

SCIENCE HELPING COASTAL COMMUNITIES AND ECONOMIES BUILD A SUSTAINABLE FUTURE

Coastal communities depend on healthy ecosystems for their economic survival. Population growth, increasing tourism and development can compromise the health and integrity of coastal ecosystems and, in turn, the economic sustainability of coastal communities. Economic growth must complement environmental conservation in a way that meets present needs without compromising future generations' quality of life: That is the definition of sustainability. Gaps among diverse, often conflicting interests of the many coastal stakeholders are



daunting, but they must be bridged if coastal communities are to realize their full economic and environmental potential. Sea Grant—through its fundamental underpinnings of university-based, interdisciplinary

research and science-based outreach education—is uniquely positioned to help coastal communities achieve economic and environmental sustainability. The Sea Grant program has a national network in place to address the needs of all coastal and Great Lakes states.

In short, Sea Grant research and outreach provide coastal communities with the best available science-based information for sustainable community decision-making, coupled with the knowledge, experience and tools needed to bring diverse coastal interests together. The knowledge, programs and approaches developed by Sea Grant in one state or region can be applied broadly throughout the national network. The Sea Grant network will expand its efforts to improve coastal community leadership and planning capacities to jointly address economic, environmental and social issues. Our aim is to encourage and equip coastal communities to utilize long-term, integrated approaches to developing sustainable communities.

Strengthening coastal planning

Coastal Community Development Program: In 2001, Sea Grant initiated the Coastal Community Development Program aimed at assisting communities in protecting their environmental amenities, strengthening their economies and improving their quality of life. Through a modest investment,

Sea Grant is building on its extensive science-based outreach experience to increase assistance to community officials and the coastal public in sustainable development, coastal growth management, land use planning, watershed planning and the socioeconomic and environmental problems associated with sprawl. This targeted assistance to coastal communities is expected to result in community revitalization, implementation of growth management strategies, and the protection and restoration of coastal resources.

Resource valuation: Sound coastal planning requires the systematic valuation of coastal resources and amenities, often understood broadly as “natural capital.” Sustainable coastal ecosystems provide a variety of goods and services, including fisheries, recreation, waste assimilation, erosion and flood control, and biological diversity. Placing an economic value on such natural capital should be a critical component of coastal planning. Sea Grant will help communities examine their natural resources and support research to quantify economic values derived from coastal natural resources.



Constructing Indicators of Sustainable Development: Planners and decision makers need an integrated set of economic, environmental and social indicators that track progress toward achieving the goal of sustainable coastal development. Developing and integrating environmental indicators with economic and social indicators is particularly challenging. Sea Grant is committed to working with coastal communities to assist them in developing indicators that represent key components of their sustainable development strategies or plans.

Building capacity

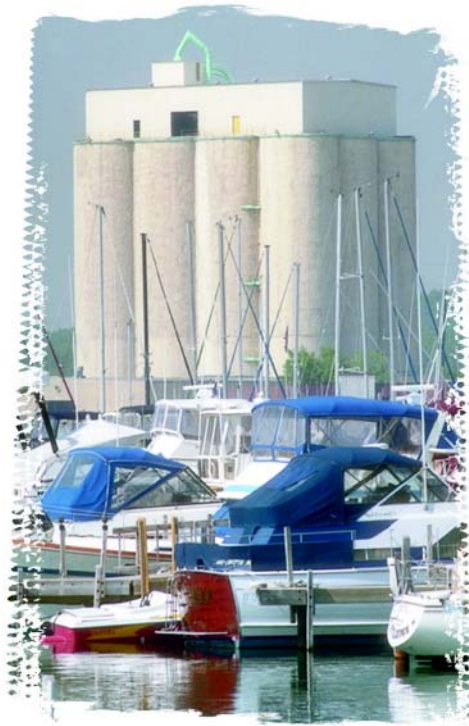
Educating Coastal Planners: Sea Grant research focuses on expanding scientific understanding of the function, biodiversity and economic importance of our coasts. Sea Grant is working to transfer this rapidly growing body of

knowledge to coastal decision makers and to train coastal leaders in the use of science-based tools for improved management of coastal and estuarine areas. These professional development programs, jointly executed by state and local planners and Sea Grant, will address coastal America's complex management challenges.

Building Leadership:

Sea Grant is training community planners, business leaders and citizens to use sciencebased tools more effectively in the decision making process. For example, Sea Grant's "Communities in Transition Program" provides research and outreach to the fishing industry. This program provides training to pursue alternative economic opportunities as well as techniques to address financial and emotional stress. Sea Grant is also increasing the capacity of leaders in government, industry and academia to understand the economic and environmental consequences of their choices in land use, energy and water use, and coastal building design.

Developing Decision Support Systems: Sea Grant will continue to provide decision-support tools to help decision makers utilize the vast array of information available to communities. A recent example of success in this area is "Nonpoint Education for Municipal Officials," a partnership between Sea Grant and the U.S. Department of Agriculture's Cooperative Extension Program. This national program uses remote sensing and Geographic Information Systems technology to educate local officials on the impacts of land-use change on coastal water quality. In tourism-dependent communities, decision support systems and



education programs are critical to Sea Grant's efforts to help the marine trades industry manage boat-congested waterways, design small-harbor dredging strategies and maintain a quality recreational environment.

Stimulating sustainable economic development

Sustainable Jobs in Business and Industry: For 35 years, Sea Grant has trained leaders and developed the technical expertise needed for many marine industries and coastal businesses. Hundreds of jobs have been created and retained in such fields as aquaculture, marine biotechnology, tourism and recreation, and environmental restoration as a direct consequence of Sea Grant research and outreach activities. There is virtually no segment of coastal America untouched by the Sea Grant partnership-based enterprise.

Revitalizing Communities: Smaller coastal communities

have endured declines in their economic bases, especially in such resource-dependent industries as fisheries. They have also had to adapt to complex environmental regulation. Sea Grant works to help communities make smart choices that unite economic development with protection of the quality of coastal life. Sea Grant's tourism program focuses on helping communities develop tourism and nature-based recreation to offset economic declines in other areas.

Achieving results

Ultimately, Sea Grant's Coastal Communities and Economies Theme is about assisting coastal communities in protecting their environmental amenities, strengthening their economies and improving their quality of life. There is no "one-size-fits-all" approach to community planning. Rather, each community must make decisions that best engender their own unique environmental, social and economic perspective. This is the challenge to—and the strength of—the Sea Grant approach. *Sea Grant networks nationally and partners locally* to provide science-based information and innovative tools that encourage successful, community-based environmental protection and sustainable community development. Sea Grant, working in partnership with coastal communities, can help to sustain the nation's coastal resources and secure the vitality of coastal communities for generations to come.

Sea Grant

Mission

The mission of the Coastal Communities and Economies Theme Team is to design and implement comprehensive research and outreach programs promoting sustainable communities that achieve a complementary integration of economic, environmental and social values.

For more information:

E. Gordon Grau, Co-chair
Coastal Communities and
Economies Theme Team
Hawaii Sea Grant College
Program
(808) 956-7031
sgdir@hawaii.edu

Jim Murray
NOAA Sea Grant Office
(301) 713-2431 x152
Jim.d.murray@noaa.gov

<http://www.iisgcp.org/team/index.htm>