



# **Sustainable Coastal Tourism**

Renewing Sea Grant's Role

Policy White Paper | May 2012



# Sustainable Coastal Tourism

## Renewing Sea Grant's Role

A policy white paper produced  
by a working group  
of the Sea Grant network

May 2012

LEAD AUTHORS

John J. Carey  
careyj@hawaii.edu

James M. Falk  
jfalk@udel.edu

Karl E. Havens  
khavens@ufl.edu

This publication was supported by the Sustainable Coastal Development focus team of the National Sea Grant College Program, the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, Grant No. NA100AR4170084. The views expressed are those of the authors and do not necessarily reflect the views of these organizations.

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## Preface

Tourism is the number one, two, or three contributor to all U.S. states' economic growth and development. In addition, every coastal state has unique natural and man-made tourism amenities that attract millions of visitors annually. In many areas, tourism's contribution to jobs, tax revenues, and local communities is significant. In other areas, particularly less urban regions, where economic development opportunities are in demand, decision-makers and business owners look to tourism to help generate local income and augment community tax revenue. Indeed, as the Obama administration has pointed out<sup>1</sup>, tourism development can be a great economic engine that helps this country rebound from a lingering recession.

At the same time the 'environmental footprint' of tourism is an important concern. From energy and water consumption, to waste and pollution, and degradation of coastal habitat, tourism has become a major factor in the long-term sustainability of America's coasts. As populations move to the coast and an increasing number of visitors travel to the coast, it will become increasingly more important to provide the best scientific information and advice to coastal officials, community leaders, and the industry to guide their decision-making. Likewise, as more and more communities turn to tourism for economic development, it becomes crucial to steer tourism planning toward an industry that is good for communities and the environment, as well as the bottom line.

Addressing coastal tourism issues and their impact on coastal ecosystems has long been an important component of Sea Grant programs around the country. Similarly, working with communities and industries that strive to strike a balance between growth and sustainability has become a core mission of Sea Grant in recent years. However, the level of attention to tourism issues has varied from program to program and the national focus, network-wide coordination and communication related to tourism has diminished. In 2008, several Sea Grant programs (Delaware, Hawaii, and Maine) began an informal dialog on Sea Grant's current role in tourism and how to 're-invigorate' program interest in the pressing tourism development issues facing coastal communities.

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<sup>1</sup> On January 19, 2012 President Barack Obama signed an Executive Order to announce new initiatives to significantly increase travel and tourism in the United States. The Order charges the secretaries of Commerce and the Interior to co-lead an interagency task force to develop recommendations for a National Travel and Tourism Strategy to promote domestic and international travel opportunities throughout the United States, thereby expanding job creation.

Prompted by these discussions, a group of interested Sea Grant extension agents and directors gathered in October 2010, at Sea Grant Week in New Orleans. As a result of the discussions in New Orleans, a proposal was developed by Delaware and Hawaii Sea Grant and submitted in spring 2011, to the National Sea Grant Office (NSGO) to fund and host a network-wide Sustainable Coastal Tourism Roundtable. The roundtable proposal was funded through a grant provided by the Sustainable Coastal Development Focus Team, with additional support provided by the Sea Grant Association and Hawaii, Delaware, and Maine Sea Grant. The roundtable meeting was held in Baltimore in October 2011. It brought together 40 individuals representing Sea Grant programs from 17 states, the national office, and the U.S. Department of Commerce to discuss redefining Sea Grant's role in coastal tourism. The roundtable endorsed moving forward with the development of a policy white paper for the national office and state programs to consider when developing their 2012-17 strategic plans.

On January 9-10, 2012, a team composed of Sea Grant directors, extension leaders, and program specialists met in St. Petersburg, Fla., to draft the 'White Paper.' The writing team members included: Bob Bacon (South Carolina), John Carey (Hawaii), Ruperto Chaparro (Puerto Rico), Chris Ellis (NOAA, Coastal Services Center), Jim Falk (Delaware), Karl Havens (Florida), Mike Liffmann (NSGO), Joanne McDonough (Mississippi-Alabama), Natalie Springuel (Maine), and Jack Thigpen (North Carolina). Others contributing to the development of the white paper include: Gordon Grau (Hawaii), Melinda Huntley (Ohio), Darren Lerner (Hawaii), and Chuck Pistis (Michigan). Special thanks go to the members of the writing team and to all who have contributed to the development of this paper and importantly to the ideas, actions and recommendations going forward.



## Executive Summary

Tourism is the number one, two, or three contributor to all U.S. states' economic growth and development. Coastal states in particular have unique natural and man-made tourism amenities that make them attractive destinations for millions of visitors annually.

Tourism's contribution to jobs, tax revenues, and local communities' quality of life is significant. In less urban regions, where economic development opportunities are in demand, decision-makers and business owners look to tourism to help generate local income and augment community tax revenue.

At the same time the 'environmental footprint' of tourism is an important concern. From energy and water consumption, to waste, pollution, and degradation of coastal habitat, tourism has become a major factor in the long-term sustainability of America's coasts. As populations move to the coast and an increasing number of visitors travel to the coast, it will become increasingly important to provide coastal officials, community leaders, and the industry with the best scientific information and advice to help guide their decision-making relative to tourism development.

Addressing coastal tourism issues and their impact on coastal ecosystems has long been an important component of Sea Grant programs around the country. Similarly, working with communities and industries that strive to strike a balance between growth and sustainability has become a core mission of Sea Grant.

There are numerous opportunities where Sea Grant can contribute toward achieving the goal of sustainable coastal tourism, and in the process also make significant contributions to environmental stewardship, long-term economic development and responsible use of America's coastal, ocean and Great Lakes' resources.

Given Sea Grant's history in tourism, its current base of effort in this area, the breadth of its national network and capabilities in extension, research, and education, and the excellence of its people we see a future in which:

**Sea Grant is the 'go to' organization for science-based information related to coastal tourism that enhances the economy, improves quality of life and sustains the environment in our nation's coastal communities.**

Building an effective national Sea Grant presence in tourism will require both the National Sea Grant Office (NSGO) and individual programs to make an explicit and firm commitment to a program directed at marshaling the necessary resources; building new partnerships; engaging the tourism industry and local communities; and carrying out the necessary research to provide the best scientific information to guide development and address issues of sustainability.

Within the context of the National Sea Grant Strategic Plan and national focus areas, this paper has been developed by a ‘grassroots’ group of Sea Grant directors, extension agents, and specialists from across the country. It proposes a number of steps to reinvigorate Sea Grant’s involvement in promoting sustainable coastal tourism.

These steps include:

- Reflecting the importance of tourism in the next update of the Sea Grant National Strategic Plan (2014 - 2017) as well as state program strategic plans.
- Implementing a 2013 Coastal Tourism National Strategic Initiative (NSI).
- Establishing a NOAA-wide Center for Sustainable Tourism.
- Convening a National Coastal Tourism Symposium, a Silver Spring ‘brown bag’ gathering on tourism, and Congressional Hill and Executive Branch briefings to showcase Sea Grant’s coastal tourism success stories.
- Encouraging the establishment of a Sea Grant network focus on tourism, providing enhanced communication via a list-serve or NING site; and a publicly accessible web site on tourism initiatives, best management practices, and other such useful information.
- Developing a training module for tourism extension targeted at new and existing extension personnel.
- Creating a national multi-media message to coastal communities and the tourism industry regarding the role that Sea Grant is playing in coastal tourism.
- Developing sustainable coastal tourism ‘swat teams’ to help communities develop sustainable coastal tourism master plans.

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- Taking steps to include coastal tourism-related research in future state program requests for proposals (RFP’s) and in the use of ‘program development funds.’
- Incorporating tourism-related responsibilities into job descriptions of new hires and current employees.
- Conducting an inventory of Sea Grant state extension and research faculty and staff who are regularly involved in projects, activities, and research efforts directed at tourism.

If these steps are implemented, Sea Grant has the capacity, skills, and institutional structure to assist communities address important issues relative to sustainable coastal tourism.



## Background

Tourism plays a critically important role in the economic health of our nation's coastal states and communities. It is a major contributor to coastal economic growth, and jobs and in many regions is increasingly sought as a viable approach to community development. As the U.S. population increasingly moves to the coasts<sup>2</sup>, the role of tourism (and related coastal recreation) becomes an increasingly important component in both the U.S. economy, and in the long-term sustainability of our coastal and ocean resources. Tourism can affect the historical and cultural diversity of coastal communities and affect the quality of life of coastal residents. Those effects can be positive or negative, depending on how tourism develops. Sea Grant can play a role in working with the states and local communities to maximize positive effects.

The contribution of tourism to the United States economy is huge and has been well documented:

The U.S. is the world's largest generator and beneficiary of tourism, accounting for about 15% of total global spending. *Within the tourism sector, coastal and ocean tourism represents the largest segment.*

Travel and tourism is a \$1.8 trillion sector of the U.S. economy or nearly 3 percent of gross domestic product. *Direct spending by resident and international travelers in the U.S. averaged \$2 billion a day.*<sup>3</sup>

According to the National Ocean Economics Program, in 2010 over 13.5 million people in the U.S. were employed in the tourism industry in coastal states and communities (transportation, lodging, food services, entertainment, and retail) in over 750,000 business establishments, earning combined wages of \$266 billion. *The total economic value generated by the U.S. coastal tourism industry in 2010 has been estimated at \$531 billion.*

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<sup>2</sup> "Coastal counties cover 17% of the land area of the United States. Coastal watersheds, as described by the Department of Agriculture represent just 13% of the nation's acreage. By any measure, the coastal zone is a small part of the country, but home to more than half of America's citizens. Over the next 15 years, 27 million additional people -- more than half the nation's population increase -- will funnel into this narrow corridor along the edge of the ocean." Pew Oceans Commission

<sup>3</sup> U.S. Travel and Tourism Association, U.S. Department of Commerce Office of Travel and Tourism Industries



In California, beaches attract an estimated 567 million visitors annually, more than the total number of visitors to all U.S. National Park Service properties combined; Miami Beach attracts 21 million visitors annually, more than Yosemite, Yellowstone, and the Grand Canyon – the three most popular national parks – combined. *Tourists are traveling to the coasts in increasing numbers and these visits are likely to continue to grow for the foreseeable future.*

Tourism is also a significant contributor to state and local tax revenues. The U.S. Travel and Tourism Association has estimated travel generated tax revenue in 2009 at \$113 billion for federal, state and local governments.<sup>4</sup> Increased tourism usually results in a net gain in government revenues and reduces the tax burden on local residents. *For many coastal states and communities, tourism tax revenues are critical for supporting governmental services, schools, and infrastructure.* They also help to keep other taxes low in states that rely heavily on tourism. For example, in Florida, where there is considerable revenue generated by lodging taxes, the residents pay no state income tax.

- Healthy habitat is imperative to the reproduction, growth, and diversity of harvested fish and other marine life and habitat is affected by coastal development, including tourism. Recreational fisheries attract tourists to the coast, creating jobs and economic opportunities. An estimated 17 million recreational anglers, many of them tourists, are a powerful force for the environment, investing hundreds of millions of dollars every year in conservation and management and contributing to the economic vitality of coastal communities.

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As a major driver of economic growth and development the role of tourism cannot be ignored, and it is an important factor when considering issues related to the sustainability of our nation's coastal and ocean resources.

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<sup>4</sup> U.S. Travel and Tourism Association, U.S. Department of Commerce Office of Travel and Tourism Industries



## Toward Sustainable Tourism

According to the World Tourism Organization (WTO), sustainable tourism ... “meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems.”

Sustainable tourism seeks to balance the economic benefits of business development with efforts to minimize negative social and environmental impacts. *When implemented properly, sustainable tourism can provide opportunities and incentives for natural and cultural preservation and a community building experience.”*<sup>5</sup>

### Tourism and the Environment

While tourism can create economic opportunities, improperly or un-planned tourism can create notable environmental impacts ...impacts that in many cases may hinder, compromise or even endanger the very natural resources or attractions on which tourism activities are based. Healthy and sustainable coastal tourism requires attractive and safe beaches, clean coastal waters, and healthy coastal ecosystems producing abundant fish and wildlife. Coastal beaches, dunes, wetlands, islands and rocky intertidal zones, mangrove and maritime forests, coral reefs...these important coastal habitats provide the foundation for life along our living shorelines and ocean margin. Unless managed properly, the environmental footprint of coastal tourism in these areas can be significant.

It also requires a recognition of, and actions to address, the intense consumption of resources, such as energy and water, that accompany tourism-related activities, and the associated pollution and waste that it generates.

Examples of effective and sustainable tourism planning practices include:

- Tour and charter operations that recognize the human impacts associated with intensive use of coastal resources and attractions.
- Tourism industry operations that conduct business with regard to the extent of energy and water that they consume.

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<sup>5</sup>World Conference on Sustainable Tourism, April 1995.

- Business development projects (e.g., new hotels, resorts, tour operations, working waterfronts) that adhere to coastal smart growth principles and practices.
- Beach nourishment and replenishment projects that are carried out in a scientifically sound and sustainable manner.
- Coastal dredging operations that protect critical habitat.
- Marinas and public boat ramps that seek to minimize non-point source pollution by implementing “clean management” practices.
- Adoption of non-point source pollution (e.g., parking lot surfaces, waste disposal practices) that reduce amounts flowing directly into coastal waters.
- Waste water management and solid waste systems that meet national and state standards.
- Noise and light pollution from tourism activities that do not disrupt the behavioral and reproductive patterns of wildlife.
- Measures to reduce invasive aquatic species that crowd out local native species and destroy the natural balance of local ecosystems.
- Public infrastructure (e.g., transportation systems, restrooms, parking facilities) that keeps pace with tourism needs.
- Tourism development that fosters the celebration and protection of local maritime heritage, that augments the viability of coastal communities, and helps communities rebound from economic decline.
- Tourism as an impetus for preservation and conservation activities within communities, leveraging these efforts and providing well-planned land-use decisions, including public access and healthy habitats for wildlife, residents, and visitors.

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***Tourism can be a force for promoting sustainability, be it environmental, economic, or cultural. Protecting our coastal and ocean resources can also pay significant economic dividends.***

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Tourism is often cited for its negative impact on the environment and the above examples show how behavioral decision-making can significantly mitigate these impacts if developed properly and based on ‘best management practices.’ Tourism can be a force for promoting sustainability, be it environmental, economic, or cultural. *Protecting our coastal and ocean resources can also pay significant economic dividends.*

In many cases visitors are not aware of the negative impact that their behavior may have on the environment. One of the keys for addressing this and achieving sustainability is through education ... educating tourists, local residents, and importantly, the tourism industry to the connection between their actions and the long-term health and sustainability of the coastal environment. In many areas of the country, ‘nature-based’ tourism or ‘eco-tourism’ is helping to focus public attention on the environmental impacts of tourism and providing a means for engaging both tourists and service providers in valuing and protecting coastal resources. Indeed, providing accurate and timely information to tourists, local residents, decision-makers and the industry so that they can make informed tourism decisions is a key to fostering a sustainable industry.

But much more needs to be done to educate individuals that protecting the environment can yield 'real' economic and social benefits. For example, for-hire charter fishing experiences can be one important opportunity to provide clients with educational messages about the importance of our coastal/marine resources, in addition to their day of fishing. Also, the economic impact of this recreational activity can be significant for coastal communities and thus it is imperative that a clean healthy coastal environment that supports a major charter fishing enterprise be protected. In the Great Lakes' states in 2002 it was estimated that approximately 1,932 charter boats operated generating more than \$36 million in revenues for boat captains.

## Tourism and Local Communities

The experiences of both visitor and the local community related to tourism are equally important. If one or the other are not having a positive experience, then tourism will not be sustainable. Visitor interest and satisfaction can become a source of local pride. It makes local residents more appreciative of resources that they often taken for granted. As tourism develops, local residents will enjoy a greater range of amenities including access to and quality of outdoor recreation experiences, cultural celebrations, and maritime heritage recognition. *Tourism activities and events tend to improve the quality of life and make living in a place more interesting and exciting.*

While tourism can pose challenges for local communities, many of them can be overcome by striving for:

- Greater understanding, information sharing, and community involvement to reduce the level of tension and community divisiveness that can occur over tourism development,

putting tourism developers and supporters against non-supporters.

- Greater community involvement to reduce the level of tension between residents and visitors that can occur as a result of the new, increasingly hectic pace of life associated with tourism development.
- Increased understanding of local cultural sensitivities can help lessen the creation of a 'phony' culture to satisfy tourist's taste leading to local community alienation.
- Sound and transparent community planning and tax policies that can help reduce potential negative impacts on property values and increased local taxes to meet the public service and facilities' needs of visitors.

Addressing planning issues associated with affordable housing, transportation, child care, medical services, education and related social issues which can help communities deal with the broader social issues related to tourism, such as the ability of residents to continue to live within the community where they work.

Working with water-dependent industries (e.g., fisheries, fish processing, commercial marine operations) where access to the coast is essential to support traditional business and maintain the historical use and character of coastal communities.

Tourism is too important economically, in terms of jobs created and businesses supported and too important a part of the social fabric of many coastal communities to ignore. Addressing the community issues tourism raises is critical if we are to also solve the larger environmental issues and economic opportunities that it presents.

## Tourism and Climate Change

Coastal areas are among the most geographically important regions for both existing and potential tourism development.

Unfortunately, these same areas are where the physical impacts from climate change, sea level rise, and natural and man-made hazards are likely to be most severe. The link between climate change and the increased frequency and intensity of coastal storms raises the issue of safety of human life and property in coastal communities, exposed to hurricanes, tropical storms, and other hazards. These events can also compromise water treatment infrastructure leading to combined sewage overflows, health issues and beach closures. Further, as tourists flock to the coasts in increasing numbers they present a special problem to public safety officials who must deal with them in the event of an impending or actual natural or manmade disaster (e.g., Deepwater Horizon oil well disaster in the Gulf of Mexico).

Climate change is likely to affect coastal tourism because the coast is the area most vulnerable to environmental changes such as sea level rise. Natural resources in the coastal zone (e.g., wetlands, beaches, coral reefs), many of which are tied to tourism-related activities, will potentially undergo significant change that may or may not support continued functioning as a basis for tourism. Coastal infrastructure (e.g., buildings, homes, roads, utilities) in the immediate coastal zone will over the long-run face an increasing need to undertake measures to protect existing siting or move inland. Building the impacts of climate change into coastal tourism planning processes will be increasingly important in the future.

NOAA's National Sea Grant College Program has at its disposal unique and highly applicable resources in its university-based research

enterprise, national extension network and broad-based education and communications capability that can be applied toward resolving the multitude of issues related to tourism in our coastal communities. Sea Grant traditionally has been a leader in the field of coastal tourism, although in the last decade, most activities have been occurring in individual state Sea Grant programs, without a strong national coordination of efforts. With a renewed national commitment to this important sector of the economy, Sea Grant can help coastal communities create jobs, businesses and a more sustainable economic and environmental future.



## **Sea Grant's Role in Tourism**

As described above, tourism has significant impacts, both positive and negative, on the economy, the environment, and local communities. NOAA's National Sea Grant College Program has at its disposal important resources, in its university-based research enterprise, national extension network, and its broad based education and communications capability that can be applied toward resolving the multitude of issues and problems that confront our coastal communities. Sea Grant traditionally has been a leader in the field of coastal tourism, but in recent years priorities have shifted nationally and regionally and attention has been diverted elsewhere.

### **Historically**

The history of Sea Grant's efforts in the area of coastal tourism and recreation began with extension (marine advisory service) agents/specialists providing the most leadership in trying to develop a national focus to guide and direct a national program. Sea Grant supported research was mostly driven by state needs, without much thought given to developing national or regional initiatives. Many of the efforts to develop national strategies for coastal recreation and tourism appeared to gain quick momentum and then eventually faded as staff members changed, or state programs made decisions to move into new emerging areas. In addition, funds to support these national initiatives and programs failed to materialize and thus individuals reverted back to other responsibilities within their states.

An initial effort that jump-started Sea Grant's involvement in coastal recreation was an inaugural conference on marine recreation in 1975. This meeting hosted by the Southern California and California Sea Grant Programs, and heavily supported by NOAA, brought together researchers, state and federal agency personnel, NGO representatives, private sector recreation business leaders and others to discuss the growth of recreation in the nation's coastal zone. There was very little mention of the relationship between coastal recreation and coastal tourism, but this meeting brought many representatives from Sea Grant programs across the country for the first time to discuss recreational uses along the nation's coasts.

The years between 1975 and 1985 were a period of growth for Sea Grant as state programs began to hire additional extension agents and specialists, with backgrounds and training in areas other than fisheries. Various universities began to provide more interdisciplinary academic training to students in fields such as sociology, marine resource management and policy, parks and recreation, tourism planning and human dimensions. As the nucleus of extension personnel with involvement in marine recreation and tourism began to grow in Sea Grant, two important workshops were held in 1977 and 1978 that brought these individuals together to discuss their programs and opportunities to better network. The workshops were held in conjunction with two major national conferences which focused on recreational boating and sport-fishing<sup>6</sup>. Following these workshops a report was issued by a leadership group titled, 'Sea Grant Situation Statement and Recommendations on Marine Recreation.' The report outlined a number of recommended activities to support Sea Grant marine advisory service (extension) personnel activities as well as identifying a number of recreation and tourism research topics worthy of funding consideration<sup>7</sup>.

Also, during this period more than 100 research projects had been supported which focused on recreation and tourism issues at Sea Grant institutions. The major themes of these projects were sport-fishing, boating/marinas, tourism, and artificial reefs. The state Sea Grant programs supporting the most recreation and tourism research at the time were New York, Michigan and Florida. These programs had the

advantage of having academic departments on their campuses teaching recreation, tourism or human dimension curriculums.

1985 was an important year for Sea Grant relative to coastal recreation and tourism. A major recreational boating partnership was being nurtured between Sea Grant and the boating industry. Sea Grant recreation personnel and boating industry leaders met in Chicago, IL to identify opportunities for addressing recreational boating issues and problems that met industry needs and fit with Sea Grant's goals of developing marine recreation and tourism. Also, during the same year, The 2nd National Outdoor Recreation Trends Symposium was held in Myrtle Beach, SC. Sea Grant was represented on the planning committee of the meeting and a specific panel session dealt with coastal recreation issues. This meeting attracted many Sea Grant extension agents and specialists who met to develop an issues paper to help identify research and extension priorities for Sea Grant and to help direct a national initiative in the area of coastal recreation and tourism.

As Sea Grant recreation and tourism agents and specialists began to establish their careers and develop contacts and working relationships with various stakeholders, the emergence of ties to the tourism sector started. One key way this emergence began was working with local chambers of commerce. Many chambers of commerce hosted sportfishing tournaments and requested assistance from Sea Grant. Agents and specialists worked in various capacities, and some even began conducting socio-economic research of participating tournament anglers. These research efforts helped to develop profiles of tournament fishermen and to assess the economic impact of tournaments to aid the chambers in better planning their events. Sea Grant extension personnel also began receiving much needed

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<sup>6</sup> The 1st National Boating Facilities Conference (1977) and the 2nd Annual Recreational Fishing Symposium (1978).

<sup>7</sup> The report noted that the number of Sea Grant marine advisory service personnel engaged in marine recreation programming increase from 1 individual in 1969 to 78 individuals in 1978.

coastal recreation and tourism research findings from researchers to share with various audiences.

By 1990, nature-based tourism (ecotourism) began to gain much national and international attention. Many state programs began to interact with new businesses and tourism enterprises, looking for ways to help develop a presence in this growing tourism sector.

In 1994, the last major meeting was held with coastal recreation and tourism agents and specialists in Charleston, SC to help improve networking and communication among participants, to establish partnerships outside of Sea Grant, improve the visibility of Sea Grant Programs in coastal recreation and tourism and to create regional and national agendas for coastal recreation and tourism programs. The meeting generated much vitality and enthusiasm by all who attended, yet with no follow-up, there were no lasting results.

By 2000, Sea Grant began a new effort to help develop national programming efforts. Theme teams were created, one titled, "Coastal Communities and Economies". This theme team attempted to focus much attention to growing coastal communities and their economic drivers. It was clear that many of these communities nationally counted on tourism within their coastal zones to help them create lively, vibrant economies. A white paper outlined many of the issues, challenges and opportunities facing coastal communities and the National Sea Grant Office made a decision to provide core funding for state Sea Grant programs to address coastal community issues. Many programs used the funds to address tourism and coastal recreation issues.

In 2009 the Sea Grant theme team concept had ended and four Sea Grant focus areas evolved. The Sustainable Coastal Development Focus area evolved from the Coastal Communities and

Economy theme team with one of the goals being, healthy coastal economies that included working waterfronts, and abundance of recreation and tourism opportunities, and coastal access for all citizens. This goal helped to further guide and direct state programs in dealing with tourism and recreation issues. By the first year, about 30% of the state program impacts submitted (out of 180 total impacts) dealt with tourism-related issues (e.g., coastal tourism topics, clean marinas, coastal access).

In 2010, a grassroots effort began to re-focus Sea Grant programs on the emerging national issues related to coastal tourism. That effort has led to the development of this white paper.

## Today

Though a unified national strategy on tourism has been lacking in recent years, Sea Grant programs across the country are currently engaged in working on tourism-related issues through extension programming, funded research projects, and the development of educational materials and programs. While tourism is still not explicitly identified as one of the four national "focus areas" in the current national Sea Grant strategic plan, it is important to note that tourism represents an important part of many Sea Grant programs' ongoing efforts with activities in all four focus areas. Tourism is both a tool for achieving many Sea Grant strategies, as well as an important stakeholder economic sector with needs to address. Many Sea Grant tourism strategies meet environmental stewardship priorities while also generating increased revenue for coastal businesses.

A summary of 15 state Sea Grant program activities and projects being conducted in coastal states and local communities is available in Appendix 4. It is instructive to look at the current range and level of Sea Grant efforts and how they



relate to the larger issues raised by tourism and its impact on the sustainability (both environmental and economic) of coastal ecosystems and communities. Below, Sea Grant efforts are highlighted for extension, research and education.

**Extension** – Sea Grant extension agents provide a unique link to coastal communities, providing scientific-based results and information to help guide local decision-making; working with individual coastal business and industries (e.g., fishermen, seafood processors, aquaculture farms, marinas, etc.) to promote stewardship of our precious coastal and ocean natural resources and encourage economic stability. Extension experts and specialists live in, and are intimately connected to the communities they serve and find solutions residents can use.

Some examples of current Sea Grant efforts in the tourism area include:

- Promoting approaches for reduction of non-point source pollution, such as clean marinas and boating, monofilament and shrink wrap recycling, and marine debris reduction. These efforts help to achieve healthier coastal waters and beaches that are more attractive to visitors.
- Puerto Rico Sea Grant has been instrumental in helping put in place an international ‘Blue Flag’ program that evaluates beaches and marinas against a specific set of criteria in areas such as water quality, environmental management and education, and safety and services and awards a coveted certification label.
- Virginia Sea Grant is an active participant in the Virginia Clean Marina Program and helps to sponsor annual workshops to educate marina owners and operators on environmental stewardship efforts and best management practices.
- Working with the tourism industry and local communities on ecosystem restoration projects.
- Hawaii Sea Grant has initiated the Waikiki Ecosystem Restoration Project: An Aquarium without Walls. Prior to the launch of this initiative, there was no unified effort to monitor, protect, or restore the coastal and marine resources of Waikiki, despite abundant threats. Restoration of the offshore reef structure will create a new tourism attraction that also restores the health and vitality of these natural resources and will make a significant economic contribution to Hawaii’s flagship visitor destination.
- Helping local communities develop new opportunities for nature and heritage tourism, diversifying local economies while protecting valuable but vulnerable natural resources and cultural heritage. Examples of Sea Grant regional tour developments include birding, lighthouse, shipwreck diving, and paddling trails.

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***Sea Grant programs across the country are currently engaged in working on tourism-related issues through extension programming, funded research projects, and the development of educational materials and programs.***

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- Sea Grant programs, such as Maine, South Carolina, Mississippi-Alabama, Ohio, and Florida, have all facilitated the establishment of nature and heritage 'trails' that not only create new tourism business opportunities, but also promote a better understanding of the value of coastal ecosystems through mechanisms such as certifying guides and communicating stewardship messages.
- South Carolina Sea Grant helped to develop a 'Heritage Corridor' that runs through 14 counties from the mountains to the sea.
- Delaware Sea Grant has supported a number of efforts focused on heritage tourism in Sussex County.

**Supporting coastal community planning efforts related to tourism to ensure sustainability and suitability of developments**

- Sea Grant brings together government, the tourism industry, NGOs, and local citizens to address challenges and opportunities arising from tourism development projects and proposals.
- Maine Sea Grant played an active role in the development of a 10-year regional plan for Downeast Maine, focused on fostering sustainable tourism in the area through education, conservation, local participation, cultural awareness, and economic development.
- Ohio Sea Grant led a two-year civic engagement process for the National Park Service to explore the feasibility of national heritage area designation of a 14-county watershed region.
- Providing expertise and information for statewide and regional tourism policy and initiatives to support decision making that includes consideration of economic, environmental, and social implications. Sea

Grant is an active participant in statewide task-forces, industry associations, and state advisory boards that deal directly with tourism.

- Delaware Sea Grant sits on the board of the Delmarva Low Impact Tourism Experiences (DLITE), a regional group comprised of members from Delaware, Maryland and Virginia who work to promote sustainable tourism throughout the Delmarva Peninsula.
- Michigan Sea Grant has increased efforts to support rural areas such as the region around Saginaw Bay, called Michigan's Thumb. Sea Grant has been working closely with the Eastern Michigan Council of Governments (EMCOG) to evaluate coastal access issues and develop land use planning tools.

**Promoting safety of life and property in tourism-related activities**

- Sea Grant helped to lead a national 'rip current' education program along with NOAA's National Weather Service and the U.S. Lifesaving Association.
- Mississippi-Alabama Sea Grant has conducted rip current seminars providing scientific and legal expertise to municipalities and businesses relating to visitor safety and education.
- Puerto Rico Sea Grant has developed a beach-safety campaign motivated by an alarming 32 drowning incidents per year at its beaches. The program has promoted the installation of bilingual rip current signs, educational videos on rip currents, and promoted the establishment of lifeguard services.
- Delaware and North Carolina Sea Grant have been leaders in providing rip current/beach safety awareness and education to beach patrol staff members, as well as beach-goers and local communities and working with NOAA's National Weather Service to help improve rip current predictions; and with local hospital

emergency room staff doctors and local beach patrols to develop profiles of surf zone injuries occurring along Delaware coast beaches.

- Michigan Sea Grant has also worked with the NOAA's National Weather Service to improve understanding and communication about Great Lakes currents. Sea Grant's diagrams, signs, brochures, articles, website and social media have increased awareness and provided valuable training tools.

### **Conducting ecosystem and beach restoration projects**

Ecosystem improvements and enhancements of the coastal experience have direct benefit to the tourism industry, visitors, and coastal community residents.

- Hawaii Sea Grant has been working directly with the state and local tourism industry in efforts to both remove sand for beach replenishment and at the same time restore the living coral reef structure off of Waikiki.
- Texas Sea Grant led a team of Galveston Bay Area Master Naturalists in restoring Galveston Island State Park which was heavily damaged during Hurricane Ike. The group helped to restore dune systems and 16 acres of prairie in the park. The park re-opened to visitors in six months, much sooner than the estimated 7-10 years had it not been for Sea Grant's leadership.

### **Promoting beach access**

- Providing support and planning assistance for public access projects to enhance outdoor recreation opportunities for local residents and visitors.
- Maine Sea Grant, working with numerous partners, has done extensive outreach and education on coastal access, including the website [www.accessingthemainecoast.com](http://www.accessingthemainecoast.com) that

highlights the rights and responsibilities of beach-goers and ways they might engage in community planning to increase coastal and beach access. This website has been replicated by 5 other state Sea Grant programs, with several more in the works.

- Ohio Sea Grant is frequently engaged by state agencies, as well as county and local parks districts, for assessment, visioning, and acquisition efforts of public access areas.

### **Minimizing economic distress and increasing safety related to natural disasters and crisis situations by facilitating communications and business operations strategies**

- Ohio Sea Grant is facilitating a crisis communications plan with coastal businesses and tourism leaders to address the impact of increasing and widespread algal blooms.

### **Research**

Sea Grant funded research projects engage the best and brightest in our nation's universities to address coastal and ocean issues. These funded research projects are directed at addressing 'real' issues facing our nation's coastal communities.

Sea Grant is a leader in understanding and maintaining healthy ecosystems and Sea Grant is gaining recognition at evaluating economic impact and exploring the myriad social science dimensions of coastal and marine issues.

Sea Grant research results have a proven track record in helping communities understand and manage coastal resources. Here are some examples of currently funded Sea Grant research and research related activities:

### **Understanding the impact of various tourism taxation models on tourism industry development and growth and the need to**

**balance this with demands on local community infrastructure, government support services, and community needs**

- Ohio Sea Grant has undertaken an evaluation of the impact on local tax revenues and direct spending when communities raise lodging taxes.
- Documenting the economic contribution of tourism to a state's economy and to job creation provides industry and policy decision making support.
- Delaware Sea Grant is working with economists at the University of Delaware to produce a report documenting the coastal economy's impact on the state of Delaware. The final results will be used to create an economic barometer for working with key tourism industry leaders to track changes in the economy due to various factors and trends.
- Michigan Sea Grant has begun funding a research team to engage regional community stakeholders and evaluate ways to leverage coastal, natural and cultural resources and benefit the economy of Michigan's rural coastal areas.
- Working with hotels and the tourism industry to promote the adoption of 'green' and 'best management practices' aimed at reducing the heavy dependence of tourism on energy and water consumption to meet visitor needs.
- Hawaii Sea Grant is conducting a major research study that will provide a comprehensive, independent analysis of the feasibility of implementing a district-wide deep sea water air conditioning system for hotels in Waikiki. If implemented, this would have a dramatic effect on reducing the state's energy and water consumption.
- Strengthening the charter fishing industries position within the tourism sector.

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***Sea Grant assists the tourism industry, increasing its capacity to generate local dollars and its recognition of the importance of healthy ecosystems to long-term economic stability.***

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- South Carolina Sea Grant funded research projects are examining the potential for creation of a "seafood trail" and the delivery of value-added coastal natural resource interpretive programs to the charter fishing industry.
- Mississippi-Alabama Sea Grant has conducted charter fishing market research to gather baseline information on demographics and travel patterns as an aid toward understanding the economic sustainability of this sector of the recreational fishing industry.
- In the Great Lakes, Sea Grant programs are collaborating on an assessment of the economic impact of the charter-boat industry. Maine Sea Grant is researching the legal barriers to commercial fishermen and aquaculture businesses branching into tourism.
- Building capacity to conduct targeted tourism-related research.
- The Hawaii Sea Grant sponsored Center for Sustainable Coastal Tourism has launched a Sustainable Coastal Tourism Fellowship Program, where selected faculty are supported

to conduct scholarly research on sustainable tourism issues in the state, working with local tourism industry leaders, government decision-makers, and community leaders.

Appendix 5 provides a list of Sea Grant research projects funded between 2008-2012. The list includes projects that are specifically directed toward sustainable tourism as well as other research whose findings could help to support coastal tourism. Sixteen state Sea Grant Programs have supported 38 projects.

### Education

Sea Grant has developed an effective program that produces a broad range of educational workshops publications, books, pamphlets, and multi-media communications (e.g., videos, web-based tools, etc.) that educate and inform users about the value of our coastal and ocean resources and address the issues associated with coastal development, hazards, and long-term sustainability. These products and services reach the tourism industry, decision-makers at all levels, and the general public. Sea Grant assists the tourism industry, increasing its capacity to generate local dollars and its recognition of the importance of healthy ecosystems to long-term economic stability. In the tourism area, some examples of Sea Grant's current efforts include:

- Conducting interpretive programs as a way of educating visitors as to the value of resources that they are visiting and enhancing the coastal experience.
- Florida Sea Grant provides education to visitors regarding snorkeling and diving on Florida's thousands of artificial reefs.
- Hawaii Sea Grant administers the Hanauma Bay Education Program which promotes ownership and stewardship of Hawaii's marine and coastal resources by providing a unique

educational experience to the millions of visitors to the Hanauma Bay Nature Preserve. The program strives to reduce the environmental impact of visitors to the Bay by teaching them appropriate reef etiquette -- reducing the number of visitors that trample coral reefs from approximately fifty percent to less than two percent. These lessons learned remain with visitors as they travel to other shores around the islands and beyond.

- Carrying out educational training programs for both tourism providers and Sea Grant extension agents to strengthen stewardship and community development messages in tourism.
- Florida Sea Grant extension agents undergo training in the University of Florida's Master Naturalist Program and become certified as Coastal Master Naturalists. They subsequently hold courses each year to train Florida residents, who in turn become certified and hold training sessions on coastal ecology for both residents and visitors.
- Maine Sea Grant holds daylong educational coast seminars focused on providing sea kayak guides, whale watch operators and other nature-based tour operators with interpretive content (e.g., bird identification, marine mammals, ecological change on islands, water quality etc.) and technical information (e.g., rules of the road, leave no trace, access etc.), and more.

### Creating the educational tools and programs to strengthen the capacity of the tourism industry

A stronger coastal tourism industry dependent on healthy ecosystems increases the awareness and value of these resources, and it increases the ability of the industry to turn its attention to sustainability efforts.

- Ohio Sea Grant has created a Tourism Leadership Academy aimed at improving tourism industry members' abilities to participate in statewide policy leadership forums and build awareness of the interdisciplinary responsibilities of the industry among future leaders, an online resource of educational resources for industry members, and workshops for coastal businesses.
- Michigan Sea Grant has a website that provides resources that helps foster partnerships between resource managers and community leaders and serves as a resource for marketing materials; information about regional tourism initiatives; and a directory of local, regional, and state business experts who offer tools for business startups.
- Establishing community-based monitoring projects that involve citizens in learning while collecting data and information about the health of our coastal beaches and ecosystems.
- Ohio Sea Grant is working with health departments and park commissions regarding beach monitoring and how to minimize the harmful impacts of such monitoring on economic activity.
- Puerto Rico Sea Grant runs a program for students and adults of all ages, with the help of teachers and local communities, aimed at monitoring and collecting data on beach erosion and accretion, changes in beach composition, impacts of human activities, levels of beach debris, water quality, shifts in waves and long-shore currents, and abundance of plants and animals.
- Delaware Sea Grant has a long-standing program of recruiting citizen scientists to monitor beach water quality. In 2011, two Delaware coast recreational beaches (out of four nationally) were rated the top '5-star beaches' by the Natural Resources Defense Council (NRDC).
- Maine Sea Grant runs a beach profile monitoring program that uses volunteer beach enthusiasts to collect data that researchers use to evaluate beach erosion issues.
- Hawaii Sea Grant's 'ReefWatchers' on the Island of Hawaii is in its tenth year of existence. The 'ReefWatcher' monitoring program trains volunteers to count fish and invertebrates in selected reef locations around the Island of Hawaii. In the past three years, 185 people have taken the 'ReefWatcher' training and data has been recorded for 16 sites.

The above extension, research, and education efforts that are currently underway represent a substantial investment by Sea Grant in addressing tourism impacts, both positive and negative. They do not, however, consistently address the full range of opportunities in which Sea Grant can potentially achieve its overall goals and strategies through better integration and coordination. For example, current Sea Grant tourism efforts do not address the full breadth and depth of the tourism-related issues that are currently facing our nation's coastal communities, such as the longer-term impacts of climate change or the increased hazards related exposure that faces many coastal communities and their tourism based economies. Additionally, do not fully address the nexus of tourism with the larger issues of sustainable coastal development and healthy coastal ecosystems and how tourism can be a means for helping achieving sustainability.



## Challenges, Opportunities and Future Vision

The coordinated network-wide approach to coastal tourism in Sea Grant has devolved into individual program efforts and ad hoc sharing of information. Each of these programs is having substantive local and regional impacts, yet what now is lacking is a national cohesive plan for engaging Sea Grant programs in a coordinated effort to link tourism development issues with the network-wide expertise that Sea Grant can “bring to the table”. Development and implementation of national goals, strategies and self-formed working groups will allow highly effective state-led initiatives to spread across the network and will foster a greater nation-wide impact of Sea Grant in this important coastal sector.

There are numerous opportunities where Sea Grant can contribute toward achieving the goal of sustainable coastal tourism, and in the process also make significant contributions to environmental stewardship, long-term economic development and responsible use of America’s coastal, ocean and Great Lakes resources, all of which are at the heart of Sea Grant’s mission. To do this effectively, a number of specific program challenges will need to be addressed.

***At present, Sea Grant lacks an established mechanism or network focused on tourism*** and the significant role it plays in the economic and environmental health of coastal communities. Such a network is needed to coordinate and share best management practices; successful outreach projects; targeted research efforts and their results; and new and effective educational communications approaches, publications, and multi-media tools. Existing networks (e.g., the Sustainable Coastal Community Development Network, Hazards Network, Fisheries Extension Network, etc.) within Sea Grant can be used as models and even partners in helping to ‘re-build’ a new and effective Sea Grant Tourism network.

***Lack of adequate resources is always a challenge.*** Tackling the many aspects of tourism that relate to sustainability will obviously require both dollars and people. The existing distribution of resources within individual programs is mixed in terms of the overall priority and level of effort that is assigned to tourism and tourism-related research efforts. Even in a tight budget environment, however, re-allocations of existing funding and people can be made to meet emerging new priorities. Given the critical role that tourism plays in state economies, its potential as an economic driver where desperately needed, and its potentially large effect on coastal ecosystems, such a shift in priorities may well be in order.

***Working in tourism will require new partnerships.*** While numerous Sea Grant programs already have established partnerships with various segments of the tourism industry and state and local government tourism agencies, there will be a need for many programs to add to these connections by reaching out to developers, businesses, trade associations, community groups, etc. These 'new' partners can be effective too in helping promote sustainable tourism, as well as a means for leveraging Sea Grant resources. At the national level, new connections to tourism offices within the Department of Commerce and tourism-related offices in other federal agencies are added means for supporting Sea Grant work in this area.

***Connecting tourism to long-term sustainability will be challenging.*** Much like any other industry Sea Grant has engaged with for decades the primary interest of the tourism industry is directed toward making a profit. Much like the fishing industry has strong commitments to sustainable fisheries, some sectors of the tourism industry give serious consideration to their environmental impacts. But they need the right tools, information, and research results that can clearly demonstrate how the tourism industry (developers, hotels, tour operators, transportation, cruise lines, etc.) can achieve a more profitable 'bottom line' by adopting approaches that value the environment, honor cultural heritage, and respect the needs of the local communities in which they exist. There are models within the industry that can be showcased to illustrate how this can effectively be done. For example, certain major cruise lines have developed state-of-the-art methods for collecting and recycling solid and liquid wastes, and are substantively reducing their environmental

'footprint' without sacrificing profit. Certain hotel chains are demonstrating sustainability practices by reducing water usage, using more energy efficient appliances and light fixtures, and encouraging recycling by guests. Marketing to showcase these sustainable activities may actually increase business. Global tourism trends show that an increasing number of travelers want and actively seek out businesses that engage in sustainable practices.

***Action is needed now, not in the future.*** The tourism industry has been impacted by the recent economic downturn. In fact, those impacts are disproportionately high compared to private sector industries that produce commodities that are needs (food, fuel, home and auto parts) rather than wants (visiting a tourist destination). The nature of the tourism industry is such that any economic downturn or dislocation has an immediate and direct impact on local jobs as well as state and local government revenues. These impacts ripple through coastal communities hitting hotel employees, tour operators and guides, fishing charter-boats, etc. On the other hand, the tourism industry can provide some stability and revenue for communities hit by an economic downturn and job loss created by other sectors.

If Sea Grant is to help address the tourism jobs situation and the current economic issues confronting the industry, the challenge will be how to move quickly within the next year to seize this opportunity. One interesting aspect of the economy is that it has affected the nature of tourism, such that people are tending to vacation locally or regionally instead of at distant locations. This could engender a greater sense of ownership of the resources tourists are using, and help us to foster more sustainable behaviors. Now is the



time to seize upon global tourism trends that point to increased desire by travelers to have experiences that are “green” and connect them directly to the people in their destination communities.

### **Vision for the Future**

Given Sea Grant’s long history in tourism, its current base of effort in this area, the breadth of its national network and capabilities in extension, research, and education, and the excellence of its people we see a future in which:

Sea Grant is the ‘go to’ organization for science-based information related to coastal tourism that enhances tour economy, improves quality of life and sustains the environment in our nation’s coastal communities.

Achieving this vision will take a number of coordinated actions across the network and by the National Sea Grant Program and forming of new partnerships – and even then it may be some time before the program achieves this level of recognition. It will need to be earned by the impacts we achieve as we move forward in this endeavor.

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***Sea Grant is the ‘go to’ organization for science-based information related to coastal tourism that enhances tour economy, improves quality of life and sustains the environment in our nation’s coastal communities.***

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## **Tourism and Sea Grant's 2009 - 2013 National Strategic Plan**

The Sea Grant network's National Strategic Plan 2009 - 2013 serves as the basis for the research, extension and education activities that take place in the network's 32 university-based programs. The Plan identifies cross-cutting goals and focal areas that are of critical importance to the health and vitality of the Nation's coastal resources and communities. These are categorized in four focus areas that reflect America's most urgent needs in the coastal, ocean and Great Lakes arenas, NOAA's priorities, and Sea Grant's strengths and core values: 1) sustainable coastal development; 2) healthy coastal ecosystems; 3) hazard resilience in coastal communities; and 4) safe and sustainable seafood supply.

The 2009 - 2013 Plan noted that coastal, ocean and Great Lakes resources need to be managed in ways that balance human needs with environmental health and that there is a need for "...sound scientific information to advance understanding of the nature and value of our coastal, ocean, and Great Lakes resources; to identify new ways to conserve and use these resources; and to support evaluation of the environmental impacts and socio-economic trade-offs involved in coastal decision-making." (National Sea Grant College Program Strategic Plan, etc.)

The coastal tourism industry is a significant economic driver. Near-term economic challenges sometimes influence decision-making without a full understanding of the longer-term environmental and societal consequences of the actions. Sea Grant programs continue to assist coastal communities in their tourism-related decision-making process by helping them translate and apply scientific (both social and natural) findings on diverse topics such as ecosystems functions and values, coastal processes, emerging economic opportunities, fisheries and seafood, and the social and economic costs and benefits of various human activities.

Each of Sea Grant's four focal areas contains three major goals and sustainable coastal tourism can play a significant role in helping achieve them. Tourism should be a major component of each of these national goals; it can be a major factor in their achievement.

## 1. Tourism and Sustainable Coastal Development

- Healthy coastal economies that include working waterfronts, an abundance of recreation and tourism opportunities, and coastal access for all citizens,
- Efficient use of land, energy and water resources and protecting the resources needed to sustain coastal ecosystems and quality of life, and
- Educated coastal citizens, community leaders, and industries that recognize the complex interrelationships between social, economic and environmental values in coastal areas and work together to balance multiple uses and optimize environmental sustainability.

***Tourism can make a significant contribution toward achieving the goals of sustainable coastal development.*** As a major economic driver in coastal communities, tourism brings visitors to coastal communities creating jobs, creating and sustaining both small and large businesses, and enhancing revenue to state and local governments. For many coastal communities, tourism ‘is’ the economic base and its sustainability critical to the long-term economic health of the area and in some cases, coastal communities invest significant hope in tourism as an economic panacea. Sea Grant has a history of working with communities to preserve traditional economies, accommodate current uses, and develop innovative programs to enhancing the economic health of these communities.

***Where working waterfronts exist, tourism can make an economic contribution by providing new opportunities for traditional water-based businesses*** to develop products, services, and

educational opportunities for visitors to become immersed in traditional waterfront activities. Local tourism-related recreation can also provide business opportunities for tour operators and guides to engage visitors and residents alike in learning about and enjoying natural and cultural heritage sites. Sea Grant has a proven track record in working with business’ on developing these types of opportunities and has been a national leader in addressing the problems facing working waterfronts.

***Tourism development and operations, if focused properly, can have a major positive effect on reducing energy and water consumption and controlling waste generation.*** Energy and water resources are likely to become more costly and critical to the tourism industry and coastal communities in the near future. Applying coastal smart growth principles to the tourism industry can lead to a more efficient use of valuable land resources along our coasts, protecting wetlands and preserving precious coastal habitats. Sea Grant’s expanding capability to address coastal development, energy, and water issues is primed for addressing these issues in the tourism industry.

***Tourism can be a major contributor to community strength and pride, promoting sustainability,*** or it can be divisive. Bringing tourism in balance with community needs and resources, and valuing community culture and heritage requires that all the key stakeholders be engaged and be knowledgeable regarding the role that tourism can play in promoting long-term economic and environmental sustainability. Sea Grant’s traditional role as neutral convener can be a pivotal factor in bringing about the ‘right’ result for

communities facing major tourism-related issues.

## 2. Tourism and Healthy Coastal Ecosystems

- Sound scientific information to support ecosystem-based approaches to managing the coastal environment.
- Widespread use of ecosystem-based approaches to managing land, water and living resources in coastal areas.
- Restored function and productivity of degraded ecosystems.

***The environmental footprint of coastal tourism can be huge; it is concentrated in some of the most valuable and ecologically significant areas of our coastal zone.*** The sheer number of visitors to the coast stress coastal ecosystems in a number of ways: through the extraction of water, pollution, creation of waste and debris, and through activities that disturb the natural environment and biological cycle of coastal plants, animals, and fisheries, and marine resources.

***Tourism can be a force for change in promoting healthy coastal ecosystems.*** Many in the coastal tourism industry understand that its future business sustainability is tied inextricably to the health of the ecosystems upon which it rests. Building on that understanding and extending it to all sectors of the tourism industry is a big task. It requires that the latest scientific information be available to document and show how tourism development and operations can impact the environment, and importantly what actions can be taken to address issues and resolve them in a manner that supports growth and protects the resource and still meets the bottom line. Sea Grant research provides one

of the few national means for providing answers that can help the tourism industry and communities deal with these issues.

***Tourism places heavy demands on energy and water.*** In the case of energy consumption this has direct links to growing societal issues involving oil consumption, power plant emissions, and siting of new energy facilities. In the case of water it involves issues of scarce resource allocation, depletion of aquifers, and water quality. Sea Grant research into these areas can provide not only the best available scientific advice to guide decision-making, but also advance new sustainable energy and water conservation approaches for the tourism industry (e.g., deep sea water air conditioning).

***Nature-based tourism has been a growth sector within the tourism industry.*** If developed and managed properly this form of tourism can be important for preserving critical coastal habitat that might otherwise be developed in a less sustainable manner. Sea Grant has a growing base of knowledge and experience in promoting nature-based tourism: birding and water trails, ecological tour operations, and tour guide certifications. As part of a general approach to ecosystems-based management, nature tourism can play a role in helping achieve better management of coastal resources and educating the visitor and resident alike to the value of these resources.

***Where coastal ecosystems have been stressed actions can be taken to help in their restoration.*** The tourism industry has been active in promoting beach and dune restoration, where it impacts the viability of their businesses and visitor satisfaction. In other areas, the tourism industry can become a partner in restoring coastal and marine

habitat sites that offer unique visitor experiences and attract tourists. Sea Grant can play a role in developing these partnerships that benefit both the tourism industry and coastal ecosystems.

### 3. Tourism and Hazard Resilience in Coastal Communities

- Widespread understanding of the risks associated with living, working, and doing business along the nation's coasts.
- Community capacity to prepare for and respond to hazardous events.
- Effective response to coastal catastrophes.

Visitors to the coast, like residents, face the risks associated with natural disasters: hurricanes, severe storms, and tsunamis. In tourist areas, visitors compound the problems confronting local officials in keeping people “out of harm’s way”. Sea Grant working with the tourism industry can help provide the kind of information that visitors and residents alike need to know for dealing with these natural events.

Man-made hazards and disasters also present a risk. In the Gulf of Mexico, Mississippi-Alabama Sea Grant and Florida Sea Grant played an important role in the aftermath of the Deepwater Horizon oil spill, providing clear and concise information to coastal officials, businesses, and tourists that allowed them to properly assess the situation and reach informed decisions. The Mississippi-Alabama Sea Grant Consortium partnered with Gulf Shores & Orange Beach Tourism to create multi-media products to rapidly respond to oil washing ashore on Alabama beaches. Video reports on beach conditions were produced and posted on tourism websites and other social media,

talking points addressing frequently asked questions and destination alternatives were distributed to the lodging, fishing and nature tour business sectors. *Effective response to disasters minimizes the economic disruption to local economies and allows businesses, such as those in the tourism industry, to get ‘back on their feet’ and contribute to the longer-term recovery and stability of the community.*

***Effective response to coastal catastrophes starts before they ever occur.*** Planning, community capacity building, and communicating the risk associated with severe storm events, algal blooms, hurricanes, and tsunamis is critical. Sea Grant working with the tourism industry can strengthen the response capacity of coastal communities and provide visitors with a level of assurance that their safety is paramount. Sea Grant research and modeling can provide the information and tools to allow state and local officials to better understand coastal areas at highest risk, and assist in developing evacuation plans for both tourists and residents.

Every day visitors to coastal communities face any number of hazards that can impact their lives and safety. Beach-goers may encounter dangerous rip currents. Sea Grant’s Rip Current Awareness Program, in partnership with NOAA’s National Weather Service, and the United States Lifesaving Association helps ensure that visitor’s beach-going experiences are safe, providing them timely forecasts and information on how to avoid and respond to potentially dangerous situations.

In the long-run, understanding the effects of climate change and how it influences the seasonality, frequency and intensity of coastal storms will be important for coastal

communities, local governments, and the tourism industry. Sea Grant research can help provide a better understanding of these changes and how they might impact the tourist industry, upon which many communities base their economic future.

#### 4. Tourism and Safe and Sustainable Seafood Supply

- A sustainable supply of safe seafood to meet public demand.
- A healthy domestic seafood industry that harvests, produces, processes, and markets seafood responsibly and efficiently.
- Informed consumers who understand the importance of ecosystem health and sustainable harvesting practices to the future of our domestic fisheries, who appreciate the health benefits of seafood consumption, and who understand how to evaluate the safety of the seafood products they buy.

***There is a strong tie between tourism and fisheries.*** The fishing sector is an important component of the tourism industry in many parts of the country. Many tourists seek out recreational fishing as part of a vacation or travel to a new area. In addition, research shows that an increasing number of travelers want to learn about local industry and even want to experience it themselves, such as learning how to haul a commercial lobster trap. Charter boats and tour operators provide opportunities for visitors and local residents to enjoy a day at sea fishing or learning about local fisheries. A number of Sea Grant efforts directly benefit recreational and commercial

fishermen as well as the tourism industry and innovative programming in the Northeast is looking to actively link these two industries formally.

Educating the recreational fishing public and tourists about sustainable fishing techniques and methods (e.g., proper gear, safe handling methods to reduce catch and release mortality) all contribute to the overall sustainability of our coastal fisheries resource. Training commercial fisherman as nature tour guides also provides additional opportunities for revenue and job diversity. Certification programs related to sustainability and local catch help to strengthen the marketability of fisheries products and sustain traditional local businesses and the local economy.

Current market trends favor locally caught fresh, sustainable seafood. This creates opportunities for local fishermen to work with local restaurants and retail markets to offer high quality product to their tourist clientele. Additionally, enhanced training for restaurant operators and owners and tourism service provider and educational programs for consumer (e.g., fresh caught seasonal guides) can ensure that visitors are educated about purchasing and eating safe seafood. Developing links between fishermen and restaurants who want to supply "fresh local seafood" to their customers, helps the small businessman by eliminating the 'middlemen' in the transaction, and at the same time helps the consuming public with stewardship information, through the chefs and restaurants who are opinion leaders in a community.



## Program Components

Building an effective national Sea Grant presence in tourism will require both the National Sea Grant Office (NSGO) and individual programs to make an explicit and firm commitment to a program directed at: marshaling the necessary resources; building new partnerships; engaging the tourism industry and local communities; and carrying out the necessary research to provide the best scientific information to guide development and address issues of sustainability. The following suggested actions represent steps that the NSGO and state programs can take immediately to strengthen Sea Grant's role in promoting sustainable coastal tourism.

### Marshaling Resources

There are numerous avenues that can be explored to provide the resources needed to launch a major initiative in the tourism area. These include:

- Redirecting existing program efforts and resources to leverage tourism-related projects and activities.
- Hiring and assigning dedicated staff and extension agents to work with industry and communities on tourism issues.
- Providing 'program development grants' to seed new projects and efforts in tourism that can lead to longer-term program foci.
- Identifying a 'tourism development specialist' within each Sea Grant program, with dedicated salary support from the NSGO.
- Seeking state matching funds to support projects related to job creation and economic development in the tourism sector.
- Establishing a 'National Strategic Initiative' in tourism to provide competitive grants to programs to initiate new and innovative tourism-related projects and activities.
- Seeking discretionary funds through a NOAA Broad Agency Announcement (BAA) to attract new funding partners.
- Exploring cost-sharing tourism extension staffing with Cooperative Extension programs.
- Supporting training efforts directed at Sea Grant programs to increase program knowledge of tourism business operations, issues, and challenges.

## Building Partnerships

The tourism industry is large and diverse. It includes numerous sectors (hotels, cruise lines, tour operators, etc.) Building partnerships with these coastal businesses will be important if Sea Grant is to have an impact on their operations. Beyond these specific businesses, there are other partnerships that can be effective in leveraging Sea Grant's limited resources. These include working with:

- USDA/NIFA and Land Grant Cooperative Extension communities
- Chambers of Commerce.
- Convention and Visitors Bureaus.
- Nature based tourism associations and trail associations.
- Tourism trade associations.
- NGOs such as Audubon and The Nature Conservancy.
- Private land owners and public land managers
- Academic units within universities focused on tourism sector.
- Federal, state and local government agencies that work with the tourism industry.
- Airlines, tour operators, and travel marketing agencies.
- Tour operators
- Aquariums, museums and visitor centers
- Community development agencies
- Business support organizations
- Banks and lending agencies
- Realtors and developers
- NOAA's Marine Sanctuaries and Estuarine Reserves, Office of Coastal Resource Management, Coastal Services Center

## Community Engagement

Sea Grant is extremely effective in working with local communities on development issues

and planning. Sea Grant can help facilitate sustainable tourism development in communities where tourism is already a major component of the local economy as well as locations where communities seek to grow the potential economic return of tourism. This might be accomplished through:

- Symposia, such as those that Sea Grant has conducted on working waterfronts, to help educate officials and communities as to the nature of tourism development related issues and to provide a safe arena in which stakeholders can find common ground for potential collaboration.
- Promoting dialog at tourism industry, association, and agency meetings on the long-term benefits of 'greening' tourism operations to the environment and, in turn, the future profitability and sustainability of local tourism businesses.
- Circulating information on tourism-related 'best management practices' to communities, businesses, and government agencies for possible adoption.
- Insuring that tourism-related issues are properly reflected in community planning and that the best available scientific advice is reflected in those plans.
- Working with small tourism businesses in the community to help them develop a successful and profitable business plan that creates jobs, contributes to the local economy, and is environmentally sustainable.
- Helping rural communities with potential assets (e.g., historical, cultural, or environmental) develop those assets sustainably and create economic opportunities and jobs for local residents.



- Facilitating civic engagement opportunities at the local community level supporting civic tourism priorities of development.

## Research

Sea Grant funded research into the scientific aspects of coastal ecosystems and their health is nationally recognized and has contributed extensively to our understanding and protection of coastal and marine resources. Recently Sea Grant has begun to expand its research efforts into the social sciences, looking at the impacts of coastal communities on ecosystems and the linkages to long-term sustainability of our coastal natural resources. To support an expanded effort in tourism, Sea Grant could take a number of steps in the research area. These include:

- Including a list of priority needs related to tourism research in all Sea Grant research ‘requests for proposals.’
- Targeting non-traditional departments within state colleges and universities (e.g., economics, law, business, urban planning, hospitality, tourism, etc.) to attract faculty

partners who can contribute to research on the social and economic impacts of tourism on communities and sustainability.

- Directing a greater portion of the NSGO ‘social science rebate’ to fund start-up research projects related to tourism.
- Utilizing program development funds to augment research efforts and/or support data collection needed for analyzing trends and developments in the tourism industry, such as visitor motivations, experiences, and satisfaction.
- Focusing research efforts on the development of ‘tool kits’ to aid small businesses; quantifying the economic impacts of specific tourism segments; and assessing the impact of various tax policies on the local economy, and the availability of funds to support tourism infrastructure and environmental protection efforts.
- Establishing working relationships and partnerships with existing university, state and regionally-based sustainable tourism centers.

## Selected Examples of Sustainable Tourism Centers

### University of Hawaii Center for Sustainable Tourism

<http://sct.seagrant.soest.hawaii.edu/>

### East Carolina University Center for Sustainable Tourism

<http://www.ecu.edu/cs-acad/sustainabletourism/>

### National Geographic Center for Sustainable Destinations

<http://travel.nationalgeographic.com/travel/sustainable/>

### Lake Placid Convention and Visitors Bureau Regional Office of Sustainable Tourism

<http://www.roostadk.com/programs/sustainable-tourism>

### University of Louisiana Lafayette Center for Cultural and Eco-tourism

<http://ccet.louisiana.edu/>

### Stanford University Center for Responsible Travel

[http://www.responsibletravel.org/home/staff\\_stanford.html](http://www.responsibletravel.org/home/staff_stanford.html)

### University of Minnesota Tourism Center

<http://www.tourism.umn.edu/ResearchReports/MarketSegments/Sustainable/index.htm>

## Recommendations

### Sustainable Coastal Tourism: Renewing Sea Grant's Role

May 2012

*As noted, the above suggested program components represent steps that the National Sea Grant office and individual state programs can take immediately to build an effective national Sea Grant program focus on tourism, and strengthen Sea Grant's role in this important segment of coastal economies.*

We believe, based on the sheer size and geographic reach of the tourism industry; its overwhelming contribution to state and local economies; and its potential impact on the coastal environment, that this is an emerging area of opportunity that Sea Grant must find a way to address.

The following actions are key ingredients to establishing a firm foundation for a tourism focus within the Sea Grant program and addressing the President's objectives for growing the nation's tourism-related economy. We recommend the following actions be taken by the National Sea Grant Office (NSGO) and by the individual state programs, and that they be taken in the near-future (i.e., in a six to nine month time frame) given the national priority of this issue and our capacity as a network to effectively address it.

1. The 2014-2017 National Sea Grant College Program Strategic Plan, now under development, should clearly reflect in all of its focus areas the role and importance of tourism in achieving Sea Grant's national goals and objectives.
2. The 32 state Sea Grant programs should assess the importance of coastal tourism within the respective states and address these needs, challenges and opportunities in the goals and objectives of their respective state 2014-2017 strategic plans.
3. The NSGO should implement a 2013 Coastal Tourism National Strategic Initiative (NSI). The NSI should be competitive and encourage new partnerships (in-kind and/or with matching funds) with the tourism industry, focused on the linkages between the tourism economy and sustainability of coastal resources. Logical partnerships between Sea Grant programs beyond the traditional boundaries of Sea Grant regions should be encouraged where they will facilitate the most effective outcomes and impacts.
4. The NSGO should seek to establish a NOAA Center for Sustainable Coastal Tourism (or similar coordinating mechanism), led by Sea Grant that includes representation from the Office of Coastal Resource Management (OCRM), the NOAA Coastal Services Center, National Weather Service, Department of Commerce (DOC), and others as appropriate. The Center should seek to leverage resources within NOAA to address coastal tourism initiatives.
5. The NSGO should convene, as soon as practicable, several events with proven track record for advancing national initiatives. These include: a National Coastal Tourism Symposium, a Silver Spring 'brown bag' gathering on tourism, and Congressional Hill and Executive Branch briefings to showcase Sea Grant's coastal tourism success stories and new initiatives in this area.

6. The NSGO should encourage, assist, and support the establishment of an effective Sea Grant network focused on tourism. This network should provide for the easy exchange of information amongst the 32 Sea Grant programs (e.g., program information on ongoing tourism-related projects, activities, and research). The network should also provide for enhanced communication on tourism-related matters via a list-serve or NING site; and at some point provide for a publicly accessible web site on coastal tourism initiatives, best management practices, and other such practical information for the tourism industry.
7. The NSGO working with the 32 state Sea Grant programs should develop a training module for tourism extension targeted at new and existing extension personnel to enable them to gain a clear understanding of tourism extension best practices. This could be modeled on the Smart Growth Boot Camp held in 2003 or the Sea Grant Academy training program for new hires.
8. The NSGO working with the 32 state Sea Grant programs should develop a national multi-media message to coastal communities and the tourism industry regarding the role that Sea Grant is playing in regard to coastal tourism
9. With NSGO funding, develop a sustainable coastal tourism 'swat team' to help communities develop sustainable coastal tourism master plans. Plans would be developed based on a template prepared by Sea Grant agents and specialists and specifically tailored to meet the needs of a community.
10. The 32 state Sea Grant programs should take steps where appropriate to include coastal tourism-related research in future state program requests for proposals (RFPs) and in the use of 'program development funds.'
11. The 32 state Sea Grant programs should incorporate tourism-related responsibilities into job descriptions of new hires and current employees, where such opportunities occur and are consistent with overall program direction and strategic plan goals and objectives.
12. The 32 state programs should conduct an inventory of Sea Grant state extension and research faculty and staff who are regularly involved in projects, activities, and research efforts directed at tourism-related matters and share that information network-wide.

The approach outlined above needs to be the beginning of a long-term program with sustained and shared commitment from the NSGO and the 32 state Sea Grant programs. If all of these actions are taken, Sea Grant will be positioned to establish a lasting track record of accomplishments and impacts in the area of coastal tourism -- creating businesses and jobs, greening the industry, strengthening community planning, and sustaining coastal natural resources vital to the long-term health of this industry -- for our vision to be realized and Sea Grant will become "the 'go to' organization for research-based information related to coastal tourism that enhances our economy, improves quality of life and sustains the environment in our nation's coastal communities."

## APPENDIX 1 Glossary

**Beach Nourishment:** Beach nourishment— also referred to as beach replenishment or sand replenishment — describes a process by which sediment (usually sand) lost through longshore drift or erosion is replaced (by dumping or pumping) from sources outside of the eroding beach. A wider beach can reduce storm damage to coastal structures by dissipating energy across the surf zone, protecting upland structures and infrastructure from storm surges, tsunamis and unusually high tides. Nourishment is typically a repetitive process, since nourishment does not remove the physical forces that cause erosion; it simply mitigates their effects.

**Broad Agency Announcement (BAA):** This is a National Oceanic and Atmospheric Administration (NOAA) funding mechanism that encourages research, education and outreach, innovative projects, or sponsorships that are not addressed through the agency's competitive discretionary programs. It is not a mechanism for awarding congressionally directed funds. Funding for potential projects is always contingent upon the availability appropriated funds

**Charter Fishing:** Charter fishing is defined as fishing from a vessel carrying passengers for hire who are engaged in recreational fishing. The most common charter fishing types are six-pack charters (carrying six fishermen who pay an agreed on price for the boat) and party boats which can carry many passengers (based on Coast Guard licensing) who each pay an individual price to fish.

**Clean Marinas:** A Clean Marina Program is a voluntary, incentive-based program promoted by the National Oceanic and Atmospheric Administration (NOAA) and others that encourages marina operators and recreational boaters to protect coastal water quality by engaging in environmentally sound operating and maintenance procedures. While Clean Marina Programs vary from state to state, all programs offer information, guidance, and technical assistance to marina operators, local governments, and recreational boaters on best management practices that can be used to prevent or reduce pollution. Marinas that participate in the Clean Marina Program are recognized for their environmental stewardship.

**Climate Change:** Climate change is the long-term shift in weather patterns (including precipitation, temperatures, cloud cover, etc.) in a specific region or globally. It can be natural or caused by changes people have made to the land or atmosphere. There is new and stronger evidence that most of the warming over the last 50 years is due to human activities. Coastal communities could be especially vulnerable to the effects of climate change, including sea level rise, flooding, and more frequent and intense coastal storms. Each of these effects could pose significant problems for tourism-related activities in coastal communities.

**Coastal Dredging:** Dredging is an excavation activity or operation usually carried out at least partly underwater, in shallow seas or fresh water areas with the purpose of gathering up bottom sediments and disposing of them at a different location. This technique is often used to keep waterways navigable. It is also used as a way to replenish sand on some public beaches, where too much sand has been lost because of coastal erosion.

**Ecosystems-Based Management:** Ecosystem-Based Management (EBM) is an integrated approach to resource management that considers the entire ecosystem, including humans, and the elements that are integral to ecosystem functions. EBM is informed by science to conserve and protect our cultural and natural heritage by sustaining diverse, productive, resilient ecosystems and the services they provide.

**Eco-Tourism (Nature-Based Tourism):** Ecotourism is defined as responsible travel to natural areas that conserves the environment and improves the well-being of local people. It may include building environmental and cultural awareness and respect, providing direct financial benefits for conservation, raising sensitivity to a host communities political, environmental, and social climate and provide positive experiences for both visitors and hosts.

**Environmental Footprint (Ecological Footprint):** An ecological footprint is the world's premier measure of humanity's demand on nature. It measures how much land and water area a human population requires to produce the resources it consumes and to absorb its carbon dioxide emissions, using prevailing technology.

**Environmental Sustainability:** Environmental sustainability is the process of making sure current processes of interaction with the environment are pursued with the idea of keeping the environment as pristine and natural as possible on a long-term basis. Sustainability requires that human activity only uses nature's resources at a rate at which they can be replenished naturally.

**Hazard Resilient Coastal Communities:** Resilience is the capacity of human and natural/physical systems to adapt to and recover from change. To continue to enjoy living and receiving the benefits that coastal areas have to offer, there is a need to make the natural, built, and social environments more resilient. Enhancing resilience requires adjustments to day-to-day living, as well as adjustments to processes of long-term settlement and development of coastal areas. Hazard Resilience in Coastal Communities is one of four focus areas in the 2009 – 2013 National Sea Grant Strategic Plan. The overall goals are to assist in the understanding of the risks associated with living, working and visiting the nation's coasts and helping coastal communities prepare for and respond to hazardous events.

**Invasive Aquatic Species:** Aquatic Species includes both aquatic plant and aquatic animal species. Invasive aquatic plants are introduced plants that have adapted to living in, on, or next to water, and that can grow either submerged or partially submerged in water. Invasive aquatic animals require a watery habitat, but do not necessarily have to live entirely in water.

**Light Pollution:** Light pollution is an unwanted consequence of outdoor lighting and includes such effects as sky glow, light trespass, and glare and that interferes especially with astronomical observations.

**Marine Debris:** Marine debris, also known as marine litter, is human created waste that has deliberately or accidentally become afloat in a lake, sea, ocean or waterway. Oceanic debris tends to accumulate at the center of gyres and on coastlines, frequently washing aground, when it is known as beach litter or tidewrack. Deliberate disposal of wastes at sea is called ocean dumping.

**Maritime Heritage:** Maritime heritage has cultural, physical and ecological dimensions. It embraces the legacies of past generations that derived a living from the sea, including their traditions, as well as natural features of both coastal and offshore environments. Maritime heritage covers both terrestrial and water-based elements including fisheries, wildlife habitats, flora and fauna, seascapes, wrecks, coastal monuments and other features of archaeological and historic interest or importance.

**National Strategic Initiative (NSI):** The National Sea Grant College Program has established a series of National Strategic Investments (NSIs) that complement the strategic objectives of the state Sea Grant Programs. These NSIs have a national focus and are intended to enhance Sea Grant's network-wide capabilities (research and development, education, extension, and outreach) to respond to high priority issues and opportunities. Projects are generally selected through annual national competitions

**Noise Pollution:** Noise pollution is excessive, displeasing human, animal, or machine-created environmental sounds that disrupt the activity or balance of human or animal life. Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one's quality of life.

**Non-Point Source Pollution:** Non-point source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters.

**Sea Grant Extension:** Sea Grant Extension is a university-based educational program made up of professional outreach agents and specialists that seek to apply knowledge and understanding gained through research and science-based information on coastal and marine topics to targeted audiences. Extension is the principle delivery mechanism for NOAA, Sea Grant and staff members are distributed throughout coastal communities in all coastal and Great Lakes' states.

**Sea Level Rise:** Sea levels are rising along most of the U.S. coast, and around the world. Experts agree that rising seas are a specific outcome of climate change. Higher temperatures are expected to further raise sea level by

expanding ocean water, melting mountain glaciers and small ice caps, and causing portions of Greenland and the Antarctic ice sheets to melt. The International Panel on Climate Change (IPCC) estimates that the global average sea level will rise between 0.6 and 2 feet by the end of the century.

**Smart Growth:** Smart growth is an urban planning and transportation theory that concentrates growth in compact walkable urban centers to avoid sprawl. It also advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices.

**Sustainable Coastal Development:** Sustainable development in coastal areas strives to encourage social well-being and economic growth and prosperity, while minimizing the negative impacts of growth and economic activities on the ecosystem. Sustainable Coastal Development is one of four focus areas in the 2009 – 2013 National Sea Grant Strategic Plan. The overall goals are to enhance waterfront-related economic activity, manage growth in ways that do not diminish the health of marine ecosystems and provide sound information for decision makers and stakeholders to arrive at consensus building strategies for communities.

**Sustainable Tourism:** Tourism that meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems.

**Tourism Tax Revenues:** Revenue obtained by individuals using tourist attractions, usually imposed by a host community (city, county state) to offset services provided to accommodate visitors to the community. The most common form of tourism tax revenue is that applied to overnight accommodations.

**Working Waterfronts:** Working waterfronts support water dependent commercial activities, such as marinas, boat repair yards, fish piers, and commercial/charter fishing docks. They are critical to the economies of many coastal communities. However, working waterfronts are rapidly changing, due in part to changing demographics and increasing tax burdens on waterfront properties. Many are now being converted to private residential developments and non-water dependent businesses and thus limiting access to public trust waters.

APPENDIX 2  
Sustainable Coastal and Marine Tourism Roundtable

October 13, 2011  
Baltimore, MD

NAME	ORGANIZATION
Jim Ammerman	New York Sea Grant
Robert Bacon	South Carolina Sea Grant
Joshua Brown	NOAA, National Sea Grant Office
Leon Cammen	NOAA, National Sea Grant Office
John Carey	Hawaii Sea Grant
Ruperto Chaparro	Puerto Rico Sea Grant
Mary Donohue	Hawaii Sea Grant
Linda Duguay	Southern California Sea Grant
Chris Ellis	NOAA, Coastal Services Center
Jim Falk	Delaware Sea Grant
James Fawcett	Southern California Sea Grant
Paul Focazio	New York Sea Grant
E. Gordon Grau	Hawaii Sea Grant
Valerie Grussing	NOAA, Marine Protected Areas Ctr.
Jeff Gunderson	Minnesota Sea Grant
Karl Havens	Florida Sea Grant
Isabel Hill	Department of Commerce, Office of Travel and Tourism
Melinda Huntley	Ohio Sea Grant
Darren Lerner	Hawaii Sea Grant
Ed Lewandowski	Delaware Sea Grant
Mike Liffmann	NOAA, National Sea Grant Office
Herb Malone	Gulf Shores/Orange Beach Tourism
Joanne McDonough	Mississippi/Alabama Sea Grant
Brian Miller	Indiana/Illinois Sea Grant
Amy Painter	NOAA, National Sea Grant Office
Jon Pennock	New Hampshire Sea Grant
Chuck Pistis	Michigan Sea Grant
Pamela Plotkin	Texas Sea Grant
Jeffrey Reutter	Ohio Sea Grant
Peter Rowe	New Jersey Sea Grant
Amy Scaroni	NOAA, National Sea Grant Office
Natalie Springuel	Maine Sea Grant
Nancy Targett	Delaware Sea Grant
Jack Thigpen	North Carolina Sea Grant
April Turner	South Carolina Sea Grant

APPENDIX 3  
Sustainable Coastal and Marine Tourism Roundtable  
Meeting Notes

**Sustainable Coastal and Marine Tourism Roundtable**  
October 14, 2011  
Baltimore, MD

**“Regional Partnerships” – Herb Malone, President and CEO of Gulf Shores/Orange Beach Tourism**

- Member of advisory board at MS/AL Sea Grant
- Leads DMO- destination marketing organization (i.e. chamber, CVB, etc.); 15,000 fulltime residents; hosted 4.6 million visitors with \$2.3 billion revenue in '09; in '93, 6,000 lodging units (hotels & condos); 17,000+ lodging units in '11 (80% condos); increase in capacity has resulted in new challenges; direct funding from 2% lodging tax collected by State Dept. of Revenue
- 2011 budget = \$5 million; employs 25 fulltime & ~6 part-time employees
- DMOs typically focus on marketing (ads, sales, & public relations); “selling an experience”; realization that quality of experience affects visitor’s interest in returning; focus now on product development
- Example 1: collaborated on creation of Alabama Coastal Birding Trail ('99); 63 million Americans participate in wildlife watching; 26 million Americans travel for these activities; 25 million Americans play golf; 14 million Americans travel for golf; birding trail took existing natural product and made it into a marketable package; used “shopping mall” concept; developed major “anchors” (e.g. landfill for sea gulls); interpretive signage, web site and guide book
- Example 2: beach safety (rip current risks); DMOs function as communications centers; education programs developed
- Example 3: nature tourism initiative; established formal partnership with MS/AL Sea Grant; hired staff person (J. McDonough)
- Example 4: Deepwater Horizon oil spill; headlines had immediate and drastic impact on lodging reservations; DMO again played key communications role; challenge to acquire and understand factual information; reality vs. perception; livelihoods threatened and future in doubt; fears and stress rampant; Sea Grant translated science and helped public to understand threats; gross lodging revenue has rebounded and is now above pre-spill levels; responsible tourism promotion is long-term economic development; deliver experiences that keep tourists coming back; DMOs and Sea Grant have shared goals - a valuable partnership

**“The Role of Travel & Tourism Sectors on Sea Grant State Economies” – Mary Donahue, Hawaii Sea Grant Program**

- Sea Grant involvement in tourism not realized to full potential at NSG level
- Need to better manage human & natural capital for sustainable coastal tourism; tourism and fisheries sectors both suffering
- Since '08, decreases in all fisheries segments (jobs, payroll, sales/expenditures, etc.); employment- fisheries remains dominant sector in a number of Sea Grant states; payroll data underrepresented (“non- disclosable”); recreational fishing data was included in analysis
- Walls between Sea Grant focus areas are really non-existent; both travel/tourism and fisheries sectors are significant contributors to Sea Grant states
- Sea Grant not a “one-size-fits-all” program; however, should invest more heavily in travel/tourism in Sea Grant portfolio



- Data available by Congressional district; provided by U.S. Travel Association; visitors traveling to coast have an impact on natural capital outside area; (in NJ = 70% coastal tourism)
- NMFS has recreational fishing data separately; fishing expenses (recreational vs. commercial) consolidated in this data set
- Need to explore multi-dimensional facets of SG programs and understand relationships to maximize effectiveness

**“A Historical Review of Sea Grant’s Involvement in Recreation and Coastal Tourism” – Jim Falk, Delaware Sea Grant**

- Developed a historical timeline; formative years from ’66-’75; early focus on fisheries (biology & management)
- Initial marine recreation work resulted in ’75 conference = NOAA policy statement on marine recreation; Sea Grant supported 10 active projects at five institutions directed at marine recreation
- Coastal recreation research was significant, but no focus on coastal tourism; handbook developed (tool kit)
- Sea Grant growth phase from ’75-’85 with a variety of new disciplines; tourism evolved as Sea Grant element; new breed of Sea Grant agents with interdisciplinary training; began to work with tourism & travel industry sectors and economists (e.g. visitor studies)
- Sea Grant-funded research increased, especially in universities with dedicated tourism/recreation-related departments (e.g. Cornell, Texas A&M, Michigan State, U of Florida)
- ’85 Sea Grant co-sponsor of national outdoor recreation trends symposium; work began on establishing Sea Grant priorities for coastal tourism and recreation; also sponsored a Sea Grant and boating industry workshop in ’85; recreational issues paper in ’86; leadership vacuum caused a loss of momentum
- Report issued on Sea Grant impact on national economy in ’87; Marine Recreation and Tourism is #1
- Zebra mussel problem surfaced in ’88; Sea Grant’s education & outreach helped solidify relationship with tourism and recreation groups
- International Ecotourism Society formed in ’90- principles of ecotourism established; *Pfiesteria* scare
- ’94 Coastal Society meeting; last formal meeting of Sea Grant marine recreation colleagues; resource guide produced
- Coastal Communities & Economy theme-team formed ’00- white paper published; International Conference & Symposium on Coastal and Marine Tourism
- National Research Council hosted ’02 roundtable on Marine Recreation & Tourism; no follow-up to advance issues
- ’03 & ’04 Pew Commission and Ocean Commission reports- explored jobs, GDP, other economic sectors;
- ’09 SCD focus team organized; Top 10 events affecting coastal and marine tourism in the future (e.g. aging population, SLR, human disasters, natural disasters, economic recessions, etc.)

**Roundtable Discussion – “Reflections on Morning Presentations” – Gordon Grau, Hawaii SG; Nancy Targett, Delaware SG; Jeff Ruetter, Ohio SG; Karl Havens, Florida SG; Jim Fawcett, Southern California SG**

- Maintenance issues remain a concern (beaches)
- Strong social science component
- Community challenges (e.g. manage growth/development)
- Economic & job implications

- “Scope for Growth”
- Grassroots Sea Grant effort
- Demographic changes along coast
- Sea Grant niche could focus on job growth
- How does tourism fit in four current focus areas?
- Tourism applies to Environment, Economy & Education
- Intersection between tourism and coastal management
- Tourism industry as an advocate for coastal protection

### Roundtable Discussion “Sea Grant and Coastal Tourism”

#### Natalie Springuel, Maine SG

- Diversified tourism economy programming focused east of Bar Harbor for 10 years
- Based on needs assessment; citizens value community, nature, & earning a living
- Tourism is a “bad word” to some
- Produced resource guide for minimizing impacts
- Identified indicators for coastal tourism impacts
- Recent involvement with economic development
- Downeast Fisheries Trail (heritage-based tourism)
- Sea Grant links fisheries with aquaculture & tourism

#### Darren Lerner, Hawaii SG

- Tourism is #1 driver of economy
- Beach erosion erodes tourism economy (e.g. Waikiki)
- Coastal/marine environment is major attraction; robust tourism economy is tied to ecological health
- Focus on sustainable tourism
- Centers for Excellence; locus of expertise; fellowship program for faculty researchers
- Stakeholder interest and need has been overwhelming
- Current partnerships with DE and ME Sea Grant Programs
- Center for Sustainable Coastal Tourism focuses on issues RE: sustainable tourism and tourism development.
- Center director a UH tenured faculty member; faculty invited to affiliate with center can participate in joint projects and proposals; UH Sea Grant provides fiscal and administrative support
- Center helps leverage UH Sea Grant’s involvement in tourism; major achievements in winning outside support; model for promoting sustainable tourism practices

#### Melinda Huntley, Ohio SG

- Produced Birding Trail cards = “Birdwatchers Flock to Your Business”
- Tourism has a role in creating an area’s image
- Tourism is in control of images/perceptions
- Tourism professionals not educated/trained to manage research, education and outreach
- No focus on long-term planning
- Sea Grant transcends “talking to the choirs”
- Sea Grant can play role as a broker and facilitator

**Joanne McDonough, Mississippi/Alabama Sea Grant Consortium**

- Initiated BMPs for nature tourism operators/professionals
- Tourism bureau data helpful;
- Number of dolphin tour operators has increased dramatically; “Dolphin Smart;” applied research/worked with applied experience on dolphin health assessments
- Coastal nature guide program (e.g. kayak tours); charter boat survey = “knowledge & courtesy of crew” was #1 factor influencing participant choice of charter captain
- Certification and process for charter fishing professionals
- “Sustainable Harvest” program; stewardship messaging
- Provide tool kit
- Assess economic impact

**Jack Thigpen, North Carolina SG**

- Sustainability = creating jobs & income while enhancing environment and preserving/celebrating local culture; working with small and rural communities
- Successes with establishing paddling & birding trails
- Training workshop for “birder-friendly businesses
- Recreational angling
- Might be perceived as an “outsider”
- Perception is that tourism creates low-paying jobs; rather, tourism creates wide-range of jobs; # ecotourism guides increasing
- User conflicts persist (traditional vs. visitors)
- Examples: windsurfers vs. recreational anglers/crabbers, public access for kayakers vs. boaters; waterfowl hunting vs. birding on public lands
- Sea Grant # and breadth of partnership
- Need to share Sea Grant success stories
- Integrate tourism with traditional Sea Grant programs

**Bob Bacon, South Carolina SG**

- \$9 billion coastal tourism industry
- Sea Grant interest in rural economic development (small communities)
- “Nature-based tourism” instead of “eco-tourism;” Litchfield Beach conference drew 125 attendees to discuss nature-based tourism; founded nature-based tourism association; Sea Grant led first 6-8 annual conferences for association; provide guidance and advice to members; Charles Fraser (Hilton Head developer) - groundbreaking low-impact concept
- South Carolina Heritage Corridor; funding two tourism-related research programs:
  1. Nature-based interpretation for charter boat operators;
  2. Seafood trail feasibility; product diversification is key; collaborating with Cooperative Extension on agri-tourism; “market-maker”-online resource for ag food products; expanding market-maker to tourism activities (started with hunting & fishing; nature-based tourism next)

### “National Sea Grant Strategic Planning Process” – Joshua Brown, NSGO

- Steering Committee will be appointed soon; will review national information (November 2011); stakeholder forums will be held (December 2011 – February 2012); plan writing (March – May 2012); national plan ready by July, 2012; state plans will follow
- Need to develop the coastal tourism “white paper;” infuse examples of existing partnerships or engagements (add appendix); opportunities to raise Sea Grant profile and coastal tourism issues in D.C.
- Avoid narrow focus; parallel strategies with Sustainable Coastal Communities Development
- Recreation... What you do in your hometown; Tourism...What you do in someone else's.
- Should tourism become a theme or focus area?
- Needs to be a convergence on definition of “sustainable coastal tourism”
- Funding to support coastal tourism activities has come from individual Sea Grant programs; SGA has not been solicited (only in-kind support); need to convene a work group to produce a white paper

## Breakout Exercise #1 Critical Issues in Sustainable Coastal Tourism

### What are the industry & community needs?

- Commercial fish waste and tourism waste as a feedstock for energy production
  - ✓ Fish waste at marinas; sent to landfill or tossed in water; can be recycled as chum
- Promote water economizing measures by tourists
- Translate stories of best environmental practices through tour operators; captive audience; Sea Grant can serve as facilitators
- Resident vs. visitor needs for public access in coastal areas; user conflicts
- Cultural heritage; recognize & preserve “sense of place;” How can Sea Grant help? Need a balance!
- Examine natural and cultural infrastructure for coastal tourism
- Coastal and marine spatial planning
  - ✓ Utility as a planning tool?
- Need: long-range community planning
- Better define and communicate “sustainable”
  - ✓ Tourism as a component of sustainable development
  - ✓ Sustainability can increase profitability
- Provide information and education regarding long-term impacts of coastal tourism
- Stay true to core values (research, education & outreach)
  - ✓ Address research needs
- Bolster political perception that tourism jobs ARE real jobs!
- Bring tourism sector together with resource and planning agencies/professionals
  - ✓ Promote identity and value of resource-based tourism
- Capacity building for tourism leaders and professionals (e.g. NEMO)
- Tourism = focus on rural economic development (e.g. South Carolina)
- Help tourist sector with “green” initiatives (sustainable tourism)
- Importance of maintaining public access
- Minimize impacts of tourism
- Need for community-based planning and policy
- Marketing assistance, including social media

- Issues of staying competitive; not losing tourists to other destinations
- How to reduce costs (energy, water, etc.)
- Green infrastructure and operations
- BMPs for sustainable tourism/coastal environment
- Research needs
  - ✓ Quantification of impacts of tourism (positive and negative) and BMPs
- How do we exploit the resource sustainably?
- Tourism businesses think about bottom line (\$\$\$)

#### What are the emerging issues involving tourism and the coast (e.g. energy, water, waste management, etc.)?

- Infrastructure,
- “Greening”
- Coastal community revitalization
- Heritage tourism
- Safety (no lifeguards)
- Amenities and services (community readiness?)
- Population migration to coast and associated issue of carrying capacity
- Water supply
- Space (traffic)
- Environmental impacts,
- Changes to quality of experience
- Climate change & SLR
- Transportation constraints
- Reducing pollution (ships, ports, trucks, etc.); air emissions
- Growth management
- Tourists use/consume more of the resource than residents
- Labor supply trending down
  - ✓ Quality of labor affects quality of experience; training
  - ✓ Affordable housing and transportation for workers

#### How do tourism needs and the environment co-exist (e.g. tourism and coastal hazards; tourism and climate change)?

- Issue of beach erosion/renourishment
  - ✓ Critical to tourism
  - ✓ Sensitive to storms and SLR
  - ✓ Increasingly expensive
  - ✓ Sand shortages
- In New England, there are waterfront sites (e.g. brownfields) that could be developed for tourism
- Consider how economic development might conflict with cultural heritage
- Cruise ship impacts; increased traffic (e.g. Charleston, SC)
- Sustainability not part of the system and culture of tourism

#### How do these needs fit with NOAA’s and Sea Grant’s mission?

- Development of science-based information and products for each of the identified needs
- Communities in transition; smaller communities (i.e. from resource extraction to a service economy)
- Heritage tourism interpretation
- Facilitation and advising

- Intersection with sustainable coastal development, fisheries, health of ecosystem
- Also linked to climate change (mitigation and adaptation)
- Sea Grant needs to interact more proactively
- Need to measure impacts; Sea Grant needs to develop and collect data for standardized metrics
- Best practices
  - ✓ Education for businesses
  - ✓ Marketing to consumers

#### Questions/Comments:

1. Exercise caution in building a tourism labor force without appropriate/adequate infrastructure and support services.
2. Solution to access is the private sector (e.g. private marinas); need to broaden constituency to all affected interests.
3. Balancing cultural/sense of community with tourism development; all sectors can benefit from longer vision.
4. Sea Grant role as broker; knowledge of policies, roles, and activities; should be able to direct users to resources.

### Breakout Exercise #2

#### What Should We Be Doing; What Can We Do?

#### What makes Sea Grant uniquely qualified to work in coastal tourism?

- Sea Grant is trusted because it is part of the community
- Direct link to university researchers; legitimacy
- Part of a national network
- Expertise in many related areas (coastal hazards, water, ecosystems, etc.)
- Resources
  - ✓ Capacity building
  - ✓ Synergy
  - ✓ community-based
- Presence in and trust of local communities
- Science-based and local approaches to issues
- “The Sea Grant Model”
- Contributions to economic development; job creation
- University-based program
- Trusted source of science-based information vs. perception
  - ✓ Rapid response = solutions
  - ✓ Flexible
- Community-based; backed by a solid network
- Research, education & outreach
- Resources
- Partnerships
- Regional capacity
- “honest broker”

#### Where can we have the greatest impact?

- Greatest impact on rural, small communities
- Communities undergoing structural change (manufacturing, factories, fishing, etc.)
- Nature-based areas
- Tourism that relates to other Sea Grant programs (e.g. recreational fisheries)
- Through research and education, we can enhance tourism
- Enhancing coastal tourism products = Seed money? Support? Partnerships?
- Establish relationships within tourism community then identify research and support needs
- Resource-dependent communities
  - ✓ Maximize impacts in communities with greatest challenges
  - ✓ Training and education

#### Where should we be directing our resources?

- Direct resources to fund tourism/social science research; need to build database
- No information on impacts of nature-based tourism
- In-service training for agents/specialists who are involved in areas that overlap with tourism
- Communicate and translate research results
- Human behaviors (e.g. consumer trends)
  - ✓ University and other training for future tour operators and leaders
- Thru tech colleges
  - ✓ Best practices curriculum with standards that leads to a Sea Grant certificate
  - ✓ Training modules (Location-based, Web-based)
- Create new profit centers
- National domestic training program for coastal tourism businesses
- Engage industry, state, universities
- Leadership training
- Capacity building

#### What should we be doing in (Extension/Communications/Research)?

##### Extension

- In-service training
- Assign point person in each state program; “go to person” (Comment: Need someone with tourism competency)
- Identify where coastal tourism cross-cuts in focus areas and engage/connect (Comment: strong interest in tourism leadership activity!)

##### Communications

- NING site - a place to go on the web to communicate
  - ✓ Dashboard/database
- Tool for consistent data
- One-stop shop to access data
  - ✓ Social media; web; list-serve
- Outreach with coastal businesses
  - ✓ Partner if resources are limited
- Work with local chambers
  - ✓ Standardize Sea Grant product development/branding

##### Research

- Connect tourism impacts to the environment
- National initiative from NSGO

- Share data/results with academic tourism departments
- Develop curriculum for tourism industry targeted audience
  - ✓ Identify constituents; needs assessment
  - ✓ Coastal tourism RFP!
  - ✓ Economic development standardization
- Create common standards to national level
  - ✓ Serve as data source at local level
  - ✓ Disaster response/recovery; be the local contact

#### What are the best leveraged partnerships for Sea Grant to engage?

- Leverage partnerships with regional/state tourism agency contacts
  - ✓ Bring tourism official onto Sea Grant advisory board; information exchange; (Question: How many Sea Grant programs have such a member on state advisory boards?)
- Consult with chambers and Convention and Visitor Bureaus (CVB)
- Travel and tourism associations; promote tourism regions
- NOAA & Sea Grant community are resources
  - ✓ Sea Grant as NOAA job creation; it's where the jobs are!
  - ✓ Need to have NOAA presence on tourism agencies policy councils
- Department of Commerce
- Other NOAA line offices
- Establish as a "focus area;" clear leadership needed
- Explore opportunities for collaboration at Federal level
  - ✓ Strategies need to be developed locally
  - ✓ Conduct a needs assessment; develop tool as network and implement locally

#### Questions/Comments:

1. If Department of Commerce is interested in tourism impact info, is there \$\$\$ available to support data collection? (Response: No)
2. Possible to acquire economic data for coastal counties? Yes; by coastal zip codes; travel & tourism data available by Congressional districts (but these districts change).
3. Visitor profile studies by private firms can identify tourism activities; State tourism offices also support research.
4. National Ocean Policy Study explored coastal economy.
5. USFWS produces hunting/fishing/wildlife report every 5 years; reports economic data; due FEB/MAR '12.
6. Longwoods tourism economics study; can purchase separate data set for coastal counties; Longwoods is a tourism research firm that provides standardized state studies.
7. Bureau of Labor Statistics has tourism data (employment); need to demonstrate impacts of coastal tourism.
8. Suggestion for a travel and tourism research committee; university-based T&T research conference scheduled
9. Focus shouldn't only be on rural communities, but rather, communities that are resource-challenged, including urban areas.



APPENDIX 4  
Examples of Coastal Tourism  
and Recreation Activities  
Throughout the Sea Grant Network

**Alaska Sea Grant**

Alaska, with more than half of all the coastline of the entire United States, has one designated marine recreation and tourism specialist, Terry Johnson, who gets to spend about a third of his programmed time on recreation and tourism work. Other responsibilities include commercial fisheries business, marine industry training planning, climate change adaptation, and fishing vessel fuel efficiency. Some work is applicable to both coastal tourism and one of these other fields.

The Mar Recreation & Tourism Specialist's efforts are divided into the following areas:

- **Charter boat and sport fish guiding industry.** Publishes the on-line newsletter Charter Log which is distributed electronically to more than 300 charter boat, sport fishing guide and lodge operators in the state. It contains news in the field, analysis of regulatory and political developments pertinent to the industry, technical tips, and more.  
<http://seagrant.uaf.edu/map/charterlog/index.html>
- **Marine tourism industry business development.** Wrote the 100-page manual *Starting an Ecotourism Business in Alaska* funded by the U.S. Economic Development Administration. <http://seagrant.uaf.edu/map/fishbiz/pubs/ecotourism.pdf> Gives workshops on starting an ecotourism business, customer satisfaction and related topics. Has written publications such as "Buying Insurance for Your Charterboat" <http://seagrant.uaf.edu/bookstore/pubs/ASG-35.html> and "Tips for Photographers, Birders, and Wildlife Viewers on Guided Trips." <http://seagrant.uaf.edu/bookstore/pubs/ASG-53.html> Provides consulting to communities, regional development associations, and individual businesses on tourism development and starting tourism-related businesses. Participates in the Alaska Forward Tourism Industry Cluster Group, and the Alaska Wilderness Recreation and Tourism Association.
- **Responsible Marine Wildlife Viewing.** Developed slide shows, gives talks, developed voluntary guidelines for marine wildlife viewing businesses and individuals, and is writing a marine wildlife viewing guidebook for Alaska. Includes marine mammals, seabirds, raptors, fish, invertebrates, and coastal zone wildlife. Developed presentations on viewing walrus, and writing a book on the endangered Steller sea lion.  
<http://uaf.edu/map/recreation/viewing/index.html>
- **Safe, enjoyable and environmentally sustainable coastal boating.** Wrote regional supplements to the state boater's handbook for Prince William Sound, Kachemak Bay and Resurrection Bay (in press), published by the Alaska Office of Boating Safety. <http://dnr.alaska.gov/parks/boating/handbook.htm> Developed slide shows and gives talks at boat shows on planning and carrying out cruises to remote parts of the state, including the Alaska Peninsula, eastern Aleutian Islands, and southeast Bering Sea. Developing a website and on-line boaters' transit guide to the 500-mile stretch of wilderness coastline that lies between Southeast Alaska and Southcentral Alaska. This project eventually will be extended to encompass the Gulf of Alaska coast to the

southeast Bering Sea. Gives talks on safe, enjoyable and efficient boating. Gives talks and wrote the publication "Preventing and Treating Seasickness."

<http://seagrant.uaf.edu/bookstore/pubs/SG-ED-47.pdf> Wrote the 24-page booklet "Clean Boating for Alaskans" <http://seagrant.uaf.edu/bookstore/pubs/MAB-63.html> in cooperation with the National Park Service and the Alaska Marine Conservation Council. Serves on the Alaska Boating Safety Advisory Council and the advisory board for Alaska Clean Marinas.

- **Fuel efficiency.** <http://seagrant.uaf.edu/map/recreation/fuel-efficiency/index.html> This is a spin-off of work done for the commercial fishing industry on approaches to improve vessel fuel efficiency. Gives talks to charter boat and recreational boaters and wrote the publications "Save Money on Boat Fuel" <http://seagrant.uaf.edu/bookstore/pubs/SG-ED-62.html> and "Saving Fuel on Your Recreational or Charter Boat." <http://seagrant.uaf.edu/bookstore/pubs/ASG-56.html>

In addition, local area agents and fisheries/seafood specialists have engaged in some tourism projects in recent years. Specifically:

**Terry Reeve** in Bethel has hosted birding development tours and explored archeological tourism in the Yukon/Kuskokwim Delta.

**Quentin Fong**, seafood marketing specialist, has conducted visitor surveys in Kodiak and promoted Alaska tourism in Hong Kong.

**Gary Freitag**, Ketchikan agent and **Kate Wynne**, marine mammal specialist, have assisted tour vendors in Ketchikan and Juneau to develop small boat-based shore excursion offerings designed to promote "citizen science" by making whale observations and collecting invasive invertebrate data from sampling sites.

[http://www.stepintoalaska.com/citizen\\_science.cfm](http://www.stepintoalaska.com/citizen_science.cfm) <https://sites.google.com/a/alaska.edu/gary-freitag/home/marine-invasive-species/citizen-science-intensive-green-crab-sampling-program>

**Gary Freitag**, also serves on the board of Oceans Alaska in Ketchikan which is developing new marine exhibits as part of a new mariculture research and training facility.

<http://oceansalaska.org/index.html>

## Delaware Sea Grant

**Delmarva Low Impact Tourism Experiences (DLITE):** DE Sea Grant sits on board of Delmarva Low Impact Tourism Experiences (DLITE), a regional group comprised of members from DE, MD and VA who work to promote sustainable tourism throughout the Delmarva Peninsula. We have actively supported a number of the organization's training, research, and educational activities.

**Delmarva Birding Weekends:** One of DLITE's major annual events is the regional birding weekend events held every spring in various locations along the 3-state peninsula. DE Sea Grant has supported survey efforts during the Delmarva Birding Weekends. Survey instruments are distributed to participants to gauge their participation, develop profiles of participating birders and track spending. Information related to demographics, spending, overnight accommodations, etc. are analyzed to develop an economic profile of participants while in the local area. Results have been used to solicit sponsorships and to better market the event to a wider audience.

**Evaluating the Impact of Growth on Sussex County's Heritage Resources to Promote Heritage Tourism as an Economic Development Tool (Phase I and II):** Heritage tourism has

been shown to be an effective tool in the development and diversification of local economies aiming to foster strong economic growth while protecting a valuable but vulnerable cultural heritage. Through the UD Sustainable Coastal Communities Program (a partnership program with DE SG and other university programs), we have supported a number of efforts focused on heritage tourism in Sussex County.

(1) “Toward Heritage Tourism in Sussex County, Delaware”

This phase I research assessed the feasibility of heritage tourism as part of an economic development strategy for Sussex County, Delaware. The goal of the project was to determine the nature and rate of loss of historic resources and to identify “new” historically significant properties in the rapidly growing eastern coastal section of the county.

(2) “Heritage Tourism Planning Guidebook: Methods for Implementing Heritage Tourism Programs in Sussex County, Delaware”

During phase II, a guidebook was developed to help communities in Sussex County, Delaware, build and implement heritage tourism programs. The strategies and activities in the document can be adopted by local communities who wish to use their cultural and historic resources to strengthen the local tourism industry.

(3) Heritage Tourism Workshops (2009)

The UD Sustainable Coastal Communities (SCC) Program partnered with Southern Delaware Tourism to host two workshops in the spring and fall of 2009. The workshops focused on developing several heritage tourism venues in Sussex County based on the phase I and II work funded through the SCC program. The second workshop also featured Dr. Christine Bergmark, Executive Director of The Agricultural Development Commission of the Tri-County Council. Dr. Bergmark shared her experiences with Southern Maryland Trails – Earth, Art, Imagination, a highly successful heritage tourism program.

**Southern Delaware Tourism Bureau:** DE Sea Grant has worked with this coastal county tourism bureau for more than 15 years as an associate board member. Initially, partnering with organization and others to sponsor workshops and training programs for the tourism industry and subsequently conducting visitor surveys to profile visitors to the county. In recent years, we have helped facilitate two strategic visioning sessions for the organization’s board to develop long-term goals and actions plans to enhance the mission of the group.

**Beach Safety/Rip Current Awareness:** DE Sea Grant has been a leader in providing rip current/beach safety awareness and education to beach patrol staff members, as well as beachgoers. We have worked with local communities to post rip current awareness signage and are also working closely with regional NOAA, NWS personnel to share local conditions to help improve rip current predictions. Currently, we are working with our local hospital emergency room staff doctors and local beach patrols to develop profiles of surf zone injuries occurring along Delaware coast beaches.

**Educational/Interpretive Signage:** DE Sea Grant has worked with three coastal communities to create educational/interpretive signage near beach crossings and along boardwalks to inform and educate visitors about coastal/marine science topics. The “outdoor classrooms” have been well-received by local community leaders and the general public.

**Lewes Maritime History Trail:** The historic community of Lewes, DE attracts thousands of visitors annually to view the many museums and historic sites within the community. A recent project that DE Sea Grant participated in with many other community groups was the creation of

the Lewes Maritime History Trail. The series of 10 interpretive signs tell an interesting story of the city's maritime history.

**Lewes-Rehoboth Canal Water Taxi:** DE Sea Grant has recently become active with a local group (Lewes-Rehoboth Canal Improvement Association) to explore the possibility of developing a water taxi system along a canal connecting the cities of Lewes, DE and Rehoboth Beach, DE. In addition to contributing funds to conduct education and outreach about the proposed system, Sea Grant is active on the group's board along with other city officials and tourism organizations. If the proposed system becomes a reality, there are numerous links to the areas tourism infrastructure that could be developed.

**Delaware Coastal Economic Study:** DE Sea Grant is working with two economists at the University of Delaware to produce a report documenting the coastal economy's impact on the state of Delaware. Preliminary results indicate that tourism is the primary driver of much of the economic activity along our ocean coast. We anticipate that the final results will be used to create an economic barometer where we can work with key tourism industry leaders to track changes in the economy due to various factors and trends.

## Florida Sea Grant

Florida Sea Grant / University of Florida Institute of Food and Agricultural Sciences (IFAS) Extension Agents conduct a variety of activities related to coastal tourism. Some are done by many Agents as part of state-wide programs while others are regional or local and done by just one or two Agents working with particular clientele. In addition to serving tourists and providing information that helps sustain the marine environment, recent activities have helped to create new small businesses, boosted income and supported jobs in sectors that Sea Grant traditionally works with along the coast (e.g., commercial fishermen). The coastal tourism activities in Florida transcend the current Focus Areas of the National Sea Grant Office, and are aligned with Healthy Coastal Ecosystems, Safe and Sustainable Seafood Supply, and Sustainable Coastal Development.

In regard to sustainable development, Florida Sea Grant's lead in providing the science and outreach for deployment and management of artificial reefs in southwest Florida has supported development of a huge tourist industry centered around recreational diving, with an estimated annual revenue of \$227 million dollars, and supporting 2,595 full and part time jobs.

Several agents recently have developed 'coastal heritage' tours where they take tourists on walking or driving tours to visit traditional working waterfronts, fish processing facilities, clam culture operations, etc. So far the participants have been amazingly interested in 'the old Florida.' One particularly popular tour takes participants to stone crab houses, and they have an opportunity to buy fresh product – thereby helping the industry directly during the tours.

In relation to seafood, Several Florida Sea Grant Extension Agents organize fishing festivals each year that attract tens of thousands of people from Florida and outside the state, and contribute substantially to the local economies.

Likewise, our Extension Agent in Brevard County has developed a program in cooperation with the commercial fishing industry and the county's economic development office, where boat captains are trained about coastal habitat, water quality and other issues so that they can become ecotourism guides during their off season from fishing. Late in 2011 a new small business was created as a result of this initiative, in cooperation with the local tourism office and a major hotel chain. A number of our agents have expressed an interest in conducting this type of program because it has both a strong tie to environmental conservation and economic stimulus.

In regard to healthy ecosystems, Florida Sea Grant Extension Agents undergo training in the UF Master Naturalist Program and become certified as Coastal Master Naturalists. They subsequently hold courses each year to train Florida residents, who in turn become certified and hold training sessions on coastal ecology for both residents and visitors to their communities. This program reaches a huge audience each year. Certain agents conduct 'welcome back snowbirds' events each fall and winter where they partner with boat captains to inform seasonal residents about changes in fishing regulations, new and emerging issues regarding sea grass, manatee and other environmental issues. Likewise, one of our agents gives presentations at a beach-side hotel in St. Augustine on 'beachcombing' and in the process, she talks about marine debris and about how to use our beaches and other natural resources in an environmentally friendly manner.

Finally, our Agent in Taylor County has worked with the Visitors & Convention Bureau to develop a brochure on recreational scalloping that has gone out to over 15,000 tourists just in its first year of production.

## Hawaii Sea Grant

### **Focus Area: Sustainable Coastal Tourism**

#### **Sea Grant Extension Program: Hawai'i Sea Grant conducts a study on understanding and communicating the environmental impacts of seawater air conditioning in Waikīkī**

Hawai'i Sea Grant is conducting a study that will contain a comprehensive, independent analysis of implementing a district-wide SWAC system for Waikīkī as compared to business as usual (BAU), as well as a selection of alternative renewable energy and energy efficiency options. The primary activities include: 1) A science-based examination identifying potential environmental effects of SWAC with an emphasis on microbial oceanography, biogeochemical cycling, and ecology; 2) An economic modeling study to determine how critical sectors of Hawai'i's economy will respond to energy infrastructure changes associated with SWAC, particularly tourism-related, utilities, and water; and 3) A public outreach program that is founded on the objectives noted above as well as an examination of public positions on SWAC, their reasons for support and opposition, and the development of a choice model to examine public preferences and willingness to pay for SWAC development in Hawai'i.

#### **Sea Grant Extension Program: Hawai'i Sea Grant establishes a Sustainable Coastal Tourism Fellowship Program**

In an effort to provide university faculty with an opportunity to network with local tourism industry leaders, government decision-makers, and community leaders as well as promote multidisciplinary research that is focused on local tourism needs and issues, the Sea Grant Center for Sustainable Coastal Tourism in partnership with Kyo-Ya Hotels launched a Sustainable Coastal Tourism Fellowship Program. Faculty who are selected for the fellowship will be provided with \$10,000 each to conduct scholarly research on sustainable tourism issues in Hawai'i. In addition field trips to meet and network with relevant stakeholders in the visitor industry are planned. The program will culminate with a presentation of their work to the visitor industry and decision-makers.

#### **Sea Grant Extension Program: Hawai'i Sea Grant conducts an ecosystem restoration project in Waikīkī**

Jennifer Barrett, a Sea Grant Extension Agent who serves as the Waikīkī Coastal Coordinator, and her staff developed and delivered informal education programs for target audiences (area students, residents, tourists) on marine and coastal issues. They also recruited, trained, and supported community volunteers, students, and interns to lead informal education programs and outreach activities. Other outreach activities included: 1) Partnering with NOAA's Hawaiian

Islands Humpback Whale National Marine Sanctuary to coordinate two Ocean Awareness Training workshops on O'ahu, which promote responsible use and stewardship of Oahu's marine and coastal resources; 2) Conducting outreach presentations and participating in public meetings and community events to increase awareness and understanding of the various factors that affect beach health and reef resiliency and the tools and methods available to mitigate, reverse, or eliminate those threats; 3) Identifying opportunities for placement of marine conservation and stewardship messaging (social marketing) and adoption of best practices by area businesses and Hawai'i's visitor industry at large; 4) Supporting internal and external university partners in the development of an interdisciplinary Center of Excellence in Sustainable Coastal Tourism; 5) Serving as a resource to policy makers, natural resource managers, business owners, teachers, and other stakeholder groups through groups through service on the Ala Wai Watershed Project's Public Involvement Technical Advisory Team (led by Army Corp of Engineers), Recreational Impacts to Reefs Local Action Strategy Advisory Group (led by the State Division of Aquatic Resources), Hawaiian Islands Humpback Whale National Marine Sanctuary Advisory Council, Hawai'i Conservation Conference Planning Committee, Hawai'i Marine Debris Action Plan, and others; 6) Recruiting, training, and supporting community volunteers, students, and interns to conduct coastal monitoring activities to collect valuable data regarding the use and condition of Waikīkī's nearshore resources. This included human use, biological, and water quality monitoring. 7) Mentoring a Hawaii Youth Conservation Corps intern who expanded the project's biological monitoring of Waikīkī's coastline with input from state, university and federal advisors; 8) Participating in the Makai Watch Observation and Compliance Standardization Project with the State Division of Conservation and Resources Enforcement and other community partners to develop a training program to enlist community volunteers' support identifying, documenting, and reporting natural resource violations.

**Sea Grant Extension Program: Hawai'i Sea Grant educates over 800,000 visitors annually at the Hanauma Bay Nature Preserve.**

The award-winning Hanauma Bay Education Program (HBEP) was developed and is administered by Hawai'i Sea Grant with funding support from the City and County of Honolulu. HBEP staff oversees the daily operation of the education program and develop resources that enhance ocean literacy and conservation awareness in visitors to the bay. They along with dedicated volunteers staff an information booth on the beach and introduce a 12-minute orientation film in the theatre that covers the formation of the bay, important ocean safety information, introduces visitors to some of the marine life they may encounter, and describes actions that visitors can employ to help protect the reef.

**Louisiana Sea Grant**

For more than 40 years, the Louisiana Sea Grant College Program (LSG) has been a source of technical expertise for Louisiana's coastal tourism sectors. Though not directly engaged in promotion and marketing, the program does provide advisory support through applied research, education, and extension initiatives that focus on the stewardship of Louisiana's coastal resources. In many cases, these partnerships provide a vehicle for disseminating science-based information and best management practices related to fisheries, water quality, wetlands, and other natural amenities. The following examples provide a brief summary of these activities.

**Ecotourism Assessments and Outreach**

Related research includes descriptive overviews and profiles of specific ecotourism sectors, visitation trends and impact reports, recreational expenditure estimates, ecosystem valuation studies, and sponsorship/participation in state and regional research conferences. Extension involvement includes science-based volunteer coordination and technical advising at trade-

shows, festivals, and environmental fairs. Partners include the Louisiana Dept. of Culture, Recreation and Tourism; Louisiana Dept. of Natural Resources; Louisiana Secretary of State; the Louisiana Outdoor Writers Association; and the Atchafalaya Basin Program.

### **Cultural Archiving**

Oral history projects include “Shrimp Tales,” which tells the stories of three of the many families that have depended on Louisiana’s shrimp fishery for their livelihoods; “Reflections on Chandeleur,” which portrays the history of a vanishing barrier island chain; and “A History of Louisiana Dried Shrimp,” which recounts the dried shrimp industry’s growth nationally and internationally. These multi-media films are available via YouTube and through mobile video kiosks. In addition to text and audio files, LSG has collected tens of thousands of images ranging from family photographs to copies of official records. Partners include the LSU Special Collections Office, parish libraries, and the Louisiana State Museum.

### **Commercial and Recreational Fisheries**

Economic research includes time-series analysis of supply and demand trends for Gulf seafood, baseline cost-earnings estimates for commercial fisheries, and longitudinal surveys of the recreation-for-hire sector. Food science research includes work on value-added processing and product development with fisheries by-catch, processing waste, and invasive species. Extension activities involve working at the community, parish, and state level to open channels for direct marketing of seafood, promoting the value of working waterfronts, development of certification and professionalization standards for seafood, and advisory efforts related to the establishment of coastal and offshore artificial reefs. Partners include the Louisiana Department of Wildlife and Fisheries, the Louisiana Department of Economic Development, the Louisiana Recovery Authority, and the Louisiana Seafood Promotion and Marketing Board.

### **Clean Marina Program**

Program supported research on the design and testing of wastewater treatment systems has helped to inform extension efforts under the Louisiana Clean Marina Certification Program. This initiative was requested by marina business leaders and coordinated through a LSG-formed Marina and Boat Yard Association. In 2004, LSG and the Louisiana Department of Natural Resources (LDNR) developed a Clean Marina Guidebook & Certification Program. This initiative has helped marinas comply with Coastal Zone Reauthorization Act mandates requiring reductions in aquatic non-point pollution. Today the program remains active and is administered by the LDNR Interagency Affairs Section. Louisiana Sea Grant continues to play an advisory role by serving on both the Clean Marina Certification Committee and the Technical Committee.

## Maine Sea Grant

**Background:** Maine Sea Grant has had robust programs related to beaches (erosion, healthy beaches etc.) for a long time, but targeted tourism-related activities began formally in 2002 when the national office allocated funding to each program to address coastal community development. In Maine, this funding was applied toward added extension capacity in the area of recreation and tourism. This started with an extension associate leading the Gulf of Maine Expedition, a five-month sea kayaking journey around the rim of the Gulf of Maine (Provincetown, MA to Cape Sable Island, Nova Scotia, via MA, NH, ME, New Brunswick and Nova Scotia coastlines). The goals were to take a snapshot in time of this vast watershed, share the findings along the way, promote safe and responsible recreational boating, and conduct an informal needs assessment of the challenges and concerns shared by the thousands of people encountered along the journey. Tourism (both the opportunities and challenges it poses) and access to the water (both for recreation and water-dependent industries) emerged among the most prominent issues of concern for people who live, work,

visit, and play in the Gulf of Maine. Below is a brief synopsis of some of Maine Sea Grant's key tourism and recreation-related programming since 2002, with most recent (or current) first.

**Fisheries Heritage:** Making a link between fisheries and tourism. Selected programs in partnership with representatives of both industries:

- Downeast Fisheries Trail. Heritage trail that links 40 or so sites (museums, working waterfronts, fisheries and aquaculture sites, hatcheries, community centers, historical societies, fishing habitats etc.) with a goal of educating visitors and locals about region's important and diverse historical and contemporary fisheries. Maps, brochures, website, smartphone apps, educational programs, seafood connections, and marketing initiative are all in the works.
- Fisheries and Tourism, barriers and opportunities for partnerships and industry cross-over. Sea Grant Law Center-funded legal research and outreach project. Needs assessment underway, with legal research focusing on permitting, licensing, contracting, liability and insurance, and regulatory barriers. Outreach phase will foster new collaborations between two industries to help diversification of earnings in difficult economic climate.
- Working Waterfronts: In the last decade of extensive working waterfront and coastal access programming (workshops, local and national conferences, research reports, funding sources, publications, websites etc.), Maine Sea Grant has served a crucial role of bringing together fisheries and tourism interests; historically, these two groups in Maine don't always see eye to eye and finding common ground has helped preserve the character of Maine communities that both industries value.
- Newfoundland's cod collapse and the role of tourism in community revitalization: applied research sabbatical conducted in the Canadian Province of Newfoundland where fisheries heritage has emerged as a central approach to community planning in rural areas devastated by the cod moratorium of 1992. Lessons learned useful for application in Maine and beyond.

**Sustainable Tourism Planning.** Selected sustainable tourism-related programming in partnership with Vacationland Resources Committee (regional network focused on tourism development in Downeast Maine)

- Resource Guide for Sustainable Tourism in Downeast Maine and Southwest New Brunswick. 105 pages. Covers the tourism economy, the marine environment, water and energy conservation, building design, air pollution, eco-landscaping, waste management, green purchasing, certifications, economic and business development resources, and more.
- Sustainable tourism workshops. Series focused on partnership development among businesses, methods for greening operations, current issues for tourism businesses and more.
- Legislative breakfasts, annual tourism updates for local legislators.
- Destiny 2010; Downeast Sustainable Tourism Initiative Year 2010. Ten-year regional plan focused on fostering sustainable tourism in the region through education, conservation, local participation, cultural awareness, and economic development.

**Recreational Impact Research.** Applied research with Maine Island Trail Association on recreational impact on islands, including developing protocols for monitoring impact indicators such as trail and campsite expansion, bank erosion, intertidal trampling etc. Project in fulfillment of Maine Bureau of Parks and Lands Recreation Management Plan for Public Islands on Maine Island Trail.



**Sea Kayak-related programs.** Outreach and applied research in partnership with U.S. Coast Guard, Maine Association of Sea Kayak Guides and Instructors, and Maine Island Trail Association:

- Creation of curriculum and testing materials for Sea Kayak guide's license examination through Maine Department of Inland Fisheries and Wildlife.
- Applied research on the effectiveness of radar reflectors for increasing visibility of sea kayaks, especially in Maine's common foggy conditions.
- Sea kayak safety demonstrations and workshops
- Production of widely requested brochure: Sea Kayak Safety and Stewardship in Maine (reproduced in other states)

**Educational programs for tour guides.** Maine Coast Seminars were daylong events focused on providing Maine sea kayak guides, whale watch operators and other nature-based tour leaders a forum for communications and networking, with sessions on current issues (i.e. working waterfronts and tourism), interpretive content (birds identification, marine mammals, ecological change on islands, water quality etc), technical information (rules of the road, leave no trace, access etc), and more.

**Maine Sea Grant advisory capacity in tourism.** Maine Sea Grant serves – often in leadership roles – on numerous boards and committees to help advance nature and heritage-based sustainable tourism, including the following: Governor's Task Force on Nature Based Tourism; Vacationland Resources Committee; Maine Island Trail Association Board and Trail management committees; Washington County Community College Adventure Recreation and Tourism advisory committee; Maine Association of Sea Kayak Guides and Instructors founding member and past president; Bar Harbor Chamber sustainable tourism committee, UMaine Tourism Economic Development committee, and others. Maine Sea Grant is often invited to speak on tourism issues, including for example, an invitation to speak on the role of Sea Grant extension in tourism at a Korea Sea Grant/NOAA collaborative workshop on the Island of Jeju, Korea, in 2010.

## Michigan Sea Grant

Michigan Sea Grant has had a long standing history of applying Extension and research resources to issues of importance to the Coastal and Great Lakes tourism interests in Michigan. Our work began in the late seventies soon after the introduction of salmon into the Great Lakes when we conducted a series of economic impact studies that assessed respectively the economic importance of Marinas and boating, and the sportfishing and charterfishing sectors. This work was highly regarded and essential information for coastal communities who were making important planning decisions about the development of their waterfronts. Consistent with national trends many Michigan coastal communities experienced a renaissance in their coastal tourism economies. It is interesting that with the downturn of Michigan's manufacturing economy that there is again renewed interest by our State in realizing the potential of our Great lakes and coastal communities to generate substantial economic impact. As a result our current efforts try to support this local objective as well as contribute to the objectives outlined in our National Sea Grant priorities.

### CURRENT COASTAL RECREATION and TOURISM INITIATIVES

**Assessing the Economic Impacts of Sportfishing:** Lake Michigan boasts a robust salmonine fishery that injects dollars into local coastal economies. The constant threat of invasive species

and the ecological impacts they induce beg for more information on the economic impact of this sector. MSG conducted a research study that identified the economic impact associated with fishing tournaments and charterfishing and translated the charterboat information into a web based tool that others can use to assess economic impacts in their own community.

<http://www.miseagrant.umich.edu/fisheries/economics/charter/index.html>

**Northeast Michigan Integrated Assessment:** Through this process Sea Grant worked with stakeholders on addressing the question of; How can coastal access be designed, in a regional context, for sustainable tourism that stimulates economic development while maintaining the integrity of natural and cultural resources, and quality of life? Outputs of the project helped guide decision-making by providing an inventory of cultural and ecological resources in the area, facilitating stakeholders in developing regional goals for the coast, prioritizing potential actions for achieving goals, evaluating planning and zoning tools, developing new partnerships among government agencies, communities and business, Inspiring new ideas for sustainable economic development and leveraging \$400,000 in grants and funding to implement new ideas

<http://www.miseagrant.umich.edu/downloads/coastal/fs-06-700->

[NEMIA.pdf](http://www.miseagrant.umich.edu/downloads/nemia/09-718-NEMIA-Impacts.pdf)<http://www.miseagrant.umich.edu/downloads/nemia/09-718-NEMIA-Impacts.pdf>

**Boosting local coastal economies through water trails:** Michigan Sea Grant educators and Communications staff are working with communities to develop informational tools that identify points of interest, access points and other relevant interpretive information. Since there are many such efforts underway Sea grant is partnering with CZM to link and promote a network of Water Trails throughout Michigan's coast. Sea Grant is organizing educational boat cruises for decision-makers and other local officials. These port to port cruises educate and network decision makers to regional tourism opportunities.

<http://www.miseagrant.com/PhotoGallery.asp?ProductCode=MICHU%2D11%2D726>

**Bird watching Eco-tourism & Education Project:** Michigan Sea Grant is collaborating with the Detroit River International Wildlife Refuge which covers 48 miles of shoreline along the lower Detroit River and the western basin of Lake Erie and conserves, protects and restores habitat for 29 species of waterfowl, 65 kinds of fish and 300 species of migratory birds. Sea Grant brought together avian experts in the region to develop eco-tourism based bird watching materials. Among the products developed is bird watching driving tour map and educational brochure for Southeast Michigan and Southwest Ontario

<http://www.mac-web.org/Projects/DiscoverOurWildSide/BywaysToFlyways.htm>

<http://www.miseagrant.com/PhotoGallery.asp?ProductCode=MICHU%2D07%2D706>

**Waterfront Smart Growth Readiness Assessment:** MSG educators are using a waterfront assessment tool to evaluate community readiness for waterfront activities including tourism and recreation. The purpose of the facilitated Smart Growth Readiness Assessment is to help guide communities through an evaluation of growth in their community, an evaluation of the plans and implementation tools they currently use to guide growth, and an identification of tools that may better help communities produce a smart pattern of growth in the future.

**Hook and Cook:** Sea Grant is partnering with the Michigan Charterboat Association, State Agencies and other organizations to develop a "Hook and Cook" program that enables charterboat customers and sport anglers to have their catch local prepared by restaurants. Through this program the charterfishing experience will be expanded and additional economic impacts within local communities will result. Though common in other states the legality of this activity in Michigan has been a gray area.

**Healthy Beaches:** A major attraction of the Great Lakes is its high quality swimming beaches but periodic Beach closures and intermittent body contact warnings have cast a cloud over the

safety of swimming at some Michigan beaches. Sea Grant is working with researchers to employ a new laser technology that can “finger print” potential harmful water borne pathogens and match them to existing sources identified in a database. This allows quick source identification.

**Coastal Tourism Planning Tools:** Many coastal communities in Michigan are developing a new vision for their areas that will foster sustained economic growth. Maps and geographic tools can enhance this re-visioning process and can help communities to sustainably use cultural and natural resource assets.

**Response:** Michigan Sea Grant has increased efforts to support rural areas such as the region around Saginaw Bay, called Michigan’s Thumb. Sea Grant has been working closely with the Eastern Michigan Council of Governments (EMCOG) to evaluate coastal access issues and develop land use planning tools. In 2009, MSG also began funding a research team to engage regional community stakeholders and evaluate ways to leverage coastal, natural and cultural resources and benefit the economy of Michigan’s Thumb.

**Beach safety:** Michigan Sea Grant has worked with the NOAA-National Weather Service (NWS) office in Marquette for more than 10 years to improve understanding and communication about Great Lakes currents. Sea Grant’s diagrams, signs, brochures, articles, website and social media have risen awareness and provided valuable training tools. Through numerous meetings and workshops, MSG Has helped NWS specialists connect with fire and rescue personnel, and facilitated the development of a network of coastal communities that collaborate to exchange information. Coastal communities are using rip current awareness information in support of their family friendly promotional strategy to visitors who swim at GL beaches.

**Lake Huron Coastal Tourism Tool Box:** The website is business oriented and provides resources that enhance sustainable, interpretive coastal tourism development while fostering partnerships with resource managers and community leaders. Specifically the site is a resource for marketing materials, tips on cross-promotion, and information about regional tourism initiatives. It also provides easy access to a directory of local, regional, and state business experts who offer tools for business startups. <http://www.miseagrant.umich.edu/discovernemi/>

**Other Associated initiatives/Collaborations** Clean Marinas, Michigan Salmon Festival, Recreational Boating Conference Michigan Fisheries Workshop Series, Small Harbor Coalition, Michigan Underwater Preserves.

## Minnesota Sea Grant

**Great Lakes Cruising Coalition –** <http://www.greatlakescruisingcoalition.com/>

The Great Lakes Cruising Coalition (GLCC) is an organization comprised of American and Canadian port cities and towns, significant port authorities, several U.S. states, the Canadian Province of Ontario and the St Lawrence Seaway. MN Sea Grant is also a participant. The GLCC’s mission is to create an atmosphere that will attract the worldwide cruise industry and impress upon them how rewarding cruising the Great Lakes can be for their guests.

The GLCC represents publicly owned assets that are important tourist destinations around the Great Lakes. It was formed as a result of envisaging world class cruise ships “steaming” along the St. Lawrence Seaway, navigating the system of locks, thereby “climbing the Niagara Escarpment”... and cruising into the Great Lakes. The GLCC has five goals:

- Work with ship owners and operators, furnishing them with technical information to assist their marine operations, and making them aware of what they are required to do when entering the Great Lakes.
- Know where the best marine handling agents are in Great Lakes port cities and make these available to ship owners and operators.
- Introduce regionally knowledgeable GLCC members who can bring valuable local resources to cruise ship's attention.
- Work with the regional travel industry, making them aware of passenger cruise opportunities on the Great Lakes
- Work with media in each region of the Great Lakes to spread the news of passenger ship movements.

MN Sea Grant has been working with a high school business club (Proctor DECA) to develop marketing and communications tools to support the GLCC and tourist opportunities during cruise ship visits to Duluth, MN. A designated U.S. Scenic Byway along Minnesota's North Shore might be incorporated into a combined shipboard and driving tourism opportunity.

### **Lake Superior Rip Currents** – [http://www.seagrants.umn.edu/coastal\\_communities/rip](http://www.seagrants.umn.edu/coastal_communities/rip)

In 2003, the death of a young swimmer caught in a rip current opened the eyes of many to this little-known danger in Lake Superior. Soon after, working with other Sea Grant programs in the Great Lakes, MN Sea Grant began efforts to educate recreational beach users on how to swim safely and avoid or escape from rip currents. These efforts included helping the city find quality educational signs for the beach, distributing information to hotels and other tourism venues near the beach, and developing a website to collect information, videos, and safety messages relating to rip currents in Lake Superior.

In 2008, MN Sea Grant hosted the 3<sup>rd</sup> Great Lakes Rip Current conference in Duluth, MN, which led to the creation of the Twin Ports Rip Current Work Group, including City Parks and Recreation staff, Fire Department, Lifeguards, National Weather Service personnel, Red Cross, and others. This led to additional workshops and expos targeting both water recreation professionals and recreationists. In 2010, the workgroup:

- Developed a flag system for use along the beach to warn beach users of elevated rip current risks, using the National Weather Service forecast,
- Began a volunteer beach monitoring program to collect data about beach conditions and rip currents, and
- Received approximately \$200,000 from the US EPA to develop a beach information communication system to better inform users of all beach conditions, including water temperature, wind and waves, bacteria, and rip currents. This communication system was drafted in 2011, and will be finalized in 2012. It will be adapted for use along two other Great Lakes beaches, one in WI, and another in MI.

## Mississippi-Alabama Sea Grant

### Nature Tourism Initiative

In May of 2007 we began the Nature Tourism Initiative. Sea Grant funds a Nature Tourism Specialist position, which is housed in the Gulf Shores and Orange Beach CVB's office and the CVB provides technical and administrative support. The specialist works with CVB staff and local nature-based businesses to determine education, outreach and program needs. The following have been developed as a result of this partnership:

### Annual Workshops

The Business of Nature – Economic impact updates, Nature Tourism Initiative Updates, visitor profile updates. Target audience is local business owners, city, county, state officials

The Nature of the Coast – Scientific research updates, natural resource overviews, regulation updates, conservation updates, recruiting for training programs. Target audience is nature tour operators, entrepreneurs, city, county, state officials

Facts & Fishin – Scientific research updates, visitor profile updates, regulation updates, conservation updates, recruiting for training programs. Target audience is charter fishing professionals

Lunch and Learns – Nature Tourism Initiative updates, new nature tour business updates. Target audience Hospitality professionals at Welcome Centers

### Annual Training Programs

Certified Coastal Nature Guide – full day training session for nature tour operators  
Coastal Nature Guide refresher course – half day training session for nature tour operators

Certified Fisher Invested In Sustainable Harvests (CFISH) – full day training session for charter fishing captains and crew

CFISH refresher course – half day training session for charter fishing captains and crew

### Rapid Response Training

Certified Charter Harvesting Open Waters (C-CHOW) – 4 hour training with Auburn food science professors and Marine Fisheries Extension Specialist (Post Deepwater Horizon Disaster response to seafood safety)

Creating a Positive Visitor Experience – 4 hour training of Hospitality 101 for charter fishing captains and crew (Post Deepwater Horizon disaster response to misinformation)

### Multimedia

The Nature of the Coast – video, quarterly e-newsletter, brochure

The Business of Nature web page – calendar of events, creature cards, scientific resources; online at: [www.agccvb.org/business-of-nature/](http://www.agccvb.org/business-of-nature/)

## Business Data

Economic Impact reports from the City of Orange Beach  
Marine Activity Business License Toolkit

## Regional Projects

Alabama Coastal Connection National Scenic Byway: The goal of this project, which began in 2003 is to identify, promote and enhance the natural and cultural assets along this route. Sea Grant joined as a planning partner and funder in the initial phase of this project. Grant funding was provided for intrinsic quality assessment along the byway and Sea Grant staff continue to sit on planning committees.

Clean Marina Program: Beginning in 2003, Sea Grant staff began working with local marinas toward implementation of the Clean Marinas program. In 2004, the first clean marina designation in Alabama was held in Orange Beach. The CVB has worked with Sea Grant to provide information on the program to Industry Partners and visitors and to promote designated marinas.

Rip Current Seminars: In 2004 and 2006 Sea Grant provided scientific and legal experts to discuss rip currents and their possible ramifications to municipalities and businesses relating to visitor safety and education. In addition, Sea Grant has offered no- and low-cost rip current signage for use at beach access points.

Working Waterfronts: In 2006 when Sea Grant began an initiative to identify and preserve the regions working waterfronts, they included CVB staff members in this regional working group to ensure that tourism interests are represented alongside ecological, commercial fishing and boat building.

Charter Fishing Market Research: Sea Grant and the CVB partnered with Alabama Department of Conservation Marine Resources Division in 2009 to conduct charter fishing market research. Information was gathered through surveys and analysis of the current database of charter fishing customers on Alabama's coast. As fishing regulations, U.S. demographics and travel patterns continue to challenge the fishing fleet, having this baseline information can be a crucial step toward the economic sustainability of this sector of the recreational fishing industry.

Deepwater Horizon Disaster: Sea Grant has been an enormous asset to the tourism community and the entire business community following the explosion in the Gulf in 2010, providing insights and identifying resources on topics ranging from gulf current forecasts to water quality to seafood safety.

**North Carolina Sea Grant**

## Situation Statement

Tourism is now the world's largest industry and source of employment. An increasing share of this tourism is directed to coastal areas. Coastal tourism and recreation provide a huge positive economic benefit in the United States and North Carolina, both in terms of jobs and earnings and in terms of balance of payments and government revenues. The NC coast attracts (or hopes to) three kinds of tourists with its many attractions – 1) surf and sun, 2) heritage, and 3)

eco-tourists. NC Sea Grant programming strives to provide research-based information on “sustainable” tourism. The working definition that is used is for sustainable is tourism activities that optimize economic benefits, enhance natural resources and benefit local residents as well as visitors.

### **Recreation and Tourism Research Themes**

Increasing tourism brings not only tourist dollars, but other impacts to local residents and the natural environment. These impacts can be negative as well as positive. Developing a successful research and extension program in coastal tourism includes recognizing that the wealth and future of this region is dependent on the relationship between our people and the natural environment. The goal is to understand how to optimize economic prosperity, environmental enhancement and the quality of life for residents and visitors.

*Surf and Sun:* Traditionally the visitor base for the Outer Banks. Research themes may include:

- Determining visitor carrying capacity for local community public services
- Evaluating seasonal diversification strategies for beach businesses
- Examining transportation, training and housing options for seasonal workers
- Reducing visitor/local resident conflicts over resource uses (boating, fishing, etc.).
- Successful innovative marketing strategies

*Heritage tourism:*

- Discovering and developing heritage tourism niches for commercial fishing
- How to capitalize on and protect the culture of different commercial practices, such as:
  - African American fishing families and communities
  - Blue crab fishing heritage – harvest, processing and eating
  - Commercial boats and gear
  - Small inland ports and harbors
  - Shad and herring fisheries
  - Pound nets
- Assessing tourism diversification strategies for commercial fishing, farming and forestry families and communities.
- Developing and evaluating power and sail boating trails that link small waterfront communities.

*Ecotourism:*

- Assessing the environmental, economic and cultural carrying capacity for ecotourism activity in the region
- Reducing conflicts between traditional resource users (sport and commercial fishers, hunters) and ecotourism visitors.
- Assessing nature-based recreation for the region. Helping communities and individual businesses assess the benefits and costs of various ecotourism opportunities
- Developing partnerships between small-scale ecotourism operators for multi-day regional experiences.

### **Past Sea Grant Extension Programming**

NC Sea Grant coastal tourism extension programs are designed to assess and evaluate the potential impacts of different tourism development opportunities. Since 200 we have conducted applied research and outreach programs on the following topics:

- Birding trails and birding events
- Coastal Paddling Trails
- Billfish Tournaments
- Dolphin Watchers
- Reducing Conflict Among Saltwater Sportfishing User Groups

## **Current Extension/Research Programming**

### Inventorizing Non-consumptive Utilitarian Uses of Coastal Resources:

This study will collect and organize information about ways in which individuals can pursue dignified livelihoods through non-consumptive utilitarian uses of coastal resources for economic sustainability. It will explore techniques by which poor individuals living in and near coastal communities in North Carolina can become involved in nature-based tourism micro-entrepreneurship.

With this preliminary study the researchers intend to gather information from existing entrepreneurs to include: a) socio-demographic characteristics; b) geographic location and spatial distribution; c) ways in which these entrepreneurs use coastal resources for the benefit of their business; d) the strategies they employ to overcome business development and operating challenges; and, e) ways they network with agencies in natural resource management, economic development, the formal tourism industry and each other

### Utilization of Barcode Applications in SmartPhone for the North Carolina Birding Trail: Enhancing the Birding Experience, Simulation Local Economies and Trail Evaluation:

Efforts to develop the North Carolina Birding Trail began in October 2003. Currently, the Trail is now complete across the entire state - coastal plain, piedmont, and mountain regions. By all accounts, the trail has been a success. However, objective information of the frequency of site use and other evaluation measures has been difficult to obtain. In addition, on-site information about recent birds seen and local birder-friendly business establishments are not available. This project will use SmartPhone technology to address these issues.

This project is to develop and implement a system that will allow birders to electronically access birding and local information from their SmartPhone. SmartPhone technology allows the user to connect to access the internet wherever a connection is available. By compiling the number visits per site, we can gauge the usage of each site by birding patrons.

To accomplish this, a unique web address will be generated for each BFB and NCBT site. Each site will receive a poster advertising the program and displaying the appropriate Quick Response (QR) code which, when scanned by the SmartPhone, directs the user to the unique web address for the site. The date, time, and location of the visit will be recorded and users will be directed to a dynamic website providing the following information:

- nearby NCBT sites (and link to driving directions)
- nearby Birder Friendly Businesses (and link to driving directions)
- recent bird sightings in the vicinity from eBird ([www.ebird.org](http://www.ebird.org))

**Ohio Sea Grant**

Given the \$10.7 billion impact of Lake Erie tourism, the Ohio Sea Grant Program has a dedicated Extension specialist devoted to tourism. Efforts transcend all four focus areas as defined by the National Sea Grant Program with strategic tourism actions serving as both the ends and the means for achieving outcomes. The strategies are consistent with regional tourism development strategies developed by an advisory board of industry and regional community leaders, and most projects and programs have project-specific advisory boards. Two overarching goals reflect regional industry priorities and guide activities. Ohio Sea Grant



focuses attention on resource-based tourism, product development and enhancement that is linked to the natural, historical, or cultural resources unique to the coastal region.

Goal No. 1: Increase economic contributions and job creation of coastal tourism-related activities

**Research** – Efforts include facilitating and encouraging research based on tourism industry need.

- Determine the economic impact of coastal birding, along with spending and demographic profiling of specific natural area sites. Information is useful to raise awareness of stewardship and integrity of the natural resources as being important to local economies and to destination marketing organizations in creating appropriate marketing strategies for local sites.
- Evaluate the impact on local sales tax revenue and direct spending when communities raise lodging taxes. This study will provide cost-benefit tools for policy decision makers considering an increase in lodging taxes. Currently, costs associated with a loss in sales tax due to decreased local spending as a result of higher prices is not accounted for when assessing tax adjustments.
- Through a partnership with the Ohio Tourism Division, coastal tourism economic impact studies are conducted every other year to assess visitor spending, job creation, payroll generation, and tax revenue receipts at the local, state, and federal level.

**Education** – Increasing the vitality of the coastal tourism industry includes educational efforts directed at tourism business owners, destination marketing organizations, statewide industry leaders and associations, and coastal community planners and decision makers.

- Developed through a partnership with the state tourism association, Ohio Sea Grant created and annually coordinates the Ohio Tourism Leadership Academy to improve industry members' abilities and participation in statewide policy leadership and to increase their awareness of tourism's responsibility and opportunities within natural resources and stewardship, heritage preservation, economic development, media, and arts and the humanities.
- Through a partnership with Extension, Ohio Sea Grant provides educational materials for tourism industry members and community planners through the Ohio Tourism Toolbox, an online resource dedicated to providing newly created educational information and links to existing resources.
- Resource-based tourism is an Ohio Sea Grant and coastal tourism stakeholder priority, so resource-based educational videos, fact sheets, and publications are being developed for resource managers and industry members.

**Communications and Outreach** – Efforts include facilitating community dialogues and planning efforts, as well as providing regional marketing products and communications tools for the industry.

- Ohio Sea Grant facilitates strategic plans for tourism economic development, including a county-wide effort involving 200-plus citizens and a visitors and convention bureau board assessment to increase their capacity to implement strategies.
- Through a contract with the National Park Service, Ohio Sea Grant facilitated a 2-year civic engagement process for assessing the feasibility and suitability of designating a national heritage area in a 14-county region. Efforts included social media, town hall meetings, and authoring the final Congressional report.
- Within Ohio, most destination marketing is politically and geographically limited to counties. To address the need for regional product development, while also building trust and support of industry members, Ohio Sea Grant develops resource-based products and supporting material, such as publications, marketing materials, and websites for the Lake Erie Birding Trail, the Lake Erie Lighthouses and Maritime Tales itinerary, Lake Erie Islands Nature Guidebook to U.S. and Canadian islands, and the Shipwrecks & Maritime Tales of the Lake Erie Coastal Trail.

Goal No. 2: Protect intrinsic qualities that attract visitors and contribute to quality of life for residents

**Research** – Efforts include facilitating and encouraging research linking tourism and resource integrity.

- As a member of the Great Lakes RISA, Ohio Sea Grant is addressing stakeholder needs related to a changing climate of three major industry sectors, one of which is tourism.
- Tools and information needed by the tourism industry, as well as other stakeholders, are being assessed by a Great Lakes Observation System needs analysis.

**Education** – Ohio Sea Grant's education focus relate to tourism is two-fold: 1) free-choice and informal education regarding the resources to visitors and 2) training and education for industry members, community decision makers, and resource managers related to the importance of resource integrity and tourism.

- More than 15,000 visitors are informed of Lake Erie and coastal issues and stewardship during visits to two Ohio Sea Grant educational visitors' centers at Put-in-Bay – the Aquatic Visitors Center and the South Bass Island Lighthouse. Ecotours of Gibraltar Island are conducted as well, introducing visitors to the flora and fauna of the island.
- As part of the Lake Erie Birding Trail, a series of workshops are being developed and funded by a FHWA grant in partnership with the Ohio DNR. One series of workshops is designed for tourism industry members, while a second is designed for resource managers. Workshops focus on preparing region for birding market while protecting environmental integrity.
- Through a partnership with National Estuarine Reserve Reserves, Lake Erie Commission, and Ohio Coastal Management Program, Ohio Sea Grant developed Lake Erie Literacy Principles aligned with NOAA Ocean Literacy Principles and state educational standards. While others in the Ohio Sea Grant program are beginning to integrate these principles into formal education practices, the tourism program focus is on working with place-based education venues (museums, natural areas, etc.) to educate visitors on Lake Erie and motivate stewardship.
- Recognizing the economic impact of beach closures, as well as the vital need to monitor Lake Erie beaches, Ohio Sea Grant partners with health departments and metropark commissions regarding strategies for beach monitoring and minimizing harmful impacts of such monitoring on economic activity. Efforts have included beach manager workshops, communications training, and development of beach promotional materials.

**Communications and Outreach** – Efforts include various programs and activities to communicate the link between resource integrity and healthy coastal economies.

- Ohio Sea Grant provides technical and information assistance to conservation and public access projects, such as serving on planning meetings, assisting with grant applications, providing support documentation regarding outdoor recreation and public access, and participating as speakers during public project forums.
- More than 2,000 individuals are reached annually thru presentations at local, regional, state, and national level regarding tourism's role, responsibility, and opportunities related to protecting a community's intrinsic qualities (land and water, natural and manmade), and the role perception plays in economic development.
- In response to algal blooms on Lake Erie, Ohio Sea Grant is facilitating a regional HABs communications strategy through an advisory group of 20 top tourism businesses and decision makers, as well as general industry members.
- The Clean Marinas program provides certification and training for sustainable marina operations.

## Oregon Sea Grant

The Oregon coast is home to stunning natural landscapes and significant recreational opportunities. Small towns, which have traditionally relied on both resource extraction and tourism, predominate on the mostly rural coast. Tourism in particular is an increasingly important element of coastal economies in Oregon. Oregon Sea Grant research, communications, education, and extension projects have long recognized this and worked in a variety of ways to understand and support coastal tourism within Sea Grant thematic areas of work.

### **Coastal Learning and Decision Making**

OSG funds and leads educational programming for public audiences, educators, and decision makers coast wide. Many of these programs target tourists or help support coastal tourism:

- OSG's single largest education effort is the Visitors Center (VC) located at the Hatfield Marine Science Center (HMSC) in coastal Newport, Oregon. With about 150,000 visitors a year and about 11,000 K-12 students a year, the VC is one of the largest informal education venues on the Oregon Coast. Entrance and exit interviews show that almost 90% of visitors travel more than an hour to visit, with most travelling more than three hours. They also attend with their families while on vacation. Housing and Urban Development (HUD) funding that helped renovate the VC in the mid 1990's was predicated on the fact that the VC and similar informal educational institutions on the coast are drivers of coastal tourism.
- OSG has also developed the Oregon Coast Quest program. Self-guided Quests are fun, free-choice learning adventures that use clues and hints to encourage participants of all ages to discover the natural, cultural and historical "treasures" of place and community. Quests are located in three counties on the Oregon coast and allow lifelong learners to explore parks, trails and other outdoor spaces in new ways and at their own pace. Visitors purchase a Quests book from local bookstores and other businesses. The OSG-produced books are just one example of dozens of OSG publications used by coastal tourists annually.
- Additionally, OSG has created specific summer camp and family camp programming that targets tourists to stay in Newport for a week or more, as well as an OSG Undergraduate Summer Scholar Program that attracts many out of state students who take full advantage of summer activities on the Pacific coast.
- Since 2010, Oregon Sea Grant has co-sponsored the annual Heceta Head Conference in Florence, Oregon. This is the only statewide ocean conference, and it attracts approximately 200 participants for the two day event. Participants of this and similar conferences travel an average of two hours to the coast and generally require accommodations during what is otherwise an off-season for local hotels.
- Working Waterfronts was the Heceta Head Conference theme in 2010. Oregon has progressive, statewide planning goals and a Beach Bill, which limit concerns regarding waterfront access, but challenges facing working waterfronts are the high costs of maintaining infrastructure (including dredging), and a public that understands neither what waterfront industries are doing nor what roles they play in local economies. Oregon Sea Grant sees opportunities both for informing the public on working waterfront activities and for engaging communities around issues facing future recreational and commercial waterfront users. OSG Extension and education faculty in the coastal cities of Astoria, Newport, and Coos Bay work to develop both maps and cell phone applications introducing casual visitors and residents alike to the wide range of businesses that comprise working waterfronts.
- In a related project, OSG Extension partnered with other coastal education organizations to develop outdoor waterfront signage that provides information to coastal tourists in Newport

and Coos Bay on the local fishing and research fleets as well as the fishing industry. Similar signage also educates visitors about marine mammals in Newport.

- OSG helped lay the groundwork for the Oregon Marine Board's transient boat facilities along the Columbia River. Oregon's recreational boaters boost local economies and this program offers a tremendous opportunity to enjoy nature, historic sites and other local flavors.
- OSG Extension faculty also provide at-sea safety training for fishing boat personnel who run charter vessels for tourists.

### **Community Resilience to Coastal Hazards and Climate Change**

Oregon Sea Grant coastal hazards specialist Pat Corcoran promotes tsunami preparedness through workshops, meetings, and trainings that enable local governments and businesses to help consumers and tourists have a safer stay in coastal communities. Tsunami evacuation routes coast-wide are posted with easily-recognizable signs developed by OSG personnel.

### **Fisheries and Seafood**

OSG funds fisheries and seafood research activities that enhance coastal tourism, including:

- Oregon Sea Grant and Oregon Department of Fish and Wildlife (ODFW)'s recompression guide and workshops inspired the creation of an award-winning recompression tool, available at West Marine, which promotes safe catch-and-release practices among both recreational and commercial fishermen in Oregon and beyond, and significantly decreases fish mortality.
- Oregon Sea Grant extension educators and funding led economic studies that laid the basis for the fishing industry to locally market their seafood. Results from OSG studies informed local business owners opening a sustainable fish market and restaurant on the waterfront. Local Ocean Seafoods has become the premier destination for fresh, local seafood on the Newport waterfront and a successful tourist stop for lunch and dinner.
- Locally processed seafood products are a cornerstone of the coastal economy. New seafood products successfully introduced into the marketplace help establish entrepreneurs that create jobs, support tourism, and more efficiently use precious natural resources. With OSG's assistance, new seafood products provide continuing and often new sources of revenue and jobs for local coastal communities and tribal members, add an annual estimated \$4.67M to the economy, and improve the use of coastal seafood.
- Oregon Sea Grant helps fund activities at the OSU Seafood Research & Education Center in Astoria, Oregon that enhance coastal tourism. OSG funded-researcher Jae Park runs a world-renowned Surimi School, now in its 20<sup>th</sup> year, which has brought over 4,000 visiting attendees to the program and benefits the local community.

### **Watersheds and Water Resources**

Any efforts that improve salmon and steelhead stocks benefit coastal tourism in the state of Oregon. Recreational fishing for salmon and steelhead contribute an estimated \$15M to Oregon's economy each year, which is over half of Oregon's annual recreational fishing revenue. OSG Watershed Education has a long history of providing assistance to watershed councils throughout the state and partnering with the Oregon Watershed Enhancement Board to monitor salmon life histories and habitat use in various small coastal watersheds that directly support ocean-going salmon stocks. Likewise, OSG research supports ongoing studies that enhance salmon habitat throughout the region.

## Puerto Rico Sea Grant

Our program has been an innovator and leader in coastal tourism and marine recreation projects in Puerto Rico and the USVI since the 1970s. Our efforts have consisted of providing contacts, information and advice to government and public policy developers, the private sector and marine recreationists. Our efforts are directed to the safety of resource users, the economic benefits derived by these activities and the conservation and sustainable development of the natural attractions. Puerto Rico's coastal and marine natural attractions are shared by tourists and outdoor recreation enthusiasts searching for leisure experiences in their free time, apart from obligations of work to restore or become rejuvenated. These activities contribute toward the process of socialization and provide economic opportunities to a network of service providers. Included are some examples of the most significant projects that our program is currently involved in the topics of tourism and recreation:

Blue Flag Program – Our program was instrumental in the involvement of the Puerto Rico Tourism Company with the European Union Blue Flag Program. We are part of the regulatory panel that evaluates the candidate beaches and marinas that apply to be included in the program. This program is an international eco-label awarded to beaches and marinas that meet a specific set of criteria within the areas of water quality, environmental education and information, environmental management, and safety and services.

Beach Safety – Puerto Rico Sea Grant developed a beach safety campaign motivated by the alarming 32 drowning incidents per year at our beaches. Our programs is the source of information and keeps the record of drowning incidents in PR, developed a campaign with the USLA to install bilingual rip current signs, produced written information and videos on rip currents and promotes the need to develop aquatic abilities of resource users and establish lifeguard services for our beaches.

Public Access to the Beach and the Maritime Zone – A new Maritime Zone definition was proposed to guarantee the public remain the owner of the beaches, as stated in the Constitution, guarantee users the rightful enjoyment of its beaches, avoid the degradation of the littoral environment due to development pressures and introduce the factor of safety in its development due to Climate Change issues.

“Guardarenas” or “Sandwatch” project – This projects provides a framework for children, youth and adults, with the help of teachers and local communities to work together to critically evaluate the problems and conflicts facing their beach environments and to develop sustainable approaches to address these issues, whilst also helping beaches become more resilient to climate change. It is an activities-oriented approach to provide step-by-step instructions to cover monitoring methods and data analysis, including observation and recording, erosion and accretion, beach composition, human activities, beach debris, water quality, waves, long-shore currents, plants and animals.

Educational Materials – Effective and attractive books and publications and communication products (posters, videos, workshops, conferences) that promote the conservation of our coastal and marine natural attractions and the safety of resource users.

## South Carolina Sea Grant

One of the first significant nature-based efforts in South Carolina was the creation in 1987 of the Edisto Canoe and Kayak Trail Commission by the Town of Walterboro, S.C. In 1988, the water trail was opened using volunteer river guides, and offering a self-guided trail manual.

South Carolina Sea Grant began working on Coastal and Marine Tourism (CMT) issues in the early 1990s when it began work on a National Coastal Resources Research Institute (NCRI) supported project to assess nature-based tourism (NBT) as an effective tool in coastal rural economic development. In 1993, the NCRI grant was extended to link rural NBT operations with existing tourism marketing efforts in the Myrtle Beach area. The intent was to see if tourism business could be enticed away from the developed coast to adjacent rural communities and NBT businesses. Also, in 1993 the S.C. Sea Grant Extension Program (SCSGEP) hired its first Coastal Tourism Specialist to work on the project. She convened a regional NBT taskforce in the Myrtle Beach region to inventory NBT resources in the region and to begin exploring a NBT marketing strategy. In 1994, the first S.C. Water Trails Workshop was held, and followed-up in 1994 by the state's first Nature-Based Tourism Conference, which received both local press coverage and a mention in USA Today. The S.C. Nature-Based Tourism Association (SCNBTA) was formally established at the third annual NBT conference, with the SCSGEP in a supporting and advisory capacity that continues to the present day. In 1995, through the efforts of the Association, Sea Grant, and Clemson University, nature-based tourism is highlighted in a plenary session at the largest and most important industry meeting, the Governor's Conference on Travel and Tourism. Soon thereafter in 1996, the S.C. Department of Recreation and Tourism recognized the importance of NBT as a tourism niche by establishing a 'Nature Trail' intertwined with its existing "Heritage Corridor", which runs through 14 S.C. counties from the mountains to the sea.

Today S.C. Sea Grant continues its active involvement in coastal recreation and tourism, as advisors to and supporters of the SCNBTA through the efforts of the SCSGEP Coastal Communities Specialist, April Turner. Program Leader, Bob Bacon, is a member of the faculty of the Clemson University Parks, Recreation and Tourism Management Department, serving as its coastal representative. S.C. also supports CMT research having funded several research proposals including two in its most recent cycle that examine the potential for creation of a S.C. 'seafood trail' and the delivery of value-added coastal natural resources interpretative programs to the charter fishing industry. The SCSGEP, through its Fishery Specialist, Amber Von Harten, is active in direct marketing of S.C. products, as a tourism product offering, with the S.C. Sustainable Seafood Initiative and MarketMaker South Carolina.

## Virginia Sea Grant

### **Introduction**

In Virginia Sea Grant's (VASG) comprehensive outreach portfolio, it contains several efforts supporting coastal tourism. In particular water-based outdoor recreation including recreational boating and fishing and related trades and supporting economic infrastructure.

### **Boating Infrastructure for Transient Boaters**

The Boating Infrastructure Grant provides funding for infrastructure at boating facilities to support transient boaters. The goal of this infrastructure is to provide access to recreational,

scenic and natural areas. There is a support MOU with other coastal states in the region to enhance grant competitiveness and consistent access to boater information for water-based tourism. VASG conducts:

- *Annual Workshops* – The annual workshops in partnership with the Department of Health provide boating facilities and localities with a template for developing their grant application.
- *Extension Services* – Extension staff provides ongoing boating analyses to assist localities and individual boating facilities in preparing the applications.

VASG extension was recognized by the U.S. Department of Interior for exemplary leadership in outreach and extension of the Boating Infrastructure Grant Program in its national programmatic review.

### **Virginia's Recreational Fishing and Game Fish Tagging Program**

The Recreational Fishing and Game Fish Tagging Program works with anglers across the coastal region teaching them proper techniques for recreational fishing. The Game Fish Tagging component of this program trains anglers to properly tag and release their catch. Data from this program is recorded and assists in stock assessment of the tagged species. VASG conducts:

- *Workshops for Charter Boat Captains* – Annual workshops are held for Virginia Charter boat Captains. This year's workshop will focus on fisheries management, maritime law and liability, boat business management, marketing and insurance needs.
- *Harborfest Workboat Races* – Norfolk Harborfest attracts nearly half a million visitors to Norfolk's downtown waterfront each summer. The workboat races showcase working watermen and provide an opportunity for the commercial fishermen to demonstrate their skills to the Harborfest audience.

### **Virginia Clean Marina Program**

The Virginia Clean Marina Program works with marina owners and operators across the state promoting environmental stewardship and best management practices. The marinas that achieve clean marina certification are able to market their facility to transient boaters as a clean marina and are linked to interstate clean marina programs. VASG leads:

- *Annual Workshops* – Annual workshops are held each year in partnership with the Virginia Department of Health to educate marinas about the clean marina program and two grant opportunities that are available; the Clean Vessel Act and the Boating Infrastructure Grant, both administered by the Health Department.
- *National Initiatives* – Clean Marina Programs across the country have developed a listserv to assist the clean marina managers with program related issues. Annual forums promote the clean marina initiative and recreational boating on a national level.

### **Boating Economic Analysis**

VASG staff provides economic impact assessments of resident and transient boaters on an as needed basis for localities. VASG is partnering with the Virginia Marine Trades Association and the Virginia Department of Game & Inland Fisheries to conduct a statewide analysis of the economic impacts of recreational boating in Virginia.

### **Coastal Hazards Training for Localities and Business Owners**

VASG has supports scientists here at the Virginia Institute of Marine Science and partner institutions to provide information for emergency planners, local planners and coastal residents and business owners on coastal flooding and storm tide prediction, including:

- *Workshops* – Several workshops are held in different coastal localities to present information about the Tide Watch system—a storm tide observation and forecast system for the lower Chesapeake. Attendees are taught to use the information on the Tide Watch website to assess their risk during coastal storm events.

### **Working Waterfronts and Public Access**

VASG partners with the Virginia Coastal Program and local planning district commissions to characterize water dependent industries as a basis for state working waterfronts retention plan. Examples of activities include:

- *Symposium* – VASG hosted the inaugural Working Waterfront Symposium in 2007, in Norfolk, Virginia. The Symposium provided a forum for participants to discuss the loss of working waterfronts and public access sites and to develop a national coalition to study the issue.
- *Middle Peninsula Public Access Authority* – The Middle Peninsula Public Access Authority was created by the Virginia General Assembly on April 7, 2002. The Authority addresses issues related to coastal public access and promotes awareness of these issues to the citizens of the middle peninsula.

### **Climate Adaptation Designs that Advance Tourism**

VASG works with the University of Virginia's Landscape Architecture Program in the Department of Planning to apply the design talents of faculty-student teams on new adaptation strategies (e.g., sand bridge designs for natural beach replenishment) with coastal community clients in the Hampton Roads region of southeastern Virginia.

In conclusion, VASG undertakes a wide range of coastal tourism activities throughout its comprehensive outreach portfolio.

## **NOAA Coastal Services Center**

### **Recreation and Tourism Resources**

- (1) Managing Visitor Use in Coastal and Marine Protected Areas (training)

As more people choose to live, work, and play along our nation's coasts and waterways, coastal management professionals are challenged with balancing the changing demands of the public with the management of resources under their care. The Managing Visitor Use course was developed to meet a need among natural resource and coastal area managers and staff to understand, monitor and manage impacts created by visitors while ensuring a rich experience for the visitor. This two-day instructor-led course provides participants with tools to identify and define unacceptable visitor use impacts to natural resources and visitor experiences. Participants will gain an understanding of visitor-use management techniques applicable to coastal and marine zones and learn how to use the tool to address real-world visitor-use problems.



Course Objectives:

- Understand the human dimensions of coastal and marine management
- Apply recreation and visitor use management planning frameworks
- Identify visitor use issues, including visitor-resource and visitor-visitor impacts
- Craft a clear problem statement
- Develop measurable indicators for monitoring impacts and management and set standards for impact acceptability
- Implement visitor use monitoring methods and management strategies and tactics

(2) Coastal County Snapshots (web tool)

The Coastal County Snapshots turn complex data into easy-to-understand stories, complete with charts and graphs. There are currently three snapshot applications, including Flood Exposure, Wetland Benefits, and Ocean Jobs. The Ocean Jobs snapshot provides a quick look at the economic value of jobs that are dependent on the Great Lakes and oceans. Jobs are structured into six categories, one of which is Tourism and Recreation. The Tourism and Recreation data includes an array of establishments, such as boat dealers, eating and drinking places, hotels and lodging, marinas, recreational vehicle parks and campsites, scenic water tours, sporting goods, amusement and recreation services, and zoos and aquaria. In industries whose scope is “only near shore,” only those establishments located in shore-adjacent zip codes are included in the sector totals. Since hotels and restaurants, for example, may or may not be dependent upon the ocean or Great Lakes, only those establishments that are nearest to the coast are included in the ocean economy.

Data in this snapshot on ocean-related economic activity are taken from time series data derived from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW) database (also known as the ES-202 data). This time series includes the number of establishments, total employment, and total wages based on quarterly tax reports by employers subject to state unemployment insurance (approximately 90% of U.S. businesses). It also includes county-level estimates of gross domestic product (GDP) based on the Bureau of Economic Analysis' GDP-by-state statistics. Both of these data sets are being developed under the Economics: National Ocean Watch project, which is led by the National Oceanic and Atmospheric Administration's Coastal Services Center.

APPENDIX 5  
Sea Grant Tourism Funded Research

**Sea Grant Tourism Funded  
Research Projects  
2008 - 2012**

This list was drawn from the Sea Grant PIER database and from an additional database of funded 2012 proposals. This list includes projects that are specifically directed toward sustainable tourism as well as other research whose findings could help to support sustainable coastal tourism.

Delaware Sea Grant

- An Economic Analysis of Shorebirds and Shorebirding on the Delaware Bay
- Video-Based Bathymetric Determination for Rip Current Studies
- Understanding Rip Current Outbreaks and Tracking Victims in a Rip Current
- Public Perceptions of Wind Power Turbines and Transmission
- The Economic Impact of Offshore Wind Farms on Coastal Tourism and Beach Use in the Mid-Atlantic Region

Florida Sea Grant

- Assisting Coastal Communities to Plan and Manage Their Waterfronts and Waterways: The Boating and Waterway Management Program
- Analyzing Offshore Recreational Boating in Three Northeast Florida Counties
- A Spatial Hazard Index of Semi-Permanent Rip Currents in Northwest Florida
- Piloting a Community-Based Social Marking Program to Protect Marine Ecosystems from Boating Impacts

Georgia Sea Grant

- Assessing the Impact of Residential Development and Recreational Land Use on Shallow Groundwater Quality in Coastal Environments

Hawaii Sea Grant

- Visitor Demand and the Price of Air Travel

Maryland Sea Grant

- Prediction of Rip Currents

Minnesota Sea Grant

- Use of Rapid DNA Methodologies to Determine Sources of Fecal Bacteria Leading to Beach Closures in Lake Superior

Mississippi-Alabama Sea Grant

- 2007 Economic Evaluation of Coastal Birding Festivals in Alabama and Mississippi
- Charter Fishing Customer Profile Survey - Phase I

### North Carolina Sea Grant

- Tourism Impacts and Second Home Development in Coastal Communities: A Sustainable Approach
- Linking Demographic Patterns to Landscape Indicators of Coastal Development: A Spatial Characterization of Changing Land Use / Cover Associated with Tourism and in Migration
- A Generation Mechanism for Rip Currents

### New York Sea Grant

- Nature and Heritage Tourism in the Hudson River Valley: Enhancing and Sustaining Community Engagement and Destination Competitiveness
- Contribution of Marina Activities to the Algal Growth of Sodus Bay, Lake Ontario
- Great Lake Sportfishing Participation and Economic Impacts: Synthesis and Outlook

### Ohio Sea Grant

- Lake Erie Economic Impact of Tourism Study
- The Sensitivity of Visitor Stays to Taxes and Crime in American Coastal Communities
- Using Surveys, Experiments, and Agent-Based Models to Better Understand Recreation and Tourism in the Lake Erie Region

### Pennsylvania Sea Grant

- Presque Isle State Park Visitor Survey

### Puerto Rico Sea Grant

- Rapid Detection and Quantification of Fecal Pollution in the Caribbean

### Sea Grant Legal Program

- Legal Barriers and Opportunities to Developing Business Partnerships Between Fisheries and Tourism

### South Carolina Sea Grant

- Beach Nourishment Activities and Their Potential Impacts on Sediment Movement and Biological Resources around Critical Hard Bottom Habitats on the Shoreface of the Grand Strand, SC
- Building Sustainable Community-Based Economic Development and Management Linkages between Traditional Coastal-Dependent Businesses and South Carolina's Recreation and Tourism Industry
- Understanding Demand for Value-Added Products and Services Associated with For-Hire Boat Trips on the South Carolina Coast
- Examining Capacity for a Cooperative Seafood Tourism Trail as a Value-Added Marine Resource-Based Recreation and Tourism Product on the South Carolina Coast

### Texas Sea Grant

- An Experimental Test of the Effects of Beach Raking on Macroinvertebrate Communities of Texas Beaches
- Perception of the Rip Current Hazard on Galveston Island and South Padre Island

Washington Sea Grant

- Impacts of Armoring on Puget Sound Beaches: Diverse Effects on Diverse Scales

Wisconsin Sea Grant

- Application of Molecular Based Methods for Investigation Sources of Fecal Pollution at Great Lakes Beaches
- Assessment of Beach Remediation Efforts at Select Lake Michigan Beaches
- Improving Risk Estimation, Safety, and Cost-Effectiveness in Scuba Diving
- Evaluation of the Algal Nuisance Cladophora and its Effect on E. coli and Beach Closures
- Development and Application of Molecular-Based Methods for Identifying Sources of Fecal Pollution at Lake Michigan Beaches