

Staff Update



George Carignan

Interim Director Named

George R. Carignan, Managing Director of the Institute for Environmental Science, Engineering and Technology in the College of Engineering at the University of Michigan, will serve as Interim Director for the Michigan Sea Grant College Program.

Michigan Sea Grant is one of 29 university-based programs in a national network that promotes greater knowledge and stewardship of the Great Lakes and ocean resources. In his role as Michigan Sea Grant Interim Director, Carignan will oversee the program, which currently funds 16 research projects and numerous outreach activities related to such topics as sustainable coastal development, fisheries, coastal wetlands, Great Lakes education, trophic change, exotic species and marine engineering.

Carignan served as the Associate Dean for Graduate Education and Research in the College of Engineering from 1991-1999, during which time he was also a member of the Michigan Sea Grant Policy Committee. In addition to managing the

environmental programs in the College of Engineering, Carignan is a Professor and Research Scientist in the Department of Atmospheric, Oceanic and Space Sciences. He serves or has served on numerous national advisory panels in space research and engineering and has published more than 70 papers on experimental space and planetary science. In June 1997, Carignan received the NASA Exceptional Scientific Achievement Medal for his work on the Galileo Probe Planetary Mass Spectrometer.

Carignan succeeds Russell Moll, who departed September 15 to serve as Director of California Sea Grant. Carignan may be reached at the University of Michigan Sea Grant office, (734) 763-1437. Email: carignan@umich.edu

University officials have launched a national search for a permanent Director of Michigan Sea Grant.

Web Specialist Joins Sea Grant



Dave Brenner

Award-winning artist and graphic designer Dave Brenner has joined Michigan Sea Grant as the program's new Web Specialist. Brenner comes from the University of Alaska Sea Grant program, where he served as graphics manager. While at Alaska Sea Grant, Brenner designed the program's web site and produced numerous award-winning publications on technical and other topics such as water safety for recreational boaters, dynamics of the Bering Sea, and the decline of steller sea lions.

In 1997, Brenner spent five weeks as a special resident artist on the research vessel *Atlantis* sponsored by the Woods Hole Oceanographic Institution (WHOI). He documented the work of scientists aboard ship and photographed marine life during a four-mile dive to the bottom of the ocean in the submersible *Alvin*.

"People often asked me if I was frightened or claustrophobic being down so deep in such a tight space. I was too excited!" said Brenner. "For me it was like going to the moon, watching the scenery through the tiny portal. It never occurred to me to be scared."

Many of Brenner's photographs from the trip can be seen in the new children's book, *Off to Sea*, written by Deborah Kovacs (Steck-Vaughn Company, 2000).

Several of Brenner's deep-sea photos are also part of a traveling museum exhibit called "Extreme Deep" sponsored by WHOI. The exhibit features a three-dimensional scene depicting hydrothermal vents, shipwrecks, and a replica of

Alvin. The Extreme Deep exhibit will tour museums around the United States for five years, beginning at the Boston Museum of Science and making a stop at the Smithsonian Institution.

In his role at Michigan Sea Grant, Brenner will use his skills in photojournalism and illustration to raise public awareness of Great Lakes research and extension activities as part of the Communications team. He will also be responsible for maintaining the program's web site. Brenner may be contacted at his office at the University of Michigan, (734) 764-2421. Email: daverb@umich.edu

Thunder Bay Preserve Designated

From wooden schooners to steel-hulled steamers, more than a century of Great Lakes maritime heritage lies below the waters of Lake Huron in Thunder Bay. On Oct. 7, the Thunder Bay National Marine Sanctuary and Underwater Preserve was designated in Alpena, Michigan to preserve the rich array of artifacts.

The Preserve is the nation's first Great Lakes sanctuary and the first sanctuary in 25 years based solely on historic preservation. The designation was announced by Michigan Governor John Engler and U.S. Commerce Secretary Norman Mineta.

The new 448 square-mile sanctuary and underwater preserve will protect an estimated 116 historically significant shipwrecks,



Pilot Blee Williams watches as the *Alvin* is lowered into the Pacific Ocean.

including the *Isaac M. Scott*, a steel-hulled propeller driven vessel lost in the "Great Storm of 1913." That storm—16 hours of 35-foot waves and gusts of near-hurricane wind speeds which sank 11 vessels—has been described as the most disastrous storm in recorded history to sweep the Great Lakes region.

The Thunder Bay National Marine Sanctuary and Underwater Preserve is the thirteenth in NOAA's National Ocean Service's network of national marine sanctuaries.

In an innovative partnership, NOAA's National Ocean Service and the state of Michigan will jointly manage the sanctuary and underwater preserve through the creation of a Joint Management Committee.

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Grand River Expedition 2000

More than 100 people paddled canoes and kayaks down sections of Michigan's Grand River in July to show their support and concern for the health of Michigan's longest river.

The 13-day trip was arranged by the nonprofit group Grand River Expedition 2000 to raise awareness about the importance of the river in mid Michigan. The trip began in Michigan City on July 15 and ended in Grand Haven on July 27.

Along the way, participants collected water, mud and insect samples to analyze the health of the river. The group also held periodic community forums to explain the river's role to the public. Included in the events was a Michigan Sea Grant display on cleaning, filleting and trimming Great Lakes fish to minimize consumption of contaminants. In Grand Haven, Michigan Sea Grant Extension Agent Chuck Pistis presented a demonstration of these techniques.



Sea Grant Extension Associate Mike Klepinger takes a break near a stand of purple loosestrife. Klepinger and Communications Specialist Carol Swinehart paddled segments of the river.

European Frogbit

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FACTS ABOUT FROGBIT

European Frogbit is a free-floating aquatic herb that prefers quiet, open water in marshes, ditches and swamps. Its rounded, heart-shaped leaves rest on the water's surface, and tiny, white flowers bloom irregularly during the growing season. Horizontal runners support new growth, and the plant has long dangling roots and vegetative buds called "turions" that develop into a new crop of plants each spring.

According to a 1995 Canadian report, European Frogbit is considered a nuisance in some areas of Ontario, Quebec and northern New York. The plants inhibit recreational activities and limit water traffic. The report notes that "dense floating mats of Frogbit reduce growth of native submersed aquatic plants," and Frogbit "is one of five invasive alien plants that is reported to have had a major impact on natural ecosystems in Canada."

Closer to home, the effects of Frogbit remain to be seen. Last summer, Michigan Sea Grant Extension Associate Mike Klepinger and Michigan State University Extension Specialist Howard Wandell visited the Lake St. Clair site to see the plants.

Although Wandell said he's not worried about larger, Great Lakes ecosystems with moving

water, he is concerned about quiet backwaters.

"I think it does pose a problem for small, sluggish streams and shallow-water marshes with limited wave action," said Wandell, who specializes in lake and stream management. "It could take over and shade out native plants growing below the surface."

However, Wandell emphasized that if Frogbit does become a problem in some areas, he suggests an ecosystem approach to management. A strategy called Integrated Pest Management (IPM) is outlined in the new publication *Integrated Pest Management for Nuisance Exotics in Michigan Inland Lakes*. (The publication can be ordered by calling the Office of the Great Lakes, Department of Environmental Quality at 517/335-4056.)

For her part, naturalist Julie Champion said the plant hasn't spread too far in her area during the last two summers, possibly due to low water levels and less open water. Still, she said, she'll track the plant's movement next summer and keep an eye out for impacts.

Readers who think they've identified European Frogbit in their area may contact Michigan Sea Grant at 517/353-5508.

by JOYCE DANIELS

Detroit River Representatives 'Pass the Paddle'

Pass the Paddle—a nationwide series of local celebrations to highlight the importance of the country's rivers and watersheds—arrived in Michigan in August.

Michigan Sea Grant Extension Agent Mark Brederland coordinated a Detroit River ceremony at Mt. Elliott Park on the waterfront. The ceremony called attention to the value of the Detroit River and the many efforts underway to improve the river ecosystem. The Detroit River is one of about 250 North American Rivers featured in the event.

Pass the Paddle began on the Potomac River on April 1, 2000 and was sponsored by RIVERS 2000, a coalition of environmental groups.

Throughout the event, a paddle was dipped into rivers across the country as part of its journey through all 50 states over a seven-month period. The paddle was scheduled to return to Washington on October 7 to be presented to President Clinton.

National Ocean Sciences Bowl

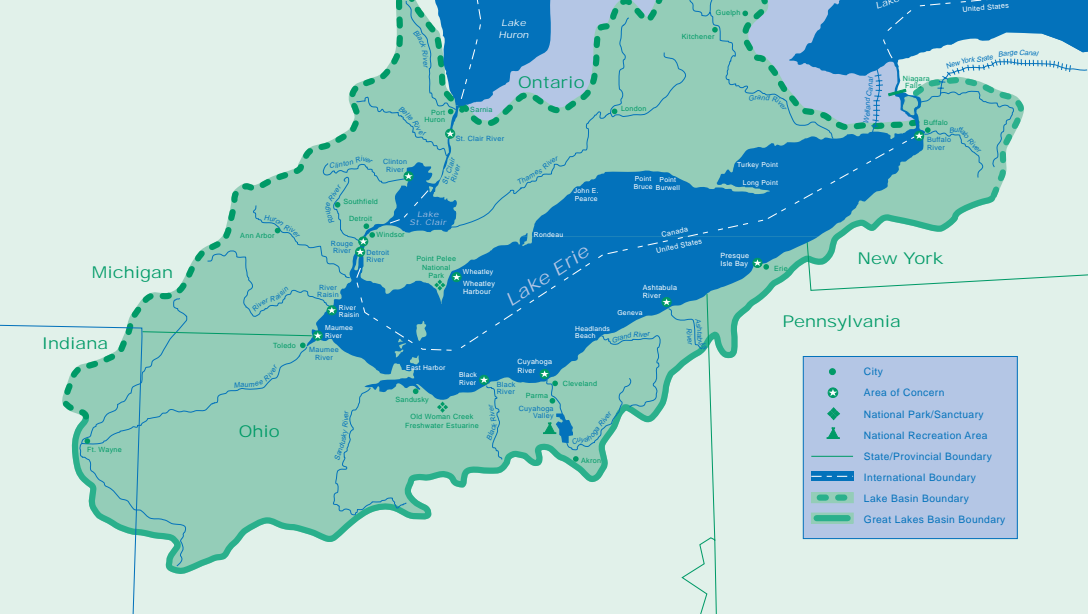
The Midwest Regional Competition of the National Ocean Sciences Bowl will be held in Ann Arbor on Saturday, Feb. 10, 2001 at the University of Michigan North Campus.

The NOSB is a nationwide academic competition among teams of high school students who test their math and science skills as applied to topics on ocean (and Great Lakes) biology, chemistry, geology, physics, technology, history, and economics. The final national competition will be held in Miami, FL in March 2001.

Registration deadline for the Midwest Regional Competition is Dec. 17, 2000. The event will be limited to 14 teams. For entry forms and additional information, contact Mike Quigley at 734/741-2149.



announcements



New! Great Lakes Facts

PUBLICATION SERIES FEATURES VITAL FACTS AND FOLD-OUT MAPS

From the rugged cliffs of Lake Superior to the awe-inspiring Niagara Falls, the Great Lakes basin is rich in natural beauty. More than 33 million people inhabit the basin, enjoying a wealth of natural resources and relying on freshwater supplies that make up one-fifth of the world's surface total.

Other facts about the Great Lakes are less well-known. For instance: Which Great Lake has the longest shoreline, including islands? Where can you find the busiest inland shipping port in the United States?

The answers (Lake Huron and Duluth-Superior Harbor on Lake Superior, respectively) are just a sample of the interesting and important information found in Michigan Sea Grant's new Great Lakes Facts series of publications.

Five two-color brochures are filled with current facts on each of the Great Lakes basins: Superior, Huron, Michigan, Erie and Ontario. They cover everything from general statistics to information about each lake's shoreline use, economy, ecology, and natural resource and environmental issues. Each brochure opens up

Thunder Bay

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Priorities for the first five years of operation include conducting an archaeological survey of Thunder Bay's shipwrecks, installing a mooring

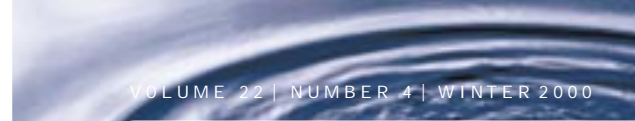
into a 12" x 16" color map of the lake and its basin. A sixth brochure provides comprehensive facts about the entire Great Lakes basin and opens up into a 17" x 22" four-color poster.

"Whether you're a reporter or legislator needing to find a statistic, a teacher who's planning a curriculum unit on the Great Lakes, or a person who simply loves the lakes, you'll find these useful," said Carol Swinehart, editor of the series. "Anyone who's interested in the Great Lakes can learn from them; I've worked on Great Lakes issues for 25 years, and I've learned many new things in producing this third edition."

The brochures are easy-to-read, with color subheadings and informative sidebars. The map images of each lake feature its entire drainage basin, state and provincial boundaries, major cities, Areas of Concern, national parks and recreation areas. The Great Lakes Basin map features a depth and distance profile of the entire Great Lakes system.

The six brochures can be purchased as a set for \$3. To order, contact Michigan Sea Grant at 734/764-1118 or email msgpubs@umich.edu.

buoy system, establishing underwater video links from shipwrecks to school classrooms, and examining the potential for a Maritime Heritage Center.



upwellings

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A Profile of St. Marys River
Covers natural, geologic and cultural history of the St. Marys River in Michigan's Upper Peninsula. 20 pp. \$1.

Lake Superior Recreation and Weather: A Four Season Guide

Michigan's Lake Superior coast is rich in beauty, history, and outdoor opportunities. This comprehensive guide describes attractions, recreational opportunities, and weather for each season. \$3.95

A Profile of Lake St. Clair
Explore the natural, geologic and cultural history of this unique lake. An ideal primer for local historians, teachers and residents. 13 pp. \$1.

Order publications from:
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734/764-1118 phone
www.engin.umich.edu/seagrant/pubs



Upwellings reports on Michigan Sea Grant research, extension, education, and other Great Lakes issues and activities. For a free subscription or program information, contact us at the address above or call 734/764-1118.

Send suggestions for articles or editorial correspondence to the address above or email Joyce Daniels at: joydan@engin.umich.edu

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Visit the Sea Grant site at:
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NEWS OF
THE GREAT LAKES
FROM MICHIGAN
SEA GRANT COLLEGE
PROGRAM

European Frogbit

WHAT IS IT? SHOULD WE BE WORRIED?

Four years ago, naturalist Julie Champion of Huron Clinton Metroparks noticed an unfamiliar plant growing in a wetland near Lake St. Clair. It looked like a miniature water lily, she recalled, about the size of a silver dollar. But the plant was distinct.

"What's different," she said, "is the big mat of intertwined roots at the water's surface. It's not typical of any plant that I could think of as being native to Michigan."



JULIE CHAMPION

Last summer, Champion attempted to retrieve a few of the aquatic plants for closer inspection.

"I went to collect a sample with a net," said Champion, "and the plants were so thick, the whole 15-foot mat was moving." She added that a swan refused to swim through the mass of plants.

Further research indicated that the plant was European Frogbit, a plant common in the temperate regions of Eurasia. Frogbit has been in Canada for decades and has been gradually spreading south.

Worried that the density of Frogbit might impede recreational boaters, Champion contacted Michigan Sea Grant Extension for additional information.

HISTORY OF FROGBIT

According to Canadian literature, European Frogbit began spreading beyond cultivation near Ottawa in the late 1930s. By 1939, Frogbit had become established in Canada's Rideau Canal and subsequently in the Ottawa River. The plant was first recorded in the Bay of Quinte on northeastern Lake Ontario in 1972 and appeared in the St. Lawrence River in New York in 1974. Two years later, Frogbit appeared at a site on Lake Erie and became abundant in nearby marshes within five years.

Dr. Anton Reznicek, Curator of Vascular Plants at the University of Michigan Herbarium, first recorded Frogbit at Point Pelee in southwestern Ontario in 1988. Several years later, specimens were brought to Reznicek from Detroit River marshes near Lake Erie.

"It was bound to appear in Michigan as soon as it reached western Lake Erie," he said.

While the spread of Frogbit may seem to take decades, Reznicek explained that there's often a lag time with exotic species before a period of exponential growth. For this reason, he believes Frogbit could become a problem in southeast Michigan. "I'm concerned," said Reznicek, "because it forms very, very dense stands on the surface of the water. If it really spreads, I expect it will have an impact on underwater photosynthesis ... It's capable of carpeting large areas."

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WHAT'S INSIDE...

Staff Update

Thunder Bay Preserve
Designated

New!
Great Lakes Facts