

Saltwater News

A Monthly Newsletter for UNH Marine Program Faculty, Staff and Students
May-June 2008, Volume 7, Number 4

Farewell to Paul Pelletier

A gentle man, a quiet dry sense of humor, a rock to those he has helped while aboard the “vessel”, a source of confidence in the worst of weather, a good friend and one of UNH’s most successful ocean-going advocates for the Marine Program - these were only some of the wonderful things said about **Paul Pelletier** as colleagues, friends and family gathered to wish Paul success in his retirement and to pay tribute to his 30 year career as Marine Operations



Manager and Captain of the UNH R/V Gulf Challenger. Of the many people gathered for this standing room only celebration, one guest was **Ned MacIntosh**, UNH’s first Captain, Paul’s first supervisor, his teacher, mentor, colleague and friend. People came from around the state and some from beyond NH to honor Paul. While some people drove quite a distance to attend (**Jon Witman** from Rhode Island, **John Annala** from Maine and many others!), Ned perhaps came the furthest – he left his winter home in the Bahamas earlier than normal this year to surprise Paul.

Arriving guests were welcomed to the Celtic music of **Tim Moore** and **Mike Levine** who volunteered their time and talent to provide a wonderful musical ambience.

Following gift presentations and a few speeches, **Chris Manning** provided another musical treat with his original piece – Ode to Captain Paul set to the tune of an old whaling song.



Jonathan Pennock presents **Paul Pelletier** with an antique chart of the Portsmouth Harbour entrance.



One of the many highlights of the event was a tremendous power point presentation put together by **Debbie** and husband Mark **Brewitt** showing scores of photos of Paul through his career aptly put to the music of Jimmy Buffet – most notably Buffet’s “Son of Son of a Sailor” song. Debbie is our First Mate and Relief Captain.



This photo shows the entire Marine Program “Captain” roster history. Ned MacIntosh (right) retired as UNH’s first research vessel captain and turned over the helm of the R/V Jere Chase to Paul Pelletier (center) as his successor. Bryan Soares (left) is now “at the helm” of the R/V Gulf Challenger following Paul’s retirement. As Ned did before him, Paul has passed on his knowledge and experience to Bryan as a mentor, teacher and friend. It is with great confidence that we welcome Bryan Soares to the position of Captain – Paul has left very large boots to fill – just as he, himself, had to do some 30 years earlier.

Farewell from Paul Pelletier

Dear Readers,

My retirement party was absolutely fantastic. I'm sorry some of you missed it. Thank you to Jon, Linda, and Jen for making it happen and for working so hard to get so many people who have been part of my history at UNH to attend. I wasn't nervous at all, because I was having so much fun!



What I will miss the most:

Working with UNH students, staff, and faculty; having the opportunity to meet and work with interesting people from all over the world, and being called upon to be creative in meeting their various needs.

The Open Ocean Aquaculture project which forced us to stretch our abilities and inventiveness.

What I will miss the least:

The Open Ocean Aquaculture project (Towing fish cages-see lobsterman quote under worst of times below). Worrying about breakdowns, injuries, accidents, etc., "engine room yoga," irregular and sometimes long hours, greeting spouse in the evening reeking of "Eau de diesel," complaints about our wake (Matt Pelletier: "Who made that wake?" – John Lang: "Your father."), Vivian fielding comments and complaints at home from users at which times she needed to remind them that she was Paul's wife NOT his secretary.

The best of times:

There were many "best days." Every day we met the needs of the user and they expressed their appreciation was a great day.

"I love the Gulf Challenger!" a quote from a Discovery Cruise participant.

Hearing the WHOI Marine Superintendent say about the Gulf Challenger: "This is a very successful boat." – and then having the world famous WHOI go on to build the Tioga and hire Ken Houtler to run her!

The worst of times:

The day a lobsterman said we ran over his gear: "I'll get you back at the dock, you son of a bitch!"

There were also some difficult times during the Great Upheaval, otherwise known as the Marine Program reorganization. For five or six years, I had a different boss each year. That did not contribute to good communication. 'Nuff said.'

Thanks:

Major thank you to Vivian who agreed with my irrational decision to chuck one career job before acquiring a new one. Thanks to my sons Guy and Matt who had to put up with Mr. Mom for over a year. Thanks to Captain McIntosh who hired me as his deck hand way back then, to Dr. Bob Corell who created the position of First Mate, allowing me to get my foot in the door, to Captain McIntosh again for retiring and recommending me for the position of Captain of the R/V Jere Chase, to Professor Gene Allmendinger for being a great advocate and Director of Marine Operations who showed me how a gentleman gets things done, to Paul Lavoie for his wit and way with words, for generally trying to keep all of us safe, and for literally saving my butt on at least one occasion, to Meriel for figuratively saving my butt many times (Thanks especially, Meriel, for learning to sign my name!), to Liz Kintzing for maintain the high degree of safety we have all come to expect in our diving operations and for remaining a good friend and dive buddy through the years, to Heather for maintaining her equanimity while performing the impossible task of trying to keep everyone on our schedule happy, to Linda for always being there to help and to answer stupid questions in her own charmingly humorous way, to Jon Pennock for being a truly great supervisor and responsive advocate, to Bryan and Debbie for making me look good in my declining years.

Favorite questions:

To me: "Does the anchor have to go all the way to the bottom every time?"

To Vivian: "is this Mrs. Chase?" (On the phone)

Cool things I've gotten to do because of my job:

Diving and seeing a BIG F____G shark at Jeffreys Ledge, two dives in Johnson Sea Link submersible (Thanks, Dr. Witman), diving at Cashes Ledge (Dr. Witman again), diving in Eastport Harbor (Thanks, Dr. Harris), observing wonderful wildlife such as whales, dolphins, eagles, whale sharks, seals diving with Poco the Beluga whale, traveling to marine research facilities around the world, and many more priceless experiences.

Thanks to Larry Harris and all the other great people I met along the way, in the Coast Guard, at UNH, and at

Normandeau Associates, who had a role in how my life turned out. I wouldn't change much.

Special thanks to all who contributed to the purchase of the wonderfully excessive gift certificate to Chesapeake Light Craft, and to the interesting antique chart of Portsmouth Harbor Entrance. The chart already hangs in a place of honor in our home, and the kayak will provide a challenging and rewarding winter project. Feel free to send in your suggestions for names for her.

Sincerely,
Paul

CICEET News

CICEET Awards \$2.8 Million to Improve Coastal Planning

Many of the environmental challenges along our nation's coasts begin with the decisions we make about how to use our land, yet many communities lack access to effective land use planning tools or the capacity to use them. To help address the challenges of development, the NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) has awarded \$2.8 million to project teams that are building and demonstrating tools for effective planning and sustainable growth.

Thirteen teams working in coastal states from Maine to Oregon have received grants as part of CICEET's Living Coasts Program, which was created to provide coastal areas with more effective tools to grow in a way that preserves water quality, protects natural areas and improves community resilience. Each project team is working with a committed community partner. By demonstrating the effectiveness of better tools for land use planning, and working to ensure they can be as widely used as possible, Living Coasts projects aim to reduce the problems that happen as a result of poor land use decisions.

Development pressure, combined with rising sea levels and more frequent extreme storms have made this a critical time for all organizations with a hand in managing coastal resources to find ways to work together to plan for the future. CICEET will expand the Living Coasts Program in the near future to include collaborative projects aimed at providing tools to help stabilize the shoreline, protect property, and promote healthy habitats along sheltered coasts.

Learn more at
http://ciceet.unh.edu/stats/living_coasts.html

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## **CICEET on the Road: Look us up at these events**

Lecture, June 3, 2008, GBNER, Greenland, New Hampshire

"Phosphorus Reduction for Septic Systems." Dr. Kevin Finneran, assistant professor of environmental engineering and science, University of Illinois, Urbana-Champaign, will discuss his CICEET-funded technology development project.

Learn more about the lecture >  
[http://ciceet.unh.edu/briefs/finneran\\_brief/](http://ciceet.unh.edu/briefs/finneran_brief/)

Coastal Society, June 29 – July 3, 2008, Redondo Beach, California

Coastal Society's 21st Biennial Conference, "Coastal Footprints: Minimizing Human Impacts, Maximizing Stewardship." Registration is now open at  
<http://www.thecoastalsociety.org/conference/tcs21/registration.html>

Learn more about the conference >  
<http://thecoastalsociety.org/conference/tcs21/index.html>

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Coastal technology development in your region

The UNH/NOAA Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) has posted spring 2008 progress reports for its environmental technology development projects online. These projects are dedicated to developing tools that help coastal communities be more resilient in the face of increasing development and climate change. The focus areas include improved tools for land use planning, habitat restoration and protection, and water quality monitoring. These reports, submitted by the projects' investigators, detail their progress in gathering data, meeting research objectives, reaching out to coastal management, and engaging the intended users of the tools they are developing. Browse projects in your area at

http://ciceet.unh.edu/news/releases/spring08_progress_reports/index.html

NHEP News

By **Dave Kellam**

New Hampshire Estuaries Project Receives \$25,000 to Enhance Watershed Planning in Maine

The New Hampshire Charitable Foundation – Piscataqua Region has made a \$25,000 contribution to the New Hampshire Estuaries Project (NHEP) to support the development of land use planning resources for 10 Maine communities located within the Great Bay Estuary watershed. This effort is part of the NHEP expansion into

Maine that will enhance natural resource management on a watershed-scale.

The funding from the New Hampshire Charitable Foundation will be used in part to produce detailed maps of impervious surfaces, such as roads and buildings, in the Maine communities of Acton, Berwick, Eliot, Kittery, Lebanon, North Berwick, Sanford, South Berwick, Wells, and York from 1990, 2000, and 2005. Impervious surfaces are an indicator of land use development that, if allowed to become extensive, will degrade water resources. These chronological maps will reveal development trends at a community and watershed scale. Armed with this information, local land use boards can better identify threats to areas that are critical to maintaining water quality and take action to protect these areas from encroaching development.

Since 1995, the NHEP has provided monitoring data, technical assistance, and outreach programs to 42 New Hampshire communities that are part of an estuary watershed. Administrative rules prevented the program from providing assistance outside of the state. This restriction was removed in 2005 when the University of New Hampshire began to administer the federally-funded program. At the end of 2007, the NHEP Management Committee voted to provide assistance to the Maine communities that comprise nearly 20% of the Great Bay Estuary watershed.

“The recent decision to include the Maine part of the watershed in our efforts was critical for achieving our mission of protecting and restoring estuaries in the seacoast region,” notes **Jennifer Hunter**, NHEP Director. “There’s a lot of good work being undertaken by communities and watershed organizations in southern Maine, and we’re looking forward to helping facilitate additional collaborative watershed projects,” said Hunter. The NHEP will invite representatives from Maine communities, agencies, conservation groups, and planning organizations to participate in the development of the NHEP’s next comprehensive management plan.

Celina Adams, Senior Program Officer with the NH Charitable Foundation, believes the expansion of the NHEP into Maine is an important step in managing shared water resources. Adams notes that, “For years the NHEP has provided data and support to New Hampshire communities so they could better protect local water resources. Water however is a shared resource in the region. It moves without regard to state boundaries therefore, The Charitable Foundation is pleased to assist the NHEP in its efforts to include Maine communities and to encourage cooperative management of regional resources.”

The NHEP is a collaborative program involving governmental agencies, universities, nonprofit organizations, businesses and the public to protect, enhance and monitor the environmental quality of the region’s coastal bays and rivers. The NHEP is funded in part by a grant from the U.S. Environmental Protection Agency, through an agreement with the University of New Hampshire. Learn more at www.nhep.unh.edu.

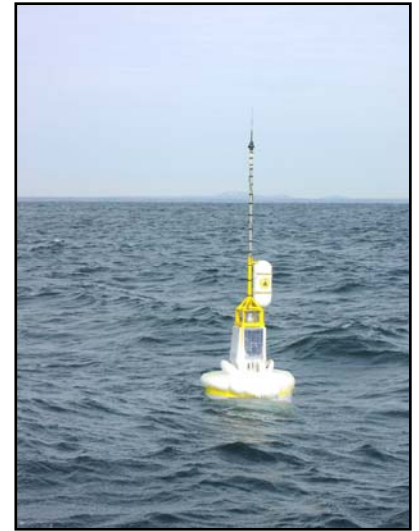
Sea Grant

By **Rebecca Zielber**

The end of an era?

For the past eight years, UNH’s Waverider buoy has made many trips to and from the University’s Open Ocean Aquaculture (OOA) site, remaining on station for three months at a time. It has managed to endure several strong Nor’easters with 45-foot waves and has fulfilled a unique role within the Marine Program. Its photograph has even graced the cover of the May 2004 Sea Technology magazine. However, its May 2008 trip back to the dock might have been its last, marking the end of an era.

The Waverider buoy, in all its blue and yellow glory, has been keeping tabs on the environmental conditions near the OOA site as part of the environmental monitoring effort required by state and federal regulators. The buoy is named for its ability to ride waves using its unique elastic mooring of bungee cords that allow the buoy to smoothly move up and down with the wave and without much rocking motion.



An accelerometer in the buoy measures the buoy motion to estimate wave statistics (height and period). Other sensors on the buoy and mooring line have made countless measurements of the water temperature, salinity, dissolved oxygen levels, chlorophyll A (a measure of primary productivity) and optical backscattering for suspended particulates.

The data has been used by various organizations, including the U.S. Geological Survey for modeling purposes and the state of Maine for weather forecasting.

“Years of data have shown that the OOA operation has had no adverse effects on the surrounding environment,” explains **Jim Irish**, UNH research professor in ocean engineering. “We have also learned a lot about ocean conditions and the climate in the Western Gulf of Maine. There’s a lot of interesting science going on out there.”



Jud DeCew, Stan Boduch, Shawn Shellito, and Jim Irish pulling up the environmental monitors attached to the waverider bouy (photo courtesy of Rebecca Zeiber)

In addition to this moored monitoring activity, research associate professor of earth sciences **Larry Ward** has been taking water samples and photos of the ocean bottom nearby and **Ray Grizzle**, research professor of zoology, has been collecting sediment cores. Neither has seen any adverse impacts from the OOA site.

It was very important to monitor the site’s impact closely, Irish explains. If the fish were fed too much, the excess food could drop to the ocean bottom and thus attract other organisms that wouldn’t normally be located at that site. Excessive waste products from the fish could also create problems such as large phytoplankton blooms. However, these impacts are more typical of large-scale aquaculture facilities located closer to shore, Irish explains. The wave action and currents at the OOA site, as well as the relatively small size of the facility, have probably been the factors that keep the area in good ecosystem health, he speculates.

Each buoy deployment has lasted about three months. Leaving the sensors out for longer periods of time usually leads to biofouling of the gear.

“Any time you put something into the ocean, you need to use the right materials,” Irish says. “It’s always a challenge, but it’s also very exciting.”

The future of the Waverider buoy depends entirely on funding. Currently it remains dry docked and there are no immediate plans to redeploy it, Irish says. Components of the system may be deployed at other sites as part of the ongoing research in the Western Gulf of Maine. But regardless of the funding availability for other

deployments, nearly a decade of service to the UNH Marine Program is certainly an achievement.

UNH CONFERENCE TO FOCUS ON MANAGING STORMWATER JUNE 12

Local decision-makers will have the opportunity to learn about ways to improve stormwater management in their communities at “Weathering the Storm: Managing Stormwater with Low Impact Development (LID) in Northern New England,” a conference at Great Bay Gallery in Somersworth on June 12, 2008, from 8 a.m. until 4 p.m.

As it flows over the ground, stormwater picks up materials that can contaminate the local waterway. This runoff is considered the leading source of water pollution. Traditional stormwater management collects and channels water through gutters and storm drains and shuttles it off-site into local water bodies, explains Julia Peterson, water resources extension specialist for NH Sea Grant.

LID is an approach to constructing and redeveloping land so that stormwater can be a potential asset. LID techniques filter stormwater through vegetation and allow it to infiltrate into the ground. Peterson says LID can be less demanding on town infrastructure, it can reduce water pollution and helps to recharge the groundwater.

LID may encompass better site design, such as making roads slightly narrower or minimizing land clearing as ways to decrease the amount of impervious surfaces and therefore polluted runoff. Construction elements like vegetated swales and pervious pavements can also be important aspects of LID.

This conference will help local municipal leaders, including planning boards, conservation commissions, city councils, town planners, regional planners, zoning and development boards and community leaders, learn about stormwater and LID. In addition to discussions about the importance of stormwater management and ways to implement LID, conference attendees will review site plans and will have an opportunity to visit the UNH Stormwater Treatment Center.

Cost of the conference is \$25 and it is part of a series of conferences offered in Northern New England. This conference is cosponsored by the Environmental Protection Agency, UNH Cooperative Extension, NH Sea Grant, the NH Coastal Program and the Cooperative State Research, Education and Extension Service. The planning committee for this event includes staff of the NH Coastal Program, NH Department of Environmental Services, NH Estuaries Project, Great Bay National Estuarine Research

Reserve, UNH Stormwater Center, NH Sea Grant, UNH Cooperative Extension, Strafford Regional Planning Commission, Town of Durham, Town of Exeter, Hodgson Brook Restoration Project, NH Natural Resource Outreach Coalition, and Altus Engineering.

For more information or to register for this conference, please visit www.fbenvironmental.com/lid.html.

Marine Program Potpourri

The 10th Annual Lamprey Appreciation Day! *Saturday, June 7, 10 am-3 pm*

The Fishways is celebrating the 10th year of this one-of-a-kind event. The Milford Fife and Drum Corps will kick off the festivities at 10 am with a parade down the hill, followed by an opening ceremony with special guest 'General John Stark'. Then presentations will run every half hour featuring live sea lamprey- the oldest and coolest fish in the Merrimack River. Discover the fascinating life and history of this 'sucker' fish. Get sucked into the fun and hold a live, three-foot long sea lamprey! No registration required.

Cost: \$3 per person or \$6 per family (parents & their own children under age 18)

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Congratulations go out to Thomas Gregory and his wife on the birth of their son, Lotus Maluhia Gregory on April 23<sup>rd</sup>. He was a whopping 9 lbs 11 oz!!! Tom works as a Research Scientist in OPAL.

## Students in the News

### **Congratulations TECH 797 Winners!!!**

For over thirty years, the Ocean Projects course (TECH 797) has brought undergraduate students together to address interdisciplinary problems in marine science and ocean engineering. Through sustained funding from the New Hampshire Sea Grant College Program and the Marine Program, TECH 797 requires students to work as members of interdisciplinary project teams on contemporary ocean-related problems under the guidance of a faculty adviser. Student teams define problems, prepare budgets, conduct literature surveys, engage in dialogue with experts in the community, deal with vendors, and ultimately design and build working engineering models that they must defend before a jury of experts. As has been the case in recent years, professors **Larry Harris** and **Rob Swift** served as co-instructors.

The winner's of this year's competition came from two groups; **Zachary Annino, Brian Campelia, Lindsay Coppa, Issam El Ayadi, Susan Gagliardi, Sara Lincoln, Robert O'Meara Jr., and Garrett Partridge** (picture below) for their project: "**Tidal Power Generation in the**

**Piscataqua River**" (Advisor Ken Baldwin and M.R. Swift),



and **Michael Allard, Colin Fischer, Tania Grindrod, Jessica Murray, and Kyle Russ** for their project: "**Wave Energy**" (Advisor Christopher White).



Pictures were taken at Libby's during the celebratory Banquet.

Congratulations to all of the students and faculty who contributed to another successful course this year!

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Congratulations go out to **Nora Beem**, a M.S. student of **Fred Short's** in Natural Resources (environmental conservation) who won the Dean's Award for Best Graduate Student Poster by the New England Estuarine Research Society for her poster entitled "**Eelgrass in the Great Bay Estuary: Population Growth, Eelgrass Decline, and the Need for Education.**"

Nora is currently working with local schools to bridge the gap between research at Jackson Lab and the public awareness within the community concerning the health of the Great Bay Estuary. The information provided through outreach events will be utilized by the students to create interpretive panels for the community.

Congratulations Nora!!!