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## Marine mission

### UNE Marine Science Dept. has new focus

By DINA MENDROS

Staff Writer

BIDDEFORD — A number of changes are afoot at the University of New England's Marine Science Department. The changes could mean help for Maine's fisheries and fishermen, and new research and career opportunities for students.

The new direction for the department was announced after the end of the spring semester. The university sent out a notice stating that new undergraduate programs were being developed in the marine science program "to meet growing demand and career opportunities."

Near the end of that statement, there was mention that the new development went hand and hand with the closure of the university's Marine Animal Rehabilitation Center, or MARC, where seals and other rescued marine mammals were nursed back to health. For many, including the media, that became the focus.

But now that the new school year is underway, faculty members and students are focused on the future and are excited by the changes taking place at the Marine Science Center, which first opened in 2001.

"The UNE leadership vision for marine programs is to educate the next generation of coastal leaders as informed citizens, stewards, scientists, business leaders and policymakers," said Marine Sciences Department Chair Dr. Barry Costa-Pierce in the spring.

To this end, new programs, new research opportunities and new courses are being developed.

One of these new opportunities, made possible by a grant received by the school, is five-year, \$640,000 award from the National Science Foundation. The funds will be used to launch Project TURBO, which stands for The Undergraduate Saco River Biodiversity Observatory.

Principal investigator of the project, Dr. Markus Frederich, assistant department chair of the Department of Marine Sciences, explains: "We will create a project-oriented learning experience using the local estu-

ary of the Saco River by developing new course modules, by stimulating undergraduate research projects, by founding an interdisciplinary and project-focused conference, and by implementing targeted faculty development. Project TURBO will lead to increased hands-on and interdisciplinary student learning, leading to increased student retention and persistence in the sciences."

A major objective of the marine science program, in its effort to create greater opportunities for students, is to become even more interdisciplinary. So students in the marine science program or taking classes in the department will learn not only about marine life, but may also be exposed to engineering, chemistry, mathematics and even business development.

"The sky's the limit," said UNE spokesman Nathan Towne. "We can involve a lot of students in a lot of departments."

The center has developed 11 "clusters" in which students can participate, such as green crab biology and management, steelhead trout aquaculture and microalgae-seaweed.

The former MARC area of the Marine Science Center, which took up about one-third of the building, has been repurposed. Instead of tanks of seals and sea turtles, there are tanks with steelhead trout, algae growing cylinders and other marine life.

One of the clusters that Associate Professor Dr. Jeri Fox is excited about is the aquaponics ecosystem using fish for plant nutrients. Students and faculty will construct, monitor and harvest an aquaponics ecosystem, she said.

Through this program, fish nutrients will be used to grow plants. Fox said her goal is grow lettuce, basil and other produce that will be used for meals on campus, as part of the edible campus initiative. This could be a growing industry in the future, said Fox, with UNE students trained to be on the cutting edge.

Assistant Research Scientist Adam St. Gelais is involved in the steelhead trout aquaculture cluster.



Dr. Carrie Byron, research assistant professor at the University of New England's Marine Science Center, regards fish swimming about in their tank Wednesday at the center's campus headquarters in Biddeford. Below: University of New England freshman Lee Spahr tackles a project at the center on Wednesday.

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Nathan Towne,  
UNE spokesman

Currently, he said, 15 students are involved in the cluster and the day-to-day process of maintaining the trout, which is providing them with valuable skills in commercial aquaculture.

They are learning engineering, water chemistry, data collection and gaining "a solid foundation for a wide breadth of experience," said St. Gelais.

Many of the clusters and much of the research being conducted in the marine science center is being informed by marine businesses, said Research Assistant Professor Dr. Carrie Byron.

For instance, someone locally who is in the oyster business is working with them on growing oysters, which are of the most



value to her.

In addition, a local company that makes acrylic aquariums is also working with the university.

And the school is developing its own projects, which they hope will help Maine's long heritage of the fishing industry stay viable as some of its more traditional catches dry up.

Some in the marine science department are studying spiny dogfish. There is a large European market for this underutilized resource, said Costa-

Pierce.

There are also opportunities to use marine resources in pharmaceutical, medical and other products.

To take advantage of faculty and student research, Costa-Pierce said he would like students to also take business classes as well. He sees UNE as developing a niche of training students to become marine entrepreneurs.

Many students say they're excited by the changes taking

place in the marine science program.

Previously, said Carolyn Wheeler, a senior from Clifton Park, New York, the program was limiting.

Now, "there's more variety," said Tracey Bauer, a graduate student from Chicago, which can lead to greater opportunities for students.

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