

Saltwater News

A Monthly Newsletter for UNH Marine Program Faculty, Staff and Students
October 2002, Volume 1, Number 3

From The Director

If you have not sensed it yet, these are exciting times for marine sciences at the University of New Hampshire! Despite fairly extreme economic challenges for higher education throughout the country, and to a lesser extent at UNH, we have been able to move forward on several fronts. For example, there are several ongoing searches for new marine science faculty to join our ranks (a joint Earth Science/EOS tenure-track position in oceanography and a research faculty position in ocean observing); we are in the planning and design stages for the new Marine Laboratory and Pier in New Castle; we are initiating a new graduate fellowship program, and our extramural support for marine research at UNH has grown to over \$20M annually. While there are many challenges ahead, we are clearly at a point where our marine activities can become better integrated and new opportunities generated.

While I'm an optimist by nature, my current enthusiasm is based on the continued success of our faculty and students, the growth of cutting edge new programs and centers of excellence, and strong administrative support for us to elevate our marine education, research and outreach to new heights. Initial confirmation of this support can be seen in President **Ann Hart's** recent State of the University address where our marine programs were used to highlight the linkages between cutting-edge research and core educational strengths at UNH. Similarly, **Larry Mayer** and I were recently asked to use our marine programs as the example of how UNH links research an education in a presentation to USNH Chancellor **Steven Reno** and his senior staff during their annual site visit to UNH. These may seem like minor events, but the message that they provide is that your efforts have been noticed and that marine sciences is 'on the radar screen' of the university.

Over the upcoming months we will be undertaking a strategic planning process to help shape the Marine Program so that we will be able to take advantage of these opportunities and become an even stronger and better integrated program. More details will follow over the next few months but I encourage you to begin thinking about your vision for our program and become an active participant as we move into and through this process.

- Jonathan Pennock

Congratulations!

Janet Campbell was recently appointed Director of the Center of Excellence in Coastal Ocean Observation and Analysis (COOA) by EOS Director, **Berrien Moore**. Congratulations Janet!

In the News

A Channel 6 (WCSH) news crew from Portland, Maine accompanied **Stacia Sower** on her latest hagfish sampling trip. The trip was featured on their 6PM news on Thursday, September 19th. In addition to a successful sampling effort, those on board were treated to an unexpected surprise when they encountered a pod of about 200 dolphins that stayed around the boat during the hour that the hagfish traps were on the bottom. A terrific day was had by all!

Congratulations to **Jeff Runge** and his GLOBEC colleagues on the selection of their recent article on the marine food web as the cover story in the September 26 issue of the journal *Nature*. Their research tested the findings of recent laboratory experiments that had suggested that copepods feeding exclusively on diatoms (the classic marine food web) can produce eggs that don't hatch, at least partially as a result of anti-cell growth compounds in diatoms that can inhibit hatching success. In the *Nature* paper, the authors used field data to show that the original conception of the classic planktonic food web – diatoms get eaten by copepods which get eaten by fish larvae – still holds, although unexplained differences between laboratory and field results remain.

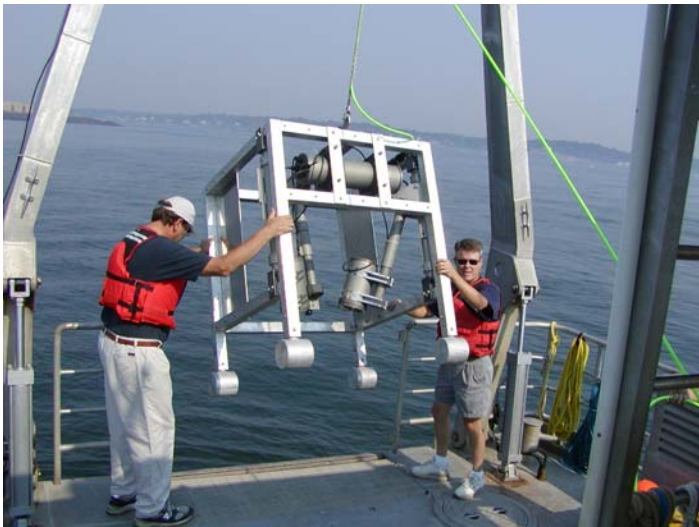


2002-03 Hubbard Grants

As a result of an unanticipated reduction in revenue from the Hubbard Endowment this fiscal year, it is extremely unlikely that we will be able to issue a call for Hubbard Marine Research and Infrastructure Awards this coming spring. Please plan accordingly. We are sorry for any inconvenience that this might cause for you and your students.

In-Depth With The WGOMCA

In 1997, the Western Gulf of Maine Closure Area (WGOMCA) was closed to harvesting of ground fish year-round. This area, which is approximately 20 miles wide (east-west) and 70 miles long (north-south), is located 20 miles off the southern Maine, New Hampshire and northern Massachusetts coasts and includes much of Jeffrey's Ledge. It represents one of the largest closures in the United States designed to provide protection for habitat and help in the recovery of over-fished species. The area is an important feeding and spawning ground for many fish species and has been a primary fishing area for cod, other gadids, and flatfish for centuries. To date, analysis of the closed area has been relatively simplistic and limited in duration, focusing mainly on the expected reduction in harvest rate for the managed fish species given displacement of fishing effort from the areas of high abundance.



Ray Grizzle testing a new camera system that will be used to map the WGOMCA

Ray Grizzle, Larry Ward, Larry Mayer, Michael Lesser and associated colleagues recently initiated a comprehensive mapping project that will contribute to assessment of the ecological effects of the WGOMCA in the long-term. The project involves collection of new field data as well as relevant existing data that will begin to provide an ecosystem-level understanding of the closure. It will focus on the production of detailed maps and characterization of primary production and bottom habitat characteristics. The first two years will only result in mapping approximately 10% of the total closure area (plus some amount of adjacent areas), representing about 150 mi² of bottom area. This effort will provide not only a better understanding of the ecology of the area but also

allow a realistic estimate of what will be needed to map the entire area.

The project will involve satellite remote sensing of primary production, multibeam acoustic mapping of the seafloor, videographic mapping of the seafloor, and core sampling of sediments and benthos. To date, the project has involved two fishermen, Craig Mavrikis and Pete Kendall, deploying a box corer to collect sediment and benthic invertebrate samples. A new underwater video system is being tested at UNH's open ocean aquaculture demonstration site and will be used later this year in the WGOMCA.

Shoals Marine Laboratory

Another successful year complete, the Shoals Marine Lab (SML) is now closed for the winter. This summer 170 students attended SML courses ranging from Field Marine Science to Field Ornithology to the REU program. UNH students represented 11% of the total enrollment, down from an average UNH participation of ~17% in recent years. While specific reasons for the decline are unknown, the sputtering economy, ever increasing summer opportunities for students and non-aggressive promotion of the great opportunities at SML are likely contributors.

Jessica Bolker, Associate Professor of Zoology and Associate Director of SML is now leading the promotion of the SML program here on campus. It is her goal to get the UNH student enrollment back to where it has been in the past by better integrating SML courses into the UNH curriculum and introducing students to the exceptional opportunities available for UNH students at SML. As part of this effort, COLSA and the Marine Program funded a trip on the R/V Gulf Challenger to SML last month for 30 new students. Additional field trips and open sessions where students can talk with SML alumni are planned.

Jessica has also found out that while expense is a uniform concern for students (and their parents!) few students are aware that over \$30K in financial aid was available specifically for UNH students to attend SML in 2002. The awards were broken down to \$250 dollars per credit hour, which covered about 43% of the total tuition for the students applying for aid. Opportunities to work on the island are also offered to students, who can earn up to \$250 per week for six weeks.

UNH students who attended classes this summer were: Adam, Frantz, Amy Van Cise, Elia Heath-Antonelli, Erin Collings, Heather McRae, Colleen Boyd, Jennifer Smith, Benjamin Winslow, Alison Acosta Oakes, Mary Stetson, Sarah Mikulak, Trevor Frederickson, Brian Hooper,

Rachel Neild, Jessica Knox, Kevin Haney, and Lance Hayes. Field Marine Science alumni from 2002 had nothing but positive remarks about the SML program. For Brian Hooper, a sophomore biology major, “SML was the educational experience of a lifetime. I learned more in four weeks than I would in a full semester of a similar lecture class.”

Adam Frantz, a senior, was the first UNH student to ever receive an REU research internship at the lab.

Sea Grant News

Sharon Meeker reports that there are 24 new Docent candidates this year. These 24 individuals will have attended educational training sessions twice a week for about the five months before they join ranks with our current Docents – swelling that number to almost 175! But the learning doesn’t stop for any of the docents after the training sessions. During monthly general meetings, Docents are treated to a variety of opportunities to learn more. At their last meeting, **Jeff Runge** of the UNH Northeast Consortium spoke on plankton-fish relationships, enhancing both the Docents own interests as well as helping them to meet one of their goals – acting as a bridge between marine research and the general public.

Many thanks go to volunteers from our Great Bay Coast Watch program who participated in the United Way of the Greater Seacoast’s Day of Caring and the New Hampshire Coastal Clean-Up. **Ann Reid**, coordinator of this volunteer group, led the way. The benefits of this activity are two fold. Not only do the volunteers remove debris cleaning up our coast, they also keep records of what is found. This information is used to track sources of coastal debris. Looking for more information on this group? Call Ann Reid at 749-1565 or email her at ann.reid@unh.edu. This Great Bay Coast Watch program is supported by N. H. Sea Grant and UNH Cooperative Extension.

Student News

Mechanical Engineering students **William Gillard**, **Kevin Soucey**, and **Beccie Conrad** spent the early spring and summer working on a project brought to UNH by former student John Pavlos (MS ’98). John, now employed by Electric Boat Company, challenged the students to construct a 15 foot by 16 inch diameter tube with variable weight and buoyancy and design and implement a method of testing motion instrumentation and stabilization techniques of this capsule in the water. This capsule design will ultimately be part of a deployment package used by Navy submarines. Part of this project involved looking at capsule stabilization while at the sea surface.

Currently, the students are preparing their final report of their summer research. During the academic year, the students will test the capsule at sea and analyze the data from the instrumentation to determine capsule motion in various sea states as part of a Tech 797 student project funded by Sea Grant and the Marine Program.

When their project is deployed in conjunction with **David Fredriksson’s** Wave Energy Buoy attached to the Open Ocean Aquaculture project, they will be able to simultaneously compare the stability of the capsule with the wave field in the open Gulf of Maine. Faculty advisors of this project are **Lloyd Huff**, CCOM, and **Barbaros Celikkol**, Ocean Engineering.

Beyond New Hampshire

Jonathan Pennock, **Rich Langan**, **Dwight Trueblood** and **Steve Jones** attended a National Eutrophication Working Group Meeting in Silver Spring, MD. It is hoped that this meeting will serve as a stimulus for a new National Estuarine Eutrophication Assessment following up on the first report in 1999.

Steve Jones recently attended a meeting of the Gulf of Maine Council Working Group in St. Andrews, NB. This group meets four times a year to provide a venue for U.S. – Canadian interactions on issues related to the Gulf.

Janet Campbell, our UNH representative to GoMOOS (Gulf of Maine Ocean Observing System) attended the 1st Annual Meeting on September 26th in Portland.

Marine Program Pot-Pouri

Bursting at the seams after just 3 years, the **Center for Coastal and Ocean Mapping (CCOM)** will be expanding to the second floor of the Chase Ocean Engineering Lab in the near future. This space, previously occupied by the IOL (Interoperability Lab), will nearly double the current space supporting CCOM/JHC activities.

Thanks to everyone who participated or contributed to the reception held on September 18th honoring **Jane Audet**. Jane was thrilled to see so many friends and is most appreciative with our gift of a UNH Rocking Chair. This is the same chair that is given to employees who reach 25 years of employment at UNH. Although Jane only made it to 22 years, it was stated by a colleague at the party that if you count all of Jane’s “work-through-lunches” and many long hours after 4:30, she would have far surpassed the 25 year mark! Heartfelt thanks go out to Jane for all her loyalty, dedication and hard work over the past two decades!