

Saltwater News

A Monthly Newsletter for UNH Marine Program Faculty, Staff and Students
April 2004, Volume 3, Number 4

From The Director

Don't forget the Earth, Oceans and Space Undergraduate Research Conference (URC) – scheduled for April 28th at Morse Hall. This conference is co-sponsored by the Marine Program and EOS. Following that, COLSA presents their 13th Annual COLSA Undergraduate Research Conference on May 1st. Let's show our support for our undergraduate researchers by supporting both of these fine events.

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One sure sign of spring at UNH is when the Jackson Lab docks go back onto Great Bay. Our relatively snow-less winter meant the docks were launched earlier than usual this year on March 16 giving Marine Program researchers a good jump on their field activities. With our growing fleet of small boats, a new float section will be added this summer to accommodate two additional 18 foot boats.

## Sharon Meeker Retires

It was a standing-room-only crowd that gathered at the New England Center to honor **Sharon Meeker** for her dedication and services to UNH, New Hampshire, its coastlines, its oceans and its people. Best Wishes Sharon!



## Marine Program Pot-Pourri

Congratulations to **Jessica Bolker** and Peter Bixby on the birth of their daughter Eleanor Joy Bixby Bolker! Eleanor arrived March 29<sup>th</sup> at 10:30 am weighing in at 7 lbs 14 oz, and 21.75 inches long! Eleanor was welcomed home by big brother Solomon. Our best wishes to the whole family!

Congratulations also go out to **Darren Scopel** and his wife, Melinda, on the birth of their daughter Maia, born on April 8th and weighing in at 6 lbs 14 oz. Darren is a graduate student in Win Watson's lab. It's already been established that Maia is unlike Darren in one way - she arrived early! Congratulations!

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Jon Pennock has gone global. He was recently interviewed by Kristin Kusek, contributing writer to the Marine Scientist Journal published in the UK. This interview, "*Solving Coastal Problems from the Granite State*" was printed in late 2003. You can read the article at <http://marine.unh.edu/SCINo5p26-27.pdf>.

Beyond New Hampshire

Liz Kintzing, Diving Safety Officer and student **Becca Toppin** recently returned from the American Academy of Underwater Sciences Annual Symposium held at the University of California Long Beach campus.

WHOI has taken delivery of their new research vessel, the R/V Tioga, designed by [Roger Long Marine Architect Inc.](#), and built by Gladding Hearn Shipbuilding. The R/V Tioga design was inspired by our own R/V Gulf Challenger and is the third "Challenger" class research vessel designed by Roger Long.



To operate their new vessel, WHOI has hired a new captain – **Ken Houtler**, former first mate of the Gulf Challenger!

Student News

Cathy Bozek, a recent graduate of JEL and the Department of Natural Resources, has recently been awarded a Fulbright Scholarship to travel to South Korea for 15 months and teach English in high school. Cathy came to UNH from working on an educational sea-going

tall ship in Connecticut and last month she returned to working on another tall ship teaching marine and estuarine science to school children in Delaware Bay. But in August, she will be heading to an exciting teaching experience in Korea.

While a MS student, Cathy seized opportunities to teach students about salt marshes and to help them restore vegetation to damaged marshes. Her thesis examined the impacts of seawalls on marsh structure and function in Great Bay. She found that the walls displaced a diverse plant community and prevented the landward migration of the marsh that normally occurs with sea level rise.

Each year, the Fulbright U.S. Student Program awards grants to exceptional students from across the U.S. for study in over 120 countries. Recipients include students from all fields of studies who will have earned a bachelor's degree by the start of the award year, and who wish to spend a year studying, conducting research and/or teaching English abroad.

The next competition is scheduled for fall 2004 and will provide scholarships for post-baccalaureate study abroad in 2005-2006. **The campus deadline is September 27, 2004.** Interested students should begin work with Fulbright advisor Sheila McCurdy, Hood House 224, by mid-April 2004.

SPOTLIGHT ON RESEARCH

Oyster Research at Jackson Estuarine Laboratory

Contributed by Ray Grizzle

Scientists at Jackson Estuarine Laboratory have been involved with a variety of research on the eastern oyster, *Crassostrea virginica*. This reef-forming bivalve mollusk is an important component of the Great Bay Estuary/Piscataqua River ecosystem and it has provided a valuable fishery for the citizens of New Hampshire for centuries. However, oyster populations have been in dramatic decline, with overall abundances decreasing by more than 90% in the last 10 years according to NH Fish and Game Department estimates. A disease-causing pathogenic protozoan, *Haplosporidium nelsoni*, or MSX, appears to be the major cause. **Ray Grizzle's** laboratory recently received a grant from the NH Estuaries Project for a 2-year study that will hopefully yield new information on how to restore this valuable resource.

A major restoration technique involves constructing new reef areas consisting of a rock or shell base, then spreading a thin outer layer of small oysters called "spat" that have been set on suitable substrate (see photo below). The setting process involves purchasing larvae from a hatchery, putting them in large tanks filled with seawater and containing suitable substrate, and allowing them to settle onto the substrate where they attach and begin to grow. They are usually kept in a nursery area for a few months until they can grow to a size less vulnerable to predators, then spread onto the constructed reefs.

The 2-year study will be a large field experiment that involves constructing experimental scale oyster reefs in two different structural arrangements. It will provide a test of an ecological concept termed SLOSS (Single Large Or Several Small) which is relevant to the design of restoration projects for many kinds of natural habitats. For oyster reefs, the differences between arranging constructed reefs as a single, large structure or several small structures at least theoretically can be dramatic, particularly affecting food transport rates. Variables such as food transport, reproduction success, and other factors affecting long-term growth and survival of the oysters, will be measured on the experimental reefs.

The new project is related to a National Estuarine Research Reserve graduate fellowship that **Jenn Greene** was awarded last year for a field experiment testing different spat densities and substrate types on the success of constructed reefs. Together, these two projects are designed to provide sufficient information for the State to begin full-scale restoration projects to meet the very challenging goal of constructing 20 acres of restored oyster reefs by 2010.

Picture below: Rock material with many small oyster spat attached, after about 1 month on a nursery raft.

