



Newsletter of the Friends of Hatfield Marine Science Center

## Summer of learning at HMSC

From day camps to college courses and internships, students take advantage of learning opportunities

Summer is a quiet time for many schools and colleges, including the OSU main campus in Corvallis. But the HMSC was abuzz with learning activity during June, July, and August of this year, with students of all ages participating in a variety of classes and internships.



Students brought a diversity of backgrounds and interests to the REU program this summer, and left with newly formed friendships and valuable research experience.

Eleven undergraduate students from across the U.S. were welcomed to Newport in the first week of June by HMSC faculty and lab mates who would serve as mentors to the students during summer-long research internships.

This is the third year in a row that HMSC has operated the National Science Foundation-funded Research Experience for Undergraduates (REU) program, with the goal of helping motivate and prepare students for graduate-level study and to pursue careers in marine science.

The students were selected from a highly competitive pool of applicants, and represented a broad range of interests and backgrounds. From El Paso to Berkeley, from New England to the Midwest and South, the students' colleges and hometowns were as diverse as their research interests. (See profile on Patrick Luke, below.)



Marine Science Day Camp at HMSC introduces children to nature's living laboratory on the mud flats of Yaquina Bay. Pictured above, Nathaniel Hannon, Jonathan Camacho, Liz Reyes and Lesly Beltran were able to participate in the Sea Grant day camp this summer thanks to the generous financial support of longtime Friend of HMSC John Sherman.

Local students were also able to take advantage of internships and work experiences offered by various research labs and the Visitor Center this summer. Michael Banks' marine fisheries genetics lab provided three Lincoln County high school students with hands-on learning experience and a close-up

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## Student profile: Patrick Luke

Patrick Luke grew up fishing trout and steelhead on the Umatilla and Columbia Rivers, continuing a tradition passed on by his father and earlier generations of his Native American family. Raised on the Umatilla Indian Reservation in the foothills of the Blue Mountains east of Pendleton, Oregon, Patrick learned how to can and smoke fish for the winter, and many other subsistence skills and practices of his cultural heritage.



Patrick also learned something else from his father: the importance of education. Although it was not part of his family's tradition, the idea of going to college was imprinted on Patrick. He would eventually heed his father's advice, but not right away. Coming out of high school in the early 1980s, Patrick joined the Marine Corps instead, ending up on Navy warships and a tour of duty in Beirut.

After getting out of the military, Patrick spent 10 years in Alaska, working on commercial fishing boats

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## Fishermen join OSU researchers in genetic testing of salmon

Scientists from the Coastal Oregon Marine Experiment Station (COMES) at HMSC are teaming with commercial fishermen on a new research effort to rapidly identify the home river basin of Chinook salmon found in the Pa-

cific Ocean using DNA analysis.

Their goal is to learn more about offshore schooling behavior and stock composition of salmon and ultimately to prevent coast-wide fishing closures. The closures aim to protect weak stocks like

those of the Klamath River basin that may constrain an otherwise healthy fishery.

Funded by a grant from the Oregon Watershed Enhancement Board, the Collaborative Research on Oregon Ocean Salmon (CROOS) project employs fishermen to take tissue samples and record other site-specific information about salmon catch. This allows each individual fish



Renee Bellinger, Lead Project Coordinator of Sampling, Genetic Analysis, and Interpretation for the CROOS project, presented information on the research initiative at the September 8th meeting of the Midcoast Watershed Council in Newport.

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## Notes from the Director

Planning for HMSC's future has been a focus of attention for many of us at HMSC over the past 8 months. We are undertaking a "master planning" exercise to identify our facilities and infrastructure needs support the next 10-15 years given the mission and vision identified in our strategic plan. The master plan will address many facets of the current layout of the HMSC, including traffic and pedestrian access, building layout and research facilities, landscaping, and how HMSC meshes with our South Beach neighborhood.

We are currently examining three different building projects at the HMSC. The Oregon Coast Community College Aquarium Science Building has been in the planning stage for some time and could break ground as early as next summer. Conceptual plans have also been completed for a "Youth and Family Education" building; considered as a cooperative venture with the Oregon Coast Aquarium, these plans are posted on the wall outside the double doors at the back of the Visitor Center. Finally, we are also working with an architect to develop conceptual plans for a "Marine Mammal/Marine Science" building that would house OSU's Marine Mammal Program and the marine genetics program at HMSC. While funding for these latter two buildings has not been secured, both play central roles in the future of the HMSC. You may hear about future solicitations for donor-based funding to bring them to reality.

This fall, in addition to our normal academic quarter of Fisheries and Wildlife courses, HMSC will play host to a University of Oregon class for one weekend. This Landscape Architecture studio class will also contribute to our master planning and is designed to develop a new look and feel for the landscaping in and around HMSC. When the class is here in late September, we'll be giving them lots of ideas to develop this plan.

Finally, we have also just completed a "rogues' gallery" with photos of all of the OSU staff at the HMSC on two posters. They is located on the wall outside the staff lounge directly behind the Visitor Center – you're welcome to stop by and take a look at the diverse OSU staff who work at the HMSC.



## Patrick Luke -- fulfilling a dream

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– crabbers, long-liners, and purse-seine salmon boats. He says he greatly enjoyed that experience, and looks back on it as immensely valuable for the field of study he is now pursuing.

Patrick is currently a student at OSU, majoring in Fisheries and Wildlife, and hopes one day to become a fisheries biologist.

Patrick landed one of the ten coveted spots in Research Experience for Undergraduates (REU) program at HMSC this summer, where he investigated migration patterns of ghost shrimp in Yaquina Bay, with a particular focus on seasonal differences in the quantity of late stage larvae found in tidal currents.

Working under the direction of faculty mentors Ted DeWitt (EPA), Brett Dumbauld (USDA-ARS), and Tony d'Andrea (OSU-COAS), Patrick conducted successful experiments and will likely present the results of his summer research project at the national ocean sciences meeting in 2007.

Patrick will have the opportunity to continue his research when he returns to

HMSC in late September as a student in residence for the Fisheries and Wildlife department's fall term Coastal Ecology program. He is looking forward to learning more about fisheries resource management issues, particularly as they apply to salmon recovery in the Pacific Northwest.

As an undergraduate, Patrick has been very active with Native American student groups at OSU and regionally, encouraging other students to pursue studies in the sciences and natural resource management. As a father, he encourages his own sons, seven and 11 years old, to do well in school so they can go to college. He has also taught them how to fish, and enjoys spending time with them on the Umatilla River, where the restoration of water flows have brought salmon back after decades of absence.

Already, Patrick is thinking about graduate school and his future career options. "I want to make a mark on the world," he says, and "be a part of a team that makes a difference."

He is talking about sustainability and habitat restoration – for fish and for people.

## Research notes



Rebecca Baldwin (left) and Kym Jacobson, researchers in the Cooperative Institute for Marine Resources Studies at HMSC, traveled to Scotland this summer to present at the International Congress of Parasitology Meeting in Glasgow.

Their research is focused on Pacific sardine populations in the Northern California Current, which have seen a dramatic increase since the late 1990s, and are being managed as a single stock spanning from southern California to British Columbia. Kym and Becca are investigating whether parasites found in sardines can serve as biological tags to differentiate between different stocks of the fish.

Becca's research and participation in the conference was supported in part by a Markham scholarship award which she received last spring.

## Summer of learning

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look at how DNA sampling techniques are helping scientists and fishery resource managers distinguish between endangered and healthy runs of salmon.



Students in the summer course on marine and estuarine invertebrates identify specimens collected in the field.

Students also came to HMSC for summer study, taking courses on marine mammal biology and conservation, marine and estuarine invertebrates, aquatic biological invasions, and other topics. They represented a wide range of majors and departments, including Marine Resource Management program (College of Oceanic and Atmospheric Sciences), Engineering, and Science and Mathematics Education (College of Science).

Class formats included traditional lectures, labs, field trips, collaborative learning and activities in the Visitor Center.

Special topic workshops were also among the HMSC course offerings this summer, including the popular two-day workshops, “Making a Living on the Estuary” (Native American traditional uses of natural resources), and “Writing about Sea and Shore” (creative non-fiction and poetry on marine themes).

Shawn Rowe taught a graduate class entitled “Understanding Free-Choice Learning for Education and Outreach”, designed to introduce students from a variety of science, education, and outreach backgrounds to the theoretical foundations and the last



Instructor Kim van Patten (center) and students in the “Aquatic Biological Invasions” summer course, led by John Chapman of HMSC (not pictured).

decade of research on self-motivated, out-of-school learning. The students were exposed to a variety of research and perspectives on psychological, physical, sociological, web- and place-based aspects of Free-Choice Learning research and theory.

## CROOS project

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to be “bar coded,” its genetic origin identified, and tracked.

This research project will help determine if genetic markers and information about salmon movements can be used to minimize harvest of “weak” salmon stocks such as the Klamath River Chinook while allowing harvest on other healthy stocks.

The answer will depend on where fish from different streams travel and feed, and whether they mix with other stocks or primarily associate with fish from their parent basin.

Implications of this work for future “in-season” management of salmon and other studies on climate, habitat etc. are the subject of growing interest among fisheries resource managers, not just in Oregon, but along the entire coast.

## Meet HMSC Volunteers

### Ken and Sue Nevar - a dynamic duo



Hatfield Marine Science Center volunteers come from a wide variety of educational backgrounds and have remarkable life experiences that help them relate marine science to thousands of visitors each year.

Ken and Sue Nevar have been volunteering at the Hatfield Marine Science Visitor Center since 1995 – just a month or so before the visitor center was closed for redesign. Despite the early hiatus during the renovation, the Nevars stuck with HMSC and have become valuable volunteers in the ensuing years.

Ken, who has been a fisherman/clammer/crabber since his childhood days along the New Jersey shore, shares his love of fishing with the aquarists by keeping them supplied with new animals for the center. Ken catches things like hermit crabs for touch tanks, feeder crabs for octopuses, and herring (coming soon) for the global tank. Ken is also a great resource for all those potential fisher-folks who arrive ready to ply the riches of the Central Oregon Coast, but unsure of where to go, how to do it, and how to cook it once it’s caught.

Sue, who has been married to Ken for 57 years, does not seem to share the same aptitude for fishing that her husband does. Instead she has a passion for octopuses. Many weekend afternoons she can be found at the octopus tank with her hand in the cold water encouraging reluctant visitors – young and old alike – to shake hands with our local cephalopod. Sue also has contributed to behind-the-scenes projects at HMSC by serving on a search committee to hire new visitor center employees.

Ken and Sue both graduated from Missouri University, where they met in a geology course. They must have been destined to meet in a course that was likely not required for either of them as Ken was a history major and Sue was in merchandising. Ken served four years as a Navy photographer -- before finishing high school. He began his professional life in advertising and retired 20 years ago as a regional manager for a company that made and sold chemicals for the electronic industry. In addition to raising four children, horses, goats, sheep and chickens, Sue once owned and operated a fabric store.

Besides volunteering at the HMSC, Ken and Sue find time for other interests. They take an annual road trip to the East Coast by way of Corvallis, Wisconsin, Minnesota, and New York in order to visit their children and families. They also continue to pursue hobbies – Ken fishes, of course, but also does woodworking,

which includes carving tiny fish. Sue does traditional rug-hooking using strips of wool fabric that she cuts and dyes. And guess what’s one of her favorite designs? Of course, an octopus!





**Hatfield Marine Science Center**  
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[www.hmsc.oregonstate.edu/friends](http://www.hmsc.oregonstate.edu/friends)

## Upcoming Events

### Fall Seminar Series

The HMSC seminar series features scientific lectures by visiting and resident scientists at HMSC. Seminars take place Thursdays from 3:30pm to 4:30pm in the Guin Library Seminar Room. Friends of HMSC are welcome to attend.

October 5 - **Bob Embley**, NOAA Vents Program Seminar: "Submarine Ring of Fire 2006 expedition to the Mariana arc"

October 12 - **Kevin Lafferty**, UC Santa Barbara Seminar topic: Parasites in marine ecosystems

October 19 - **Hatfield Graduate Students Mini-Symposium**: Abby McCarthy, Alena Pribyl, and Mattias Johansson (presentation titles TBA)

October 26 - **Joe Walder**, US Geological Survey, Cascades Volcano Observatory Seminar topic: Mount St. Helens

November 2 - **Jane Lubchenco**, OSU Distinguished Professor and Wayne and Gladys Valley Professor of Marine Biology Seminar: Millennium Ecosystem Assessment

November 9 - **Steve Parker**, Oregon Department of Fish and Wildlife Seminar: "Physiological ecology of catastrophic decompression in rockfishes"

November 16 - **Hatfield Graduate Students Mini-Symposium**: (presenters TBA)

### Can you canoe?

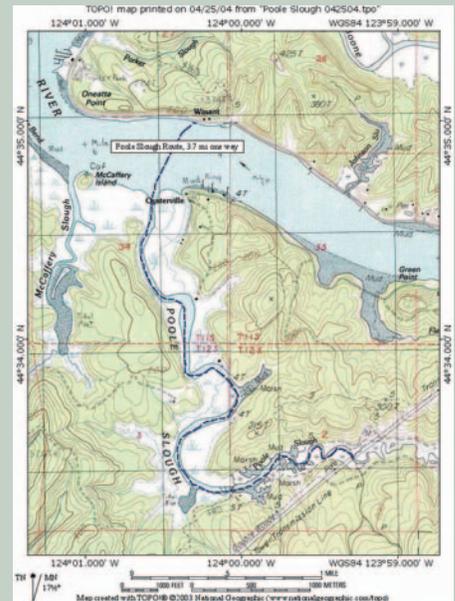
Fall paddle planned for Oct. 7

Visitors to Newport have numerous opportunities to enjoy beautiful vistas of Yaquina Bay, whether from the window of a car crossing the bay bridge, a window seat at the Rogue brewery. And of course, there are many outdoor spots where one can find a peaceful vantage point to take in the sights, sounds, and smells of nature, as on the HMSC estuary trail.

But there are other parts of the estuary that can only be reached by water, and fall is a wonderful time of year to explore lesser-known parts of the Yaquina system.

Friends of HMSC who have access to a canoe or kayak are invited to join an informal paddle on the middle part of the estuary to Poole Slough on **Saturday, October 7th, starting at 10 AM.**

The meeting point and put-in spot is on the north shore of the Yaquina River, just east of Oneatta Point along Yaquina



Bay Road (see map above). If you would like to participate, or for more information, please call Ken Hall at (541) 867-0234.

November 30 - **Krtistina McNyset**, US EPA, Western Ecology Division Seminar: "Predictive Ecological Niche Modeling in Aquatic Systems"

December 7 - **Francis Chan**, OSU Zoology Department Seminar: "The Dead Zone: Hypoxia in Oregon's coastal waters"

Thursday, December 14, 2006  
Open date (speaker TBA)

**Tuesday,  
October 24th**

10am - Visitor Cntr

*HMSC  
Distinguished  
Guest Lecture*

**Dr. Bob Petit**,  
Arizona State University

"Discovery and Clinical Development of Naturally Occurring Anti-Cancer Drugs"

