

**The University of Minnesota Sea Grant College Program works with people and communities to help maintain and enhance the environment and economies along Lake Superior and Minnesota's inland waters by identifying needs, funding research, and translating results.**

We are part of the National Sea Grant College Program, which is a federal program under the National Oceanic and Atmospheric Administration. There are 30 Sea Grant programs across the nation that conduct public education, research, and training in all fields of marine and freshwater study. These programs operate in concert with public and private institutions of higher learning, institutes, laboratories, and agencies engaged in marine/freshwater resources and management.

Thirty years ago, the University of Minnesota was designated as an official Sea Grant College Program. Every two years since then we have held competitions for research projects to be funded with money we receive through NOAA, which is matched by the University. We consider all research, outreach, and education proposals that lead to the improved understanding, use, and management of Great Lakes resources, particularly those related to Lake Superior

and Minnesota's inland waters. The scientists we fund are expected to conduct sound, relevant research, incorporate graduate student training into their projects, and be willing to help transfer their results to appropriate audiences.

Minnesota Sea Grant provides the knowledge, people, tools, and technology for responsible management and policy decisions to maintain and enhance Lake Superior and Minnesota's inland aquatic economies and resources. We take care not to duplicate what other agencies do, particularly in inland waters. Within this context, we have 11 thematic areas that define the scope of our work. (listed in priority order):

- Ecosystems and Habitats
- Coastal Communities
- Aquatic Invasive Species
- Urban Coasts
- Digital Ocean
- Biotechnology
- Aquaculture
- Aquatic Science Literacy
- Fisheries
- Seafood Science and Safety
- Coastal Natural Hazards

## Research

In 2005, we awarded \$566,650 to the University of Minnesota to fund 8 research projects, and \$585,150 to hire graduate students to assist with these projects, for a total of \$1.15 million.

The projects are:

***Pinpointing Sources of Bacteria that Contribute to Beach Closures***

University of Minnesota Duluth Department of Biology

***Understanding the Links Between Lake Superior's Animal Life, Upwellings, and Temperature***

University of Minnesota Duluth Department of Biology

***A Step Towards Defining the Carbon Cycle in Lake Superior***

University of Minnesota Duluth Large Lakes Observatory

***Developing More Efficient Monitoring Methods for Rocky Coasts***

University of Minnesota Duluth Natural Resources Research Institute

***Investigating the Relationship Between Dissolved Phosphorus and Oxygen Released by Sunlight in Lake Superior***

University of Minnesota Department of Ecology, Evolution and Behavior

***Defining Potential Effects of Endocrine Disrupters in Wastewater on Femae Fish and Fish Populations***

University of Minnesota Department of Fisheries, Wildlife, and Conservation Biology

***Calculating Biomass and Energy Flow from Plankton to Lake Superior's Top Predators***

University of Minnesota Duluth Department of Biology

***A New Approach for Identifying Environmental Estrogens in Great Lakes Estuaries***

University of Minnesota Division Of Environmental Health Sciences

## Outreach

**To bring this research to the citizens of Minnesota and the nation we hold conferences and workshops, produce publications, Web sites, and educational materials; and give advice to businesses, groups, and individuals.**

Our communications department publishes the award-winning "Seiche" newsletter, with a circulation of 4,000, and we have 1,000 pages of information available on the Web at [www.seagrant.umn.edu](http://www.seagrant.umn.edu), which was accessed by 350,000 people last year. Our media relations program reaches a potential of 15 million citizens annually with science information. These efforts all work together so that Minnesota citizens can make the most informed decisions about resource development and use.

Recent outreach projects include:

**Liquid Science Speaker Series** – In cooperation with the U.S. EPA, we organized, promoted, and hosted 8 speakers from the Great Lakes region who delivered public talks about their research to 850 residents in Duluth and Grand Marais.

**Water Garden and Shoreline Restoration Project** – We have been working with water gardeners and plant industry professionals and societies in Minnesota to ensure their activities aren't spreading unwanted species. We surveyed them about aquatic invasive species this past year to develop appropriate educational messages and materials. Following review, the materials will be distributed this year for use in Minnesota, Wisconsin, and Michigan.

**Shoreland Education Workshops** – In concert with other departments at the University, we provide workshops to people across the state to help them manage their lake or river property. In 2004, 17 workshops were offered, training over 300 people. In addition, the shoreland program provides a web site ([www.shorelandmanagement.org](http://www.shorelandmanagement.org)), a monthly newsletter (From Shore to Shore), fact sheets, and "how-to" videos. These materials earned a bronze award from the Association of Extension Professionals this year.

*Outreach projects continued on page 3*

## *Outreach projects continued*

**Aquaculture and Exotic Species** – We conducted training workshops to help ensure that aquatic invasive species will not enter or be spread by aquaculture and baitfish operations. Also, each year we answer questions from aquafarmers in your district as they make decisions about aquaculture development.

**Habitattitude** – is the name for a new national public education campaign we are leading that is designed to help aquarium and water garden owners prevent the release of fish and aquatic plants into the environment. The campaign is a partnership among the pet industry, government, and academia. It was also mentioned in President Bush's response to the Ocean Commission Report. The \$300,000 grant from NOAA leverages \$1.2 million from the pet industry and the US Fish and Wildlife Service.

**Lake Superior Restoration Workshop** – We organized a public workshop in Duluth that drew 100 people to provide input to the Council of Great Lakes Governors. Participants top priorities for Lake Superior focused on adoption of sustainable practices that protect natural resources while enhancing recreational and commercial values.

**Great Lakes Aquarium Partners in Education** – a Sea Grant graduate student intern created this program, which matches UMD undergraduate education majors with the aquarium in Duluth to fulfill a requirement to volunteer-teach for 60 hours. Last year, 6 students worked with aquarium staff to conduct activities.

**Regional Stormwater Protection Team** – We are working with 16 Duluth-area organizations to develop and coordinate educational programs to prevent stormwater pollution. The team will air radio and TV commercials this spring, will host a watershed festival, and has brochures and other educational items distributed throughout the region.

**View From the Lake Boat Tours** – About 500 citizens, reporters, and local officials got a new view of their communities from a research vessel that plied the waters of Western Lake Superior. Participants took water samples and shared their opinions and thoughts about environmental issues facing Lake Superior. We plan to conduct more cruises this summer.

**Rip Current Safety** – We are working with the City of Duluth and safety agencies to advance public beach safety efforts and extend materials developed by the National Sea Grant Program. We have provided the city with several rip current signs, distributed brochures to beach hotels and businesses, published articles and news releases, and recently developed a local rip current web page.