time the decision is to be made.
2. estimating the ramifications of alternate decision.
3. creating and recording new information and knowledge by monitoring the results of the decision made.

The critical interrelationships in the coastal zone must be understood and recorded. The interrelationships of social/political/economic and natural forces which help to determine the physical configuration of the landscape are as complex as the processes of the environment itself.

Understanding and concurrence by the public at each stage through the analysis of that information and the development of alternates where impacts are assessed relative to all possibilities—then the choosing of the preferred plan—and then the key to success is the knowledge that the plan is only good for 24 hours and then needs monitoring, management and updating. As it all implies, planning is a dynamic, fascinating and responsive tool to the balance of development and conservation.

RAPPORTEUR'S REMARKS

*Lawrence Leopold**

I suspect that this workshop was probably one of the more interactive sessions. We not only went for three hours, but we continued from the floor one half hour into our drinking time on Friday afternoon. I think that's a measure of some kind of success.

We talked about tangible and intangible values, and about moving human or humans using a natural resource. I would like to submit for your consideration that quite possibly the overlying criteria for human use of resources is whether the human activity alters, diminishes, or destroys the life support capability of whatever area we're discussing on a planning basis. Planning requires future thought and future activity, and planning can no

*Mr. Leopold is Coastal Resources Specialist for the Marine Advisory Program of the University of Southern California Sea Grant Program.

longer create a standard document for a static problem. We want to build in the ability to see the change and to monitor the operations. In choosing criteria, the life support capability, of whatever the ecologic region is, is something that is very important—resources are finite. Because man has the capability of being inventive enough to create more and different activities, to create even larger numbers of multiple use conflicts for a given area, that does not mean that the area has to sustain it.

This may be a philosophical and personal thing, but we talked about the problems of economists having to find alternative measures of defining this intangible thing, the recreational experience.

The panel was in consensus that we do not yet fully know what the expectation is when someone goes out to recreate. Because we don't know what each individual expects, we don't know what the human desire is, and we have a hard time managing it. If you managed it for total dollars per fish landed you are going to attempt to maximize. Well, that may not be the way to maximize the recreational experience.

We discussed the fact that conservation, recreation, and tourism, as activities we already do or attempt to satisfy, can no longer function as separate camps ideologically if we are going to be successful.

I would like to insert that if mankind is going to interact with the natural environment, we must realize it is finite, it has limits. While Jamaica Bay has been stressed to a point where it won't yet die, I suspect if you stressed it harder, you could kill it.

You might want to say one of the things we need in terms of research is empirical biology or empirical ecology. We do not know how hard we can stress a system and have it survive. When we know that maybe we can say "this is the carrying capacity," and begin to manage that system. If you accept the concept that we are not allowed to—or do not have the arrogance to—kill it, then you must accept the idea that we must work for living systems and develop our uses within the capability to carry human uses.

I also maintain that there may be some uses that we have the right to say no to as opposed to determining limits according to what it will accommodate because of our ability to create artificial support facilities. I am not saying extractive uses alone, nor transportation, but if the system will not sustain a use you cannot say you have the use of it.

I would like to submit for consideration today and for consideration beyond today, as a program, that these natural criteria are in the long run the only criteria which will allow all of us to continue whatever it means to recreate in the coastal zone and in the water that defines the coastal zone.

HIGHLIGHTS OF DISCUSSION*

John Gottschalk: You'll notice the program says, "Conclusions and recommendations, rapporteurs/attendees, led by John Gottschalk." That means that you people are really involved and are going to have to share the responsibility with the rest of us for the conclusions and recommendations.

The discussion following the break is an attempt to focus on the principles that have come forth in this conference. It gets into some of the fundamental ideas expressed, reflecting presentations, summaries, and discussions during the conference.

The managers of the conference have the authority and responsibility to do a further job of articulating the various issues and problems that have been brought up, together with our proposed solutions. Thus when we see the final proceedings published the principal points will be set forth in an orderly manner.

*From October 4 Summary Session

To proceed. Our plan generally will be to bring up four or five of the principal issues—I will invite comments from the rapporteurs and then go to you in the audience for your response to these particular issues.

The first discussion topic, might be phrased this way: What particular aspect of the whole field of marine recreation is fundamental? In other words, of all the various concerns that have been expressed at this meeting, which one more than any other cannot be done without.

Larry Leopold was getting at this in his report—the sanctity of the natural environment. He was suggesting that, above all else, it was imperative that we recognize the need to protect the viability of the natural resource; that is to say, the ecosystem. If we do not do this, we will lose the very basis for the whole gamut of marine recreational pursuits.

Neil Ross, you've given rise to a number of ideas. I see you more as a user-oriented type and, thus, maybe not so enthused about what Larry was talking about. Do you see this as a significant factor?

Neil Ross: We always have to keep in mind the person who is doing the recreating. This is extremely important. Somebody came up to me during the break and said, “You know, one use of the coastal zone that we don't have anyone representing or talking about is the sun bathers on the beaches.” We need to include these users in workshops on recreational uses. That is what I mean by user involvement.

We have to take a look at the type of things that Larry Leopold is talking about. These must be dealt with.

A very fundamental question came up last night in our session. Somebody said, “What is recreation,” and it stopped us in our tracks. We all know what recreation is—but what is it?

The first speaker in our workshop, Matt Kaufman, started talking about boating, and was stopped at the end of his first sentence by a gentleman sitting in the front row who said, “What is boating? What's a boat?”

You know, we've got to get down to some fundamentals. We're at that point now.

Mr. Gottschalk: That's my question. What is the most fundamental of the fundamentals in marine recreation? That's the question.

Response: I'll answer that question. The value of the human being that's participating in the activity.

Another Response: I would add to what Larry said, that recreation means many things to many people. I think that the basic perception of the resource as being finite and how to use it or abuse it very definitely affects the ability of people to enjoy various recreational activities. The most fundamental consideration is the way Larry approached it and discussed it, the viability, the carrying capacity of the life support systems of the environment—the resources that will allow us to have a recreational experience. Then right after that is the importance of human values, the human participation; but I think you can destroy the former and not have the opportunity to experience or enjoy the latter.

Thayer Shafer: I think that there is one thing that needs to be added to that: as planners and resource managers and so forth we all still tend to look at our own little problem in our own little area. And when we start talking about the finite resources of the environment, we've got to remember that space ship earth is indeed a closed system. You have to include the whole system and not just little subsets that we happen to be looking at connected with our problem.

Phil Meyer: Perhaps—I can speak partially on behalf of three of our panel members—I think our statement was that it does start with humans and that theirs are the values that have been neglected. In response to a direct question from the audience it was felt that there was some mechanism, or hope of developing a mechanism, in the short term that would

allow us to use human values in preparing a planning document for resolving conflicts in the coastal area.

It is a confrontation problem that has to be reconciled. The environmentalists say, "Hey, we can't let that happen because these things are too precious to allow any sort of value discourse to take place." The position is that what we have left is too precious to value, which is an interesting contradiction in terms. There are those of us who have a preservation commitment who are nevertheless saying that we believe we can find a fair way to trade off that will not be terribly damaging to the environment and will be reflective of the values that people place on it. We may be saying one other thing and that is, if we don't involve people, we're going to lose them.

Mr. Leopold: You very definitely emphasized the threat of deterioration of natural bases of recreation as the major target. We all discussed the problem—that the traditional methods of measuring recreational satisfaction are suspect and that the traditional ways of quantifying the recreational experiences are suspect. I can quote from you and say we need alternative methodology and alternative means of measuring.

Now working within the life support capacity of a system does not mean we fence it all off and never use it. I am saying we should understand what you can do with it and understand that it is finite.

John Mason: You asked what we thought was most fundamental. As a biologist, I'd have to agree with you that I think the viability of the environment is a crucial thing, but I think we all realize that it is the people who destroy the environment and, therefore, I think it is more fundamental that we educate the people about the potential destruction of the environment, because to preserve the environment the people have to be aware that they are the ones who are destroying it.

Mr. Gottschalk: You can carry that another step forward and find yourself in a bootstrap operation. In order to educate you've got to be concerned about the environment. Which one really takes precedence? They need to go ahead together. You cannot ignore the preservationist aspect and devote all your energy to the educational aspect.

If all we had were resources and no people, we would have no problems. But the way that we have to approach the whole business of conservation is to recognize that we really do have two parts of an equation: we have the resource base on the one hand and the human use aspect on the other. These two aspects always come together, sometimes in a conflicting way and sometimes in a nonconflicting way. Nevertheless, without the people we wouldn't have any resource problem. Without resources, we wouldn't be worrying either about marine recreation or marine conservation.

It finally comes down to this, that without the resource base we have no opportunity for marine recreation. The people can go to bowling alleys or throw rocks at rats or do any other of a wide variety of things, but they don't have to have marine recreation, when you come right down to it. I think it could be demonstrated that people have a scale of values and if they're not able to enjoy a particular level of a pursuit or pastime they will drop down to a lower one.

Richard Grigg: Perhaps a good way of saying all this is to consider, in light of Jeremy Benton, the greatest good for the greatest number, focusing especially on the greatest part. These criteria would tell us when we're failing, when we're underutilizing or overutilizing the resource, and further emphasize the importance of the concept of carrying capacity.

The next step is to identify the carrying capacity. The user groups tells us, the professional tells us. Once these identifications are made, we have to go to the political scientists to tell us how to respond to it in planning.

Glenn Carlson: Recreation is one of those things in which everybody is an expert. I'd like to point out that marine recreation is a compound term, and "marine" is the adjective to "recreation." Recreation, first of all and ultimately, is a human experience; not only that,

it's a very intense personal experience. Marine recreation is only one alternative that people have for leisure experience. The quality of the experience in that marine scene depends on maintaining and working with the integrity of the marine environment.

So I think there is no conflict between use and maintenance of the resource, but the objective is to plan and utilize that resource to the greatest good, the greatest benefit.

Gordon Clark: I think throughout this conference one of the great problems is the lack of information on what's going on today on the ocean, at the beach. We really don't know what's happening, or how to get to the value of what's good or what's bad. We should find out what people are doing today and then go on from there. That would save a lot of time in making decisions.

Paul Leach: I'd like to offer my observations on these common denominators that I think we're talking about. I think we're talking about a forum to lead to effective coastal zone management, in which the decision makers are involved. The scientists, with constituency inputs, should attempt to define the management unit—whether it is a segment of a beach, a biological area, or a fisheries biomass.

Alex Bigler: The point was made that it is within the state of the art to analyze the economics and the management requirements of recreation use of marine environment in a balanced way. I think that is a very significant conclusion that everybody seemed to agree to.

Mr. Gottschalk: Before you sit down, do you have a definition of recreation to put on the record?

Mr. Bigler: I will give you a very simple definition. Recreation is an activity, voluntarily participated in, for the benefit of or the fulfillment of the individual. And it has certain extra characteristics that go along with it. It's beneficial. It can be active or passive. It involves physiological and psychological responses. It involves motivation. It is highly goal oriented.

When Dr. White referred to the role of NOAA in our opening meeting, he spoke of assisting in those elements of the national outdoor recreation plan that pertained to marine recreation. I want to get on the record that we recommended the same thing be done with respect to the marine implications of the national tourism plan that was proposed by the National Tourism Resources Review Commission to the Department of Interior.

The Department of Commerce has an economic reporting system. Perhaps the Department could give the marine recreation portion of their data base for the GNP.

Mr. Gottschalk: Let us take one more question on the fundamental question that I asked earlier.

Keith Ozmore: I want to say that I agree fully with the concept that many of our natural resources, our marine resources, are being overused and abused. I think one of the reasons for that is that much of our marine resources are not accessible to the public. I want to talk just a moment about the beach situation. I would like to see some specific recommendations come out of this conference, not just generalizations. I would like to strongly urge that the states move as quickly as possible legally and politically to ensure access to the public beaches. This can be done, and can be done economically. All it needs is a statute on the books to get into courts to prove what the public's rights are. It can be done relatively quickly.

Beach access is important to 90% of the people who utilize marine resources, the fisherman, the surfer, the picnicker with his family, the sunbather, and the outboarder. Beach access will mean launching ramps to go boating, water skiing, skin diving, and practically every activity that you can mention that can be done from the beaches. I strongly urge that this conference adopt a beach access recommendation.

Mr. Gottschalk: I'm sure the conference managers have gotten that message. You make a

point, which we generally recognize when we think about it, that of all the aspects of the marine scene, a beach perhaps satisfies interests of a greater variety of people than any other particular facet of the total resources.

Mrs. Margo Feuer: The definition of recreation, with which we would probably all agree, might have been developed at a time when the whole concept of limited resources was not as prevalent as it is today. I would surely be supportive of a fundamental statement, coming out of this conference that the protection of the ecosystem underlies all user needs. Protecting the quality of the human experience by protecting the quality of the ecosystem that supports it is really the paramount concern to which we must address ourselves.

Mr. Gottschalk: I must say that quality is another one of those things that is even more difficult to define than recreation. I don't have any problem defining recreation, but I don't know what "quality" is. It is strictly in the mind of the observer, it seems to me. Everything is relative, and that's nothing new, either.

Mr. Shafer: I think that those of us who have been involved in marine studies or involved in marine environment have shortsighted the area of education. It happens to be my axe to grind. Recreators probably represent the largest constituency relative to the marine environment, and yet this constituency is a very small group of people. Only a few of them are vocal in making their needs felt, politically, and in other ways.

If we look at the textbooks throughout the school curriculum in all subjects including environmental education, which has been the big thing for the last ten years, perhaps we find that the oceans are really very poorly represented. In general, the vast population has no understanding or appreciation of the oceans or their value to the total ecosystem or how to use them, how to enjoy them, how to compromise and solve the problems related to them. I submit that the oceans really don't have much of constituency on this country and that until we adopt some sort of a long-range educational program and outlook that includes the oceans, coastal zone management is not going to be successful. A lot of the other things that we're talking about are not going to be successful because they're not going to have the backing of the voter. I think it's very important that we begin to take that long-range outlook in terms of general public education and not just the old traditional one of marine education as a graduate level subject.

Mr. George Siehl: I wonder if I could make a brief attempt to summarize these fundamentals that we're searching for. It seems to me that there are three: People, the resource, which is the land-water interface, and a management mechanism to bring the two together. I think that would really boil down to most of what we're talking about here, today.

Mr. Gottschalk: I would like to use that as the springboard for going into the next issue. But first I want to come back to the question of how we elaborate a system that relates the resources to human utilization, and how we can optimize, not maximize, the benefits we can get from the resource. I question the use of that term as I've heard it used, starting with Dr. White the first day when he said we want to *maximize* outdoor recreation. I question whether we want to do that. The question I want to pose right now is what are your ideas as to how this conference can be made to be the foundation for some subsequent action in this general area of furthering the interests of marine recreation? Do we want to foster marine recreation; and, if so, how can this conference be used as a springboard for moving on to the next stage?

We should probably plan to transmit a copy of the findings to the NOPS Study Committee, and secondly, to reconfirm Dr. White's commitment to the position of marine recreation coordinator in NOAA as a continuing function.

Dennis Ducsik: I'd like to talk to the question of the role of NOAA and its programs in response to the pink sheet and special reference to dealing with marine recreation of coastal zone management.

Mr. Gottschalk: I'd like to first get into something a little more specific. In the first place, this has been a conference at which we've brought together a lot of people with a great deal of interest in the subject; and we have talked and covered quite a bit of ground. It is pointing out the direction of what ought to be done, systematically; and maybe that's what you're going to talk to shortly: how to rationalize the whole infrastructure, the whole organizational matrix that relates to outdoor marine recreation in this country.

It seems to me it would be extremely worthwhile if, as an outgrowth of this conference, Dr. White would call another one. We would have a series of workshops where we deal with how to build the machinery necessary to address these conflicts and problems and their solutions.

I realize I sound like the old-fashioned bureaucrat when I say, "Well, we've had a conference and decided to have another conference." But there's a lot more to it than that. We cannot simply let the initiative and the momentum that have been developed here dwindle away. We ought to capitalize on it, get a small steering committee together under NOAA that focuses on a series of discrete issues, works out position papers, and then closet a group of people together and hammer out a concerted position on all of the issues.

The second part, is that it might be a good idea to suggest to Dr. White that we organize a new council called MAREC, Marine Recreation Council. We have MAFAC. We have NACOA. Now we could have MAREC, composed of representatives of this great spectrum of interests that are concerned with marine recreation. This could be a formal step that we take to begin to build a lasting structure that would address itself not only to strengthening the general support for marine recreation and enhancing it, but also as a device to bring together the many disparate groups that are concerned about the marine environment.

Mr. Ducsik: John, I hope to speak directly to the first of the two points that you mentioned. I believe that the machinery for coming to grips with marine recreation policies that you perceive a need for is pretty much in place. I think that is what John Clark was talking about when he was talking about the Coastal Zone Management Act; and that's what I'm talking about. If you read carefully the declaration of policy, the findings of the Congress in establishing the Coastal Zone Management Act, there are three fundamental themes:

The first theme is to protect the national resource base, certainly a theme reflected this morning.

The second theme is protecting the visual, cultural, historic and open space aspects. These are attributes of satisfying leisure behavior other than just ecology.

And the third is balanced use.

It seems to me that these are all the ingredients we're looking for.

It's been the position of NOAA in testimony before the Congress in the Open Beaches Bill, that beach access generally is best handled within the framework of the state coastal zone management programs. I want to know if that is really being followed up? Are the themes really substantively being followed up? I see, for example, that there are amendments to the Coastal Zone Management Act. I would like to know what the position of NOAA is on how to significantly upgrade the role of beach access in the development of coastal zone programs. That's very important because once you get beyond the declaration of policy in the findings in the coastal zone law, recreation is dropped. In the Coastal Zone Management Act, Sections 305 and 306, Development of Management Programs and Implementation of Management Programs do not specifically come to grips with the recreation issue.

In fairness to the coastal zone management office, recreation is developed to a certain extent in the guidelines for implementation of those two sections; however, I think there is a feeling that that doesn't go far enough. So, perhaps one concrete thing we can speak to here is how far we can take coastal zone management. What is our feeling about amendments that are before the Congress, right now? Let's take this statement of policy by the Congress as a statement of the recreational potential of the coastal zone and use it for what it's worth. I wonder if it's being done at this point.

I am disappointed to see on the Pink Policy Statement that the idea of recreation being dealt with in the framework of coastal zone management is No. 11 on a list of 12 program areas. It ranks just ahead of conferences and symposia! I think that marine recreation must be at least on an equal footing with the provision of research and development.

Mr. Gottschalk: It is the kind of a topic that could very well be addressed in one of these follow-up workshops that I have suggested. That's one of the things that should be given a rather intensive examination and for which some concrete solutions should be reached and presented.

Mr. Glen Carlson: I think the idea of follow-up workshops is a good one, but let's support Dennis' thought. As one in the Sea Grant site visitors of recreational proposals, I don't really see a commitment in NOAA of the kind we would like with recreation as a priority item; and I think we have a right to ask for that.

Mr. Ken Hutchinson: I'd just like to talk to the point that Francis Christy addressed the other day concerning different procedures for providing a good insight into the recreational problem. You remember, he said, marketing procedures and administrative processes and legislative processes are what are open to us in a management sense. This conference has been an administrative process in which we've all been engaged. I think to a certain extent, it's been frustrating to some of us.

I think we have to be very careful in how we define the structure of follow-up workshops because, as Francis Christy mentioned, administrative processes by their very nature are weak. They tend to divorce the managers from the people themselves. I am afraid that if we go ahead with workshops subsequent to this one that are modeled the way this one has been, we may continue that division. I think we've got to look closely at workshops that deal with George Siehl's basic discussion of the man, the resource, and the mechanism. We have to deal at the resource level, perhaps in local situations with people that are involved directly in specific aspects of using a marine environment. By this, I mean we should hold, perhaps, a workshop of surfers, a workshop of divers, a workshop of boating tradespeople—sprinkle them around the country and get inputs directly from people who are most concerned with one particular aspect of recreation and can perhaps come up with specific recommendations that we've had trouble getting to in the course of this conference.

Byron Washom: Mr. Gottschalk, I would like to make a comment in reference to your earlier suggestion of some rather large, grandiose, time-consuming organizational suggestions. If we agree that there currently exists conflicts in the field of marine recreation, I contend we do not have the luxury of time to create new organizations. If there is to be a recommendation to NOAA, the recommendation should be: What is the existing process for marine recreational planning? How adequate is it? How can we amend the existing process where the existing process is envisioned as being totally incapable of fully meeting the needs?

The point that Dennis made, concerning amendments to the National Coastal Zone Management Act whose emphasis is primarily on a state basis, is that it is at that place, through amendments or emphasis given to energy siting on the coast, that we can most effectively channel our present actions. Either leverage or incentives should be provided the state to elevate the importance and the priority of marine recreation. At the state level there are funds and there are ongoing programs. From there we should go towards local planning for recreation because it's at the local level or the site specific area in which recreation is eventually engaged.

Mr. Bigler: I have a footnote in terms of state initiative. Just last year, Secretary Reed called a marine recreation conference in Florida. They asked for comment, and the overriding thing that came through there was the expression of frustration of the state people involved with the coastal zone in trying to elicit expressions of the federal interest as input to the coastal zone management plan. Most of the important priorities for establishing an

inter-agency committee would be to perfect the national interest in these various areas of federal responsibilities, for input into the coastal zone management process at the state level.

Mr. Ozmore: The development of coastal zone management depends on a large part on the quality of the state people who go into the development of the program. Quite frequently, I am put in the position of bad-mouthing my state. Fortunately, I do not have to do that at this conference because we are very happy in the way our coastal zone management program is being developed. We have a highly competent person, Bob Armstrong, who is dedicated. He has made extreme effort to get input from various sectors of the Texas public. We may come to the point nationally where we need stiffer legislation to require some states to do this, as we've had to do in water pollution.

Mr. Gottschalk: I am personally very apprehensive about what has happened in some states, simply because the federal law does not really give much except lip service to some of the basic concepts that are imperative to coastal zone management systems. What I see coming out of it are the same kinds of systems that we have seen used in this country before, in which a system designed to protect a given resource, or to enhance or restore a given resource, turns out to be a system for issuing permits for the continued degradation of the resource. The coastal zone management programs are systems of planning, and this implies allocation of resources.

Robert Graham: I'd like to make two comments.

First of all, I think perhaps a good approach would be to look at the resource on a regional basis, which would imply some type of cooperation. This could eliminate duplication of effort and facilitate sharing of data.

The second thing I would like to emphasize is Dennis' comment that the themes do exist in existing legislation, but maybe some of the problems are associated with funding. Perhaps someone in the Congress could push for adequate funding for the existing legislation.

Mr. Washom: I am not able to support regional forms of government, particularly those that span different states, when it comes to management. On an information gathering basis maybe it is best to have regional joint powers or cooperation, but very seldom do I see the actual resource or recreation that is involved as really a regional problem as much as it is a state problem.

Richard Grigg: I want to return to Dennis' point about the machinery in government. I think it is there. I agree the Coastal Zone Management Act mandates the states to come up with a plan. In this conference we've identified many of the problems, which Neil Ross has outlined in an orderly way. This outline might serve as a model to be presented to the states. A workshop might come up with an all-inclusive plan to recommend to the states.

Philip Symonds: There seems to be a minor argument on local vs. state legislation—what is regional? What is federal government? Some of the issues will concern smaller regions, and some larger regions. We should be concerned with developing plans and processes that match the problems.

John Baxter: One of the things that I suffer from sometimes is being a pro-active, passionate advocate. What have we done here? What has this conference meant? Where are we? Where are we going to go?

For years the Federal Government, and the state governments, have in their processes and programs given lip service to recreation. We have had a federal agency active for years, designed for and working on outdoor recreation. We are concerned at this conference with the area where the land meets with the water and the interface between the two.

The last thing I want to see is more meetings, but I would like to see another meeting as a follow-up to Mr. Gottschalk's suggestion. The record of the existing agencies as far as

marine recreation is not good. The Bureau of Outdoor Recreation has almost ignored the marine area. What has this conference done? For the first time on a national level, via this conference, we are legitimate. Marine recreation has been legitimized. Now, with this conference, we've got to move forward. I'd like to see a workshop deal with existing agencies and mechanisms at different government levels. What are they supposed to do? And do they do what they're supposed to?

Mr. Douglas: I would suggest, not from a basis of mistrust, but from getting comprehensive and accurate articulation of objectives, that we ought to pursue what it is in terms of questions and problems in a workshop such as has been suggested, call on a knowledgeable group of people from this conference, a representative group that will sit down with them to go through the articulation of the questions, the needs, and the goals, and the roles of the various agencies that have been discussed.

John McAleer: I was just going to comment that the Marine Technology Society has been an advocate of coastal zone management. In the early days it worked on new programs and goals. One of the most important objectives was marine recreation. Alex Bigler is Chairman of their Committee on Marine Recreation, and it may be that some of the membership of that group can help in this effort.

Mr. Ross: I strongly urge everybody to go back and work on developing a marine constituency. After ten years, Sea Grant has funded \$20 million dollars of research, education and advisory services. In contrast, the U.S. Office of Education developed a plan for bilingual education and asked for \$1 million dollars for research to determine what it is they needed to do. Every Congressman whose desk that bill went across had a bilingual group in his district, so he boosted the dollar amount. When that bill passed I believe it had the sum of \$80 million dollars the first year, and all they had in the U.S. Office of Education was a preliminary plan! If you've got a constituency, you can get something done! But you must develop that constituency, and actively plot the kill, whether locally or nationally.

Mr. Washom: I want to reiterate a point mentioned earlier by Mr. Douglas. He suggested establishing a management committee, responsible to the managers of this conference, to review the needs of planners and procedures available to the managers to meet those needs.

Mr. Gottschalk: Ladies and gentlemen, sorry we have come to the end.

I think we all recognize, we probably knew it before and hopefully we are more aware of it than when we arrived, that the general field of marine recreation is a tremendous and growing entity in the economic and social life of America. It is not only very large by any standard of measurement: the number of people participating, the economic stimulus or whatever, but it is also extremely disorganized. It is fractioned into groups, groups with specific interests fighting among each other. This is one of the reasons for the frustration that has been evidenced at times at this conference.

Most of you see and perceive needs that need to be met; and you're frustrated because for some reason, the system is not providing a mechanism for accomplishing the resolution of the problems that need to be addressed. If you run down through the topics that this conference had listed on its program, you will see a recitation of the kinds of problems that we continue to perceive and will probably realistically see for quite some time ahead. Part of this frustration stems from the failure of the system to respect the great significance of marine recreation, lies in our heritage as it is related to the work ethic. A lot of people in high places think that any time you're recreating, you're out "goofing off," and that whatever you're doing isn't really serious. Therefore, when the chips are down, and a decision has to be made about the use of a particular resource or a part of a resource, there is a tendency to play down the significance of recreation. As long as the vast bulk of the population has the opportunity to recreate to a satisfactory degree, this is not too much of a problem. However, as Mr. Leopold pointed out early this morning, we're dealing with a finite resource. We are approaching the point where the demands on that resource are beginning to outstrip the availability of the supply.

At this point, we come to a crucial problem. How to get recognition of what we accept as a fact, that recreation is vital to the welfare of the American public. As somebody said yesterday, it is not just part of life; but it is the essence of a way of life. It seems to me that we need to be concerned with the elaboration of a more equitable and comprehensive system of allocating resources that are becoming progressively scarcer. Dr. Christy pointed out that we have used administrative and marketplace criteria and he recommended that we experiment more with the legislative process. What he was saying is that it is time that we get organized and begin to demonstrate the force of the interests behind marine recreation so that we are more effective in the legislative processes.

For years, having been involved in marine sport fishing, I have been frustrated in the competitive situation between sport and commercial fishermen. Once the chips are down, the commercial fisherman can take some money out of his hip pocket and pay somebody to go to Washington or go to Sacramento and hammer away at the legislators; but Joe Doakes, the fishing sportsman out here, has a job. These people are working people and don't have the opportunity to apply the same kind of leverage in the legislative processes as those who are making a business out of the resource. That is a practicable disadvantage for recreationists. They must take their own time, and their own money to try to do anything for the resources which concern them. Following through on Christy's recommendation, we need constructive experimentation in making the legislative processes more sensitive and reflective of the needs of the people who are dealing with a resource that is not normally in the marketplace. It is still a subject that needs a great deal of research not only in terms of economic parameters, but also attitudinal and social situations.

I have some further comments but instead I will express what I am sure is the appreciation of all of you here for the opportunity to come together under these circumstances. I for one feel like it's the opening scene. We have a long way to go, but at least we've made a constructive start. I hope that the managers will pick up the loose ends, pull them together, by whatever means they have and carry this forward as a good, strong first step on the road to making marine recreation a major concern of the American government system as it is for so many American people. At that, I am pleased to turn the session back to the General Chairman.

Mr. Roedel: This is really our first workshop; and perhaps, the most profitable suggestions of the meetings have gotten onto the record today. When we organized this conference, we certainly didn't expect to get the answers to all of the issues. We had no thought of that. We hoped we would get an identification of what people who are concerned with recreation thought the issues were and what they thought NOAA should be doing about it.

I believe that when we analyze today's record, the various comments made through the rapporteurs' reports and in the papers prepared for the conference, we'll indeed have accomplished our objective. We have probably identified more questions than we thought existed. What NOAA will ultimately be or should be with respect to marine recreation, I really would hesitate to predict at this time. I am sure that I am going to be able to make some rather strong recommendations to Bob White as a result of this meeting. I would hope that he, and NOAA, would follow through.

It's a little hard, then, at this point in time to predict what the next step will be. I am sure, however, that at the very least, NOAA is going to be much more responsive to recreational needs, and much more understanding of recreational problems in the future than it has been in the past. We really have never had a recreational program in NOAA; there have been a lot of little projects, many of which have large recreational potential, but these were never brought together in any coherent agency-wide program. I hope that agency-wide coherence will be one result of this conference. I would hope that a much stronger program, centrally supported by NOAA will emerge at the national level. I think there is a clear message as to what responsibilities should be at the state or local level. I think that you will find that people in NOAA, and Dr. White emphasized this, do believe that the decision should be made at the local level, wherever possible, and shouldn't depend

on national action unless national policy is involved or there are national or international implications.

So, as far as I personally am concerned, this has been extremely fruitful three days. I have been sitting in the back row listening. I think I have learned something.

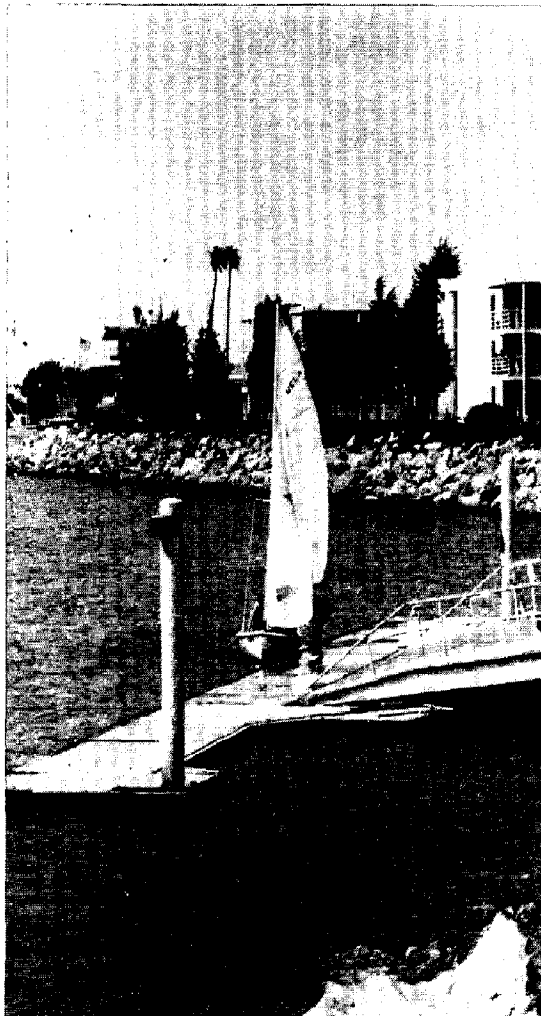
And at this point, then, I simply want to thank all of you for attending and for contributing. I want especially to thank those who accepted positions as speakers, moderators, and the particularly onerous task of rapporteur. Thanks for all you have done to make this conference what I feel is a true success.

Mr. Baxter: May we express to you, Phil, and through you to Dr. White, our appreciation. Thanks for bringing this together, giving us this opportunity and special thanks to Susan Anderson for having worked out all the details here, and getting us together.

The General Chairman: Thank you.

I do want to express special thanks to the University of Southern California for the excellent job they have done in staging this conference, and most particularly to Susan. Any success this conference enjoys is to her credit, not the rest of us.

Thank you.



APPENDIX

List of Attendees

- | | |
|---|--|
| <p>*Janet Adams
California Coastal Alliance
P.O. Box 4161
Woodside, Ca. 94062</p> | <p>Dottie Bjur
USC Sea Grant Program
SSW 308, University Park
Los Angeles, Ca. 90007</p> |
| <p>Hans Albrecht
Los Angeles County Department of Parks
and Recreation
155 West Washington Blvd.
Los Angeles, Ca. 90015</p> | <p>Naomi Bloom
Sea Grant Advisory Services
Moss Landing Marine Laboratories
P.O. Box 223
Moss Landing, Ca. 95039</p> |
| <p>Susan H. Anderson
USC Sea Grant Marine Advisory Program
100 West Water St.
Wilmington, Ca. 90744</p> | <p>Clark Blunt
California Department of Fish and Game
1416 Ninth St.
Sacramento, Ca. 95814</p> |
| <p>Robert J. Ayers
NOAA/National Marine Fisheries Service
2001 Wisconsin
Washington, D.C. 20235</p> | <p>*Joseph E. Bodovitz
California Coastal Zone Conservation
Commission
1540 Market St. 2nd Floor
San Francisco, Ca. 91402</p> |
| <p>*John L. Baxter
California Department of Fish and Game
411 Burgess Dr.
Menlo Park, Ca. 94025</p> | <p>John R. Botzum
Nautilus Press
1056 National Press Bldg.
Washington D.C. 20004</p> |
| <p>Alvin L. Bertrand
Louisiana State University
Department of Sociology and Rural
Sociology
Baton Rouge, La. 70803</p> | <p>Cheryl Bozorgmanesh
Michigan Sea Grant Coordinating Advi-
sory Services
2200 Bonisteel Blvd.
University of Michigan
Ann Arbor, Michigan 48105</p> |
| <p>*Alexander Bigler
P.O. Box 250
Oakton, Virginia 22124</p> | <p>*Speakers, moderators, and rapporteurs</p> |

*Rochelle Braly
2145 Moreno Drive
Los Angeles, Ca. 90037

Peter Brand
Bureau of Outdoor Recreation
Box 36062 - 450 Golden Gate Ave.
San Francisco, Ca. 94102

Glen R. Brandenburg
San Diego State University
P.O. Box 9792
San Diego, Ca. 92109

Clemens B. Bribitzer
NOAA/National Marine Fisheries Service
P.O. Box 3186
Terminal Island, Ca. 90731

F. C. Buchter
Central Regional Commission
California Coastal Zone Conservation
Commission
330 East Canon Perdido
Santa Barbara, Ca. 93101

Ron Burns
San Diego State University
P.O. Box 9792
San Diego, Ca. 92109

Ernest A. Carl
Office of Marine Affairs
State of North Carolina
217 W. Jones St.
Raleigh, N.C. 27611

Glen Carls
Department of Recreation
Faculty of Human Kinetics and Leisure
Studies
University of Waterloo
Waterloo, Ontario, Canada

*Frank E. Carlton
National Coalition of Marine Conserva-
tion
P.O. Box 5131
Savannah, Ga. 31403

Nancy Carter
Center for Natural Areas
1525 New Hampshire Ave., N.W.
Washington, D.C. 20036

Joe Chesler
Los Angeles County Department of
Beaches
2600 Strand
Manhattan Beach, Ca. 90266

Lawrence R. Chime
ESL, Incorporated
495 Java Dr.
Sunnyvale, Ca. 94086

*Francis Christy
Resources for the Future
1755 Massachusetts Ave., N.W.
Washington D.C. 20036

*John Clark
Conservations Foundation
1717 Massachusetts Ave., N.W.
Washington, D.C. 20036

Gordon Clark
Western Surfing Association
25887 Crown Valley Parkway
South Laguna, Ca. 92677

Harold Conrad
North American Sailing Association
25451 Earhart Rd.
Laguna Hills, Ca. 92653

Robert W. Cotter
Long Beach Recreation Department
155 Queens Way
Long Beach, Ca. 90802

John P. Cruger-Hansen
Dockmaster, Marina City Club
4333 Admiralty Way
Marina del Rey, Ca. 90291

John L. Curci
Lido Yacht Anchorage
P.O. Box 1457
Newport Beach, Ca. 92663

Arthur E. Curtis
Lido Yacht Anchorage
Box 1158
Newport Beach, Ca. 92663

Charles and Helen Davis
Irvine Company dba, California Recrea-
tion Company
1137 Bayside Drive
Corona del Mar, Ca. 92625

*Francis Dean
EDAW, Inc.
220 Newport Center
Newport Beach, Ca. 92660

Kathryn M. Delaune
Industrial Economics Resources Division
Texas A & M University
P.O. Box 83FM
College Station, Texas 77843

Stephen H. Del Regno
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

*Robert B. Ditton
Department of Recreation and Parks
Texas A & M University
College Station, Texas 77843

David Dmohowski
City of Newport Beach
3300 Newport Blvd.
Newport Beach, Ca. 92663

*Peter Douglas
Assembly Sub Committee for Coastal
Resources
1116 9th St., Room 35
Sacramento, Ca. 95814

G. Richard Dowdy
Surfing Magazine
27635 Forbes Road
Laguna Niguel, Ca. 92677

*Patrick Doyle
Outboard Marine Corporation
Environment Communications
4143 N. 27th St. Box 663
Milwaukee, Wis. 53201

Graham A. Drew
The University of British Columbia
Centre for Continuing Education
2075 Wesbrook Pl.
Vancouver, B.C. V6T1W5

*Dennis Ducsik
Massachusetts Institute of Technology
Room 1-215
Cambridge, Mass. 02139

Joe Edmiston
Sierra Club
2410 Beverly Blvd.
Los Angeles, Ca. 90097

Michael M. Ego
California State College
Department of Recreation
1000 East Victoria Street
Dominguez Hills, Ca. 90747

William H. Ehorn
NPA Channel Island National Monument
1699 Acres Way Dr.
Ventura, Ca. 93003

Allan R. Emkin
Venice Legal Aid
318 S. Lincoln Blvd.
Venice, Ca. 90291

Smith Falconer, Jr., General Manager
Lake Elsinore Recreation & Park District
119 E. Graham Ave.
Lake Elsinore, Ca. 92530

*Rimmon C. Fay
Pacific-Bio-Marine Supply Co.
P.O. Box 536
Venice, Ca. 90291

Robert Feldmeth, Associate Professor
Biology Department
Claremont Men's College
727 W. 11th St.
Claremont, Ca. 91711

Margot Feuer
 Santa Monica Mountains Task Force
 Sierra Club
 23140 Mariposa de Oro
 Malibu, Ca. 90265

Robert E. Fulton, Jr.
 North American Sailing Association
 110 N. Harbor
 Fullerton, Ca. 92632

Otto F. W. Gasser
 California State Polytechnic University
 8230 Orchard
 Alta Loma, Ca. 91701

Tony Gerschler
 Surfing Magazine
 27635 Forbes Rd.
 Laguna Niguel, Ca. 92677

Larry Gibson
 City of Newport Beach
 Marine Department
 3300 Newport Blvd.
 Newport Beach, Ca. 92660

Dayton Gilleland
 California State Polytechnic University
 230 Aliso Hall
 Pomona, Ca. 91768

Stan Gold
 Department of Recreation and Parks
 Texas A & M University
 College Station, Tex. 77840

*John S. Gottschalk
 International Association for Game, Fish
 and Conservation
 1412 16th St., N.W.
 Washington, D.C. 20036

Neel Gould
 Public Administration Program
 University of Southern California
 5351 East Eagle St.
 Long Beach, Ca. 90815

Alan R. Graefe
 Department of Recreation and Parks
 Texas A & M University
 2200 S. College Ave., Box 7
 Bryan, Texas 77801

*Robert Graham
 Faculty of Human Kinetics & Leisure
 Studies
 University of Waterloo
 Waterloo, Ontario, Canada N2L3G1

Mikles Gratzner
 New York Sea Grant Program
 State University of New York
 College of Environmental Science and
 Forestry
 Syracuse, N. Y. 13210

Dennis Grealish
 Occasional Yacht Club
 4635 Admiralty Way
 Marina del Rey, Ca. 90291

*Richard Grigg
 National Sea Grant Program
 3300 Whitehaven St., N.W.
 Washington, D.C. 20235

*Clare A. Gunn
 Department of Parks and Recreation
 Texas A & M University
 College Station, Texas 77843

Leigh H. Hammond
 North Carolina State University Sea
 Grant Program
 P.O. Box 5125
 Raleigh, N.C. 27607

Merwin G. Hansen
 Harbor Superintendent
 Oyster Pt. Marina
 City of South San Francisco
 P.O. Box 711
 South San Francisco, Ca. 94080

Jon Hardy
 National Association of Underwater
 Instructors
 P.O. Box 630
 Colton, Ca. 92324

Jeremy Harris
 Marine Advisory Program
 University of Hawaii Sea Grant Program
 P.O. Box 1588
 Lihue, Kanai, Hawaii 96766

*John P. Harville
 Pacific Marine Fisheries Commission
 342 State Office Bldg.
 1400 S.W. 5th Ave.
 Portland, Ore. 97201

*Michael A. Heeb
 Office of Sea Grant
 NOAA Marine Advisory Services
 3300 Whitehaven St., N.W.
 Washington D.C. 20235

*Marc J. Hershman
 Institute for Marine Studies
 HA-35
 University of Washington
 Seattle, Washington 98195

Diane Hilton
 Ecology Center of California
 P.O. Box 24388
 Los Angeles, Ca. 90024

Terri Hoban
 California Department of Fish and Game
 350 Golden Shore
 Long Beach, Ca. 90802

Norman Hongola
 State Department of Parks and Recreation
 1416 9th St.
 Sacramento, Ca. 95811

Susan L. Hope
 Tetra Tech
 630 N. Rosemead
 Pasadena, Ca. 91107

*Paul Howard
 National Audubon Society
 555 Audubon Pl.
 Sacramento, Ca. 95825

*John R. Hubbard, President
 University of Southern California
 University Park
 Los Angeles, Ca. 90007

Shirley Hudgins
 University of Southern California Sea
 Grant Program
 University Park
 Los Angeles, Ca. 90007

John K. Hutchinson
 New England Marine Advisory Services
 New England Center
 Durham, N.H. 03824

*John Isaacs
 Scripps Institute of Oceanography
 P.O. Box 1529
 La Jolla, Ca. 92037

Richard N. Jarman
 Department of Recreation and Parks
 Texas A & M University
 402 Nimitz
 College Station, Texas 77840

Ken Johnson
 Los Angeles County Department of
 Beaches
 2600 Strand
 Manhattan Beach, Ca. 90266

*Fred L. Jones
 Federal Programs and Planning
 Bureau of Outdoor Recreation
 U.S. Department of Interior
 Washington, D.C. 20240

*Robert L. Jones
 Jones and Stokes Association, Inc.
 455 Capitol Mall Ste 835
 Sacramento, Ca. 95814

Richard Josslin, Administrator
 Cabrillo Marine Museum
 3720 Stephen White Dr.
 San Pedro, Ca. 90731

Fred Jurick
Humboldt State University Sea Grant
Program
Marine Advisory Services
Arcata, Ca. 95021

Cheryl Kane
City of Long Beach Planning Department
Long Beach City Hall
Long Beach, Ca. 90802

*Robert Kaneen
California Department of Fish and Game
Marine Resources
350 Golden Shore
Long Beach, Ca. 90802

*Matt G. Kaufman
Boating Industry Association
401 N. Michigan Ave.
Chicago, Ill. 60611

D. R. Kay
U.S. Coast Guard
19 Pine Avenue
Long Beach, Ca. 90802

Bruce W. Keller
San Diego State University
P.O. Box 9792
San Diego, Ca. 92109

William M. Kerrigan
San Mateo Harbor District
Pillar Pt. Harbor
El Granada, Ca. 94018

*Robert W. Knecht, Director
NOAA/Office of Coastal Zone Management
2001 Wisconsin Ave.
Washington, D.C. 20235

Ruth T. Koch
California Coastal Zone Conservation
Commission
1540 Market St. 2nd Floor
San Francisco, Ca. 94102

*William Kornblum
City University of New York
Department of Sociology
33 N. 42nd St.
New York, N.Y. 10036

Bruce Kranz
Department of Parks and Recreation
State of California
3020 Av del Presidente
San Clemente, Ca. 92672

*Michael Krouse
Institute for Water Resources
U.S. Army Corps of Engineers
Ft. Belvoir, Va. 22060

*Jon Kusler
University of Wisconsin
Institute of Environmental Sciences
Madison, Wis. 53706

Paul J. Leach
NOAA/National Marine Fisheries Services
2001 Wisconsin Ave.
Washington, D.C. 20235

*Larry Leopold
University of Southern California
Marine Advisory Program
100 West Water St.
Wilmington, Ca. 90744

Robert R. Leslie
Marina del Rey Lessees Association
4333 Admiralty Way, Prom 130
Marina del Rey, Ca. 90291

Mike Leneman
University of Southern California
University Park
Los Angeles, Ca. 90007

James Lindsey
Ecomar
1409 Norman Firestone Rd.
Goleta, Ca. 93017

*Ronald B. Linsky
University of Hawaii Sea Grant Program
1710 Punahou St. #402
Honolulu, Hawaii 96822

*Robert Lutz
Institute for Coastal Law and Management
University of Southern California
University Park
Los Angeles, Ca. 90007

Jon A. Lucy
Virginia Institute of Marine Sciences
Gloucester Point, Va. 23062

*John B. McAleer
Consulting Engineer
60 Elam St.
Wickford, No. Kingstown, R.I. 02852

*J. Michael McCloskey, President
Sierra Club
1050 Mills Tower - 220 Bush St.
San Francisco, Ca. 94104

Linda McCrerey
University of Hawaii Sea Grant Program
2150 Mott Smith Dr.
Honolulu, Hawaii 96822

Barry McIlwain
Mississippi/Alabama Sea Grant Consortium Program
Box AG
Ocean Springs, Miss. 39564

David R. McKenzie
Dames & Moore
500 Sansome St.
San Francisco, Ca. 94111

Larry Mallon
University of Southern California Sea Grant/Marine Advisory Program
100 West Water St.
Wilmington, Ca. 90744

*Roy Mann
Roy Mann Associates, Inc.
180 Franklin St.
Cambridge, Mass. 02139

Andrew Manus
Department of Recreation and Parks
Texas A & M University
College Station, Texas 77843

Albert J. Marmo
U.S. DOT, U.S. Coast Guard
Office of Boating Safety
4000 Woodhaven Lane
Bowie, Md. 20715

John M. Mason, Jr.
Research Associate
Woods Hole Oceanographic Institute
Woods Hole, Ma. 02543

Frank Maxwell
Pacific Outer Continental Shelf Office
P.O. Box 848
Los Angeles, Ca. 90053

Arthur S. Merrill
NOAA/National Marine Fisheries Services
Middle Atlantic Coastal Fisheries Center
Sandy Hook Lab
Highland, N.J. 07732

James Messersmith
California Department of Fish and Game
1416 9th St.
Sacramento, Ca. 95814

*Philip A. Meyer
Pacific Region Fisheries Service
Environment Canada
1090 W. Pender St.
Vancouver, B.C. Canada V6E291

Robert H. Meyer
California Council for Environmental and Economic Balance
15 Shoreline Circle
Sacramento, Ca. 95831

*Dick Milkovich
 Director of Parks and Recreation
 City of South San Francisco
 P.O. Box 711
 South San Francisco, Ca. 94080

Larry A. Miller
 Marine Consultant
 1512 Sylvia
 Newport Beach, Ca. 92660

Norman P. Miller, President
 University of California, Los Angeles
 405 Hilgard Ave.
 Los Angeles, Ca. 90024

John Miloy
 Texas A & M University
 College Station, Texas 77843

Elyse Mintey
 SEA Magazine
 1499 Monrovia Ave.
 Newport Beach, Ca. 92663

Stephen E. Mitakis
 Director of Aquatics
 University of California, Los Angeles
 18672 Pacific Coast Highway
 Malibu, Ca. 90265

*Joseph Monti
 Fishermens Union Local #73
 806 S. Palos Verdes St.
 San Pedro, Ca. 90731

*Larry Moore
 Irvine Company
 550 Newport Center Dr.
 Newport Beach, Ca. 92663

Roy Morey
 Texas Water Development Board
 P.O. Box 13087
 Austin, Texas 78711

Janie Morris
 California State Polytechnic University
 7955 Magnolia #276
 Riverside, Ca. 92504

*Patrick Noonan
 The Nature Conservancy
 1800 North Kent
 Arlington, Va. 22209

Bill Nott
 Sportfishing Association of California
 555 East Ocean Blvd., Ste 515A
 Long Beach, Ca. 90802

*Charles H. Odegaard, Director
 Washington State Parks
 and Recreation Commission
 P.O. Box 1128
 Olympia, Wash. 98501

Mel Odemar
 California Department of Fish and Game
 1416 9th St.
 Sacramento, Ca. 95814

*Candace Oviatt
 Graduate School of Oceanography
 University of Rhode Island
 Narragansett, R.I. 02882

*Keith Ozmore
 Office of Congressman Eckhardt
 8632 Federal Bldg. 515 Rusk
 Houston, Texas 77002

Roger Pappas
 National Weather Service
 11000 Wilshire Blvd. Room 11102
 Los Angeles, Ca. 90024

Leon Pauletti
 Sea Grant Advisory Service
 306 Meadow Rd.
 Biloxi, Miss. 39531

*Darrell L. Peoples
 Washington State Attorney General's Office
 Temple of Justice P.O. Box 1128
 Olympia, Wash. 98501

Paul Pettit
 Los Angeles County Department of
 Beaches
 2600 Strand
 Manhattan Beach, Ca. 90266

Steve Pezman
 Surfer Magazine
 P.O. Box 1028
 Dana Point, Ca. 92629

Neil Pinney
 Energies Magazine
 136 13th St.
 Seal Beach, Ca. 90740

Leo Porter
 Los Angeles County Department of
 Small Craft and Harbors
 Administration Bldg. Fiji Way
 Marina del Rey, Ca. 90291

R. Bruce Rettig
 Department of Agriculture and Resource
 Economy
 Oregon State University
 Corvallis, Ore. 97331

Donald G. Richcreek
 Harbor Master
 Crescent City Harbor District
 P.O. Box 606
 Crescent City, Ca. 95531

W. H. Rinkenbach
 ITT Jabsco Products
 1485 Dale Way
 Costa Mesa, Ca. 92626

*Philip M. Roedel
 Fisheries Advisor
 Office of Agriculture
 Bureau for Technical Assistance
 U.S. Department of State—A.I.D.
 Washington, D.C. 20523

*Councilman Howard Rogers
 City Hall
 3300 Newport Blvd.
 Newport Beach, Ca. 92663

*Niels Rorholm, Director
 Sea Grant Program
 Department of Resource Economics
 University of Rhode Island
 210 Woodward Hall
 Kingston, R.I. 02281

*Mark Rosentraub
 Institute of Urban Studies
 University of Texas
 P.O. Box 19069
 Arlington, Texas 76019

*Neil Ross
 Marine Advisory Program
 University of Rhode Island
 Narragansett Campus
 Narragansett, R.I. 02882

Kathi Rossi
 Port of Seattle
 Department of Environment
 P.O. Box 1209
 Seattle, Wash. 98111

*George Rounds
 National Association of Engine and Boat
 Manufacturers
 Box 5555 - Grand Central Station
 New York, N.Y. 10017

Bill Schultz
 Southern California Marine Association
 P.O. Box 90715
 Los Angeles, Ca. 90009

John Seales
WESTNAVFAC ENG CON
U.S. Navy
San Francisco, Ca. 94106

William Seaman
Florida Sea Grant Program
University of Florida
Room G-025 McCarthy Hall
Gainesville, Fla. 32611

Julian Sennette
Los Angeles County Department of
Small Craft and Harbors
Administration Bldg. Fiji Way
Marina del Rey, Ca. 90291

*John Seymour
Marine Resources Management
Texas A & M University
College Station, Texas 77843

Richard Scymour
Department of Navigation and Ocean
Development
1416 9th St.
Sacramento, Ca. 95814

Thayer Shafer
Shafer Marine, Inc.
546-B Presidio Blvd.
Presidio of San Francisco, Ca. 94129

Milton C. Shedd
Sea World Fish Tackle
1520 Kings Road
Newport Beach, Ca. 92663

Leonard Shortman
County of Los Angeles
Department of Small Craft and Harbors
13837 Fiji Way
Marina del Rey, Ca. 90291

George H. Siehl
Congressional Research Services
Library of Congress
Washington, D.C. 20540

Steven Sterner
Department of Horticulture & Forestry
Cook College, Rutgers University
102 Blake Hall
New Brunswick, N.J. 08903

*Richard H. Stroud
Sport Fishing Institute
608 13th St. N.W. #801
Washington D.C. 20005

James L. Sullivan
Sea Grant College Program A-032
University of California, San Diego
La Jolla, Ca. 92093

Phillip J. Symonds
925 Madison St. Apt. 2
Albany, Ca. 94706

*David G. Talbot
State Park Superintendent
300 State Highway Bldg.
Salem, Ore. 97310

*Rear Admiral J. F. Thompson
U.S. Coast Guard (Ret.)
8409 Frost Way - P.O. Box 37
Annandale, Va. 22003

Richard B. Thompson
National Marine Fisheries Service
Northwest Regional Office
1700 Westlake Avenue
North Seattle, Wash. 98109

Thomas W. Thompson
Santa Cruz County Office of Cooperative
Extension
1432 Freedom Blvd.
Watsonville, Ca. 95076

W. M. Thompson, Manager
 Long Beach Operations
 State Lands Division
 100 Oceangate Suite 300
 Long Beach, Ca. 90802

Ron Thuma
 Texas Parks and Wildlife Department
 Comprehensive Planning Branch
 Reagan Bldg.
 Austin, Texas 78701

Al Tillman, Chief Diving Officer
 California State University/Los Angeles
 5151 State University
 Los Angeles, Ca. 90032

Phil Tozer
 Davey's Locker
 Balboa Pavillion
 Newport Beach, Ca. 92660

Ray Treppa
 Special Services
 Naval Training Center
 San Diego, Ca. 92133

*Peter Tweedt
 Staff Assistant to Secretary
 Department of the Interior
 312 N. Spring St. Room 506
 Los Angeles, Ca. 90012

Tom Villo
 Department of Parks and Recreation
 Texas A & M University
 College Station, Texas 77840

Elizabeth Wallace
 Executive Director
 Marine Technology Society
 1730 M St., N.W.
 Washington, D.C. 20036

Don Walsh
 Institute of Coastal Marine Studies
 University of Southern California
 SSW 308 - University Park
 Los Angeles, Ca. 90007

Percy Washington
 NOAA/National Marine Fisheries Ser-
 vices
 2725 Montlake Blvd., E.
 Seattle, Wash. 98112

*Byron J. Washom
 (Aff. Massachusetts Institute of Technol-
 ogy)
 17 Winter St., Apt. 36
 Watertown, Mass. 02172

George W. Webber
 Bureau of Outdoor Recreation
 450 Golden Gate Ave.
 San Francisco, Ca. 94947

Glen E. Welden
 City of Newport Beach Marine Division
 3300 Newport Blvd.
 Newport Beach, Ca. 92660

Cecil Wells, Jr.
 San Mateo County Harbors
 2031 Pioneer Court
 San Mateo, Ca. 94403

*Robert White, Administrator
 National Oceanographic and Atmospheric
 Administration
 Rockville, Md. 20852

Stephen A. Wiegman
 Southern California Edison
 2244 Walnut Grove
 Rosemead, Ca. 90603

Raymond Wilcove
 Office of Public Affairs
 National Oceanographic and Atmospheric
 Administration
 Rockville, Md. 20852

*Robert Wildman
 NOAA/Office of Sea Grant
 3300 Whitehaven St., N.W.
 Washington, D.C. 20235

*Francis Williams
Rosentiel School of Marine and Atmos-
pheric Science
University of Miami
4600 Rickenbacker Causeway
Miami, Fla. 33149

*Wayne Wilson, President
Economics Research Associates
1100 Glendon
Westwood, Ca. 90024

Edmond Winlund
Chartguide for Southern California
P.O. Box 2311
Anaheim, Ca. 92804

W. H. Witherspoon, Jr.
International Association of Game, Fish
and Conservation
4645 Fairfield Dr.
Corona del Mar, Ca. 92625

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