Sea Grant

SEA GRANT CONTRIBUTIONS TO THE NATION IN

URBAN COASTS

RESOLVING URBAN DILEMMAS

Urban shorelines have wide appeal, shown in demands for recreational, business and residential developments near the water. Communities and states must balance economic and environmental values, manage the impacts of nutrient runoff and waste disposal, and consider needs for transportation, recreation and commerce — while maintaining the integrity of coastal ecosystems, the critical habitat and nursery areas for countless species. Communities using solid scientific data can resolve such urban dilemmas — and those solutions often have positive implications for the nation's economy and environment.

Sea Grant Produces National Benefits

From gene probes that track harmful algae to satellite technology that monitors coastal changes, the results of Sea Grant research provide sound-science solutions relevant to difficult local and national policy decisions. Recent investment by Sea Grant is addressing problems in our nation's urban coasts.

Reducing nonpoint pollution

- Sea Grant-sponsored investigations of DDT deposits off the Southern California coast resulted in the designation of the Palos Verdes Shelf as an EPA SUPERFUND site, and the development of an experimental program to cap the deposits.
- Sea Grant researchers conducted a comprehensive survey of non-point source pollution in Santa Monica Bay, identifying toxic elements posing threats to human and marine life in order to reduce the impacts of urban runoff on public beaches and marine ecosystems.
- Sea Grant's NEMO program introduces the issue of nonpoint source pollution to local officials and gives them tools for improving water quality and planning development. NEMO uses GIS and statistical methods to link land use and water quality, thus allowing officials to make informed decisions to foster sustainable development.
- Water quality standards are currently based on bacterial indicators with significant limitations. Sea Grant researchers are developing new methods for detecting human viruses in seawater. Molecular approaches have provided new and rapid means of quantifying bacterial pollution in coastal waters. These invaluable tools quickly and accurately determine the levels of specific bacteria in a sample.
- Sea Grant scientists are developing models to forecast water and sediment quality in coastal embayments to address water quality problems such as the fate of point and non-point effluents; transport, deposition and resuspension of contaminated sediments; and plankton blooms following nutrient inputs to coastal waters.
- Sea Grant extension agents in many states work with residents to implement environmentally friendly techniques around their homes and yards to decrease the amount of harmful wastewater runoff reaching the nation's coasts. Information on responsible stewardship has been distributed around the nation.

Enhancing port and harbor operations

- Sea Grant re-established a presence in the marine transportation industry through two new national specialists for ports and harbors. Located in Texas and Southern California, the specialists are working directly with seaport managers, resource managers, commercial interests and the general public to address issues associated with ports, harbors and marine transportation — ecological and economic centers of America's coasts.
- In the New York-New Jersey Harbor Estuary Program (HEP), Sea Grant partners with the EPA to develop public outreach programs that address the environmental and economic health of New York ports and harbors.
- Sea Grant helped the recreational boating industry in Rhode Island to develop programs and regulations that balance growth with resource protection goals. In 1997, marina management guidelines drafted cooperatively by Sea Grant, state agencies and Marine Trades Association became state policy, making Rhode Island the first state with official marina guidelines that meet the requirements of the Clean Water Act.

Managing Coastal Resources

- Our nation's beaches have a large economic impact on coastal states. In Delaware, Sea Grant researchers are analyzing the costs and benefits of beach management and protection options. By focusing on economic and coastal engineering factors, the researchers can estimate economic loss or gain associated with events such as sea-level rise, closure of beaches due to oil spills and improvement due to beach nourishment.
- Sea Grant analysis of sea-level rise is being used in New York, California and Maine to improve future assessments of the impacts of climate change. Coupled

with a better understanding of local land use policies and trends, planners and municipal authorities can limit the impacts on coastal property, wetlands and recreational resources.

- Sea Grant worked with the Cherry-Bancroft-Summit Street Corridor Coalition to develop a plan for revitalizing blighted urban areas in Toledo, Ohio. The CBS Corridor Coalition is nationally recognized as a first-of-its-kind neighborhood community development partnership for urban renewal.

Building the Future on Successes of the Past

Sea Grant leads the nation in identifying and solving the problems — and in recognizing the opportunities — along our urban coasts. Sea Grant's federal/state partnership matches multi-disciplinary research with public education and outreach, making it uniquely capable of providing resource managers, users and policymakers with understandable, scientific explanations of natural processes, and the value and risks involved in activities and change.

These efforts help resolve significant threats to valuable resources along the urban coast — and many of these lessons can be applied to waterfront development and redevelopment across the country.

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