



# Seawords

October, 2001 • Volume XV • Number 9



## MOP Alumna Ku'ulei Rodgers Receives Major Award

by Lauren Collins

Ku'ulei Rodgers is a MOP graduate who hails from Waimanalo, Hawai'i.

Recently she was selected from over 500 applicants to be one of only five students to receive the first Nancy Foster Scholarship. Ku'ulei spent several years working as an ocean recreation specialist teaching drownproofing to public school children, and also as a marine mammal trainer at Sea Life Park.

She began her education in marine biology at Windward Community College, and continued her education by earning her Masters degree at the University of Hawai'i at Mānoa where she narrowed her focus to coral reef research. Her current Ph.D. work also focuses on coral reef research, specifically working to identify bioindicators that may serve as an early warning of coral reef decline.

Among her many academic awards and honors, Ku'ulei received the Anna Toy Ng Scholarship and a Sea Grant Summer Fellowship to study black pearls). She was also an NSF/Oceanography REU intern.

### ***What exactly are you working on right now and what are your goals with this scholarship?***

I have been employed at the Coral Reef Ecology Laboratory at the Hawai'i Institute of Marine Biology under the direction of Dr. Paul Jokiel for the past 9 years. Some of our recent research involves the Coral Reef Assessment and Monitoring Program (CRAMP) currently in its 4th year. We are currently recognized as the regional monitoring program in Hawai'i, providing the first integrated, statewide monitoring program. We

work in collaboration with government, state, and private organizations that are instrumental in overseeing the condition of our reefs. CRAMP is determined to describe changes in reefs over time, focusing on both global and local issues surrounding coral reefs.

My dissertation research integrates well with CRAMP's objectives. The primary goal of my research is to develop functional, defensible biological indicators that can accurately predict decline in coral reef conditions. Indicator organisms for coral reefs have been poorly researched, compared to those for freshwater and temperate marine environments. Identifying specific species or assemblages of organisms may provide an early warning signal of changing conditions and may detect adverse, anthropogenic impacts on coral reefs.

### ***The scholarship you received sounds like a dream come true...were you surprised when you found out that you had won?***

The Nancy Foster Scholarship is a prestigious honor to receive and came as a complete surprise. There were a lot of deserving applicants. I only hope I can help to perpetuate Dr. Foster's vision of science-based conservation and ocean stewardship.

### ***How has this enabled you to follow your dreams?***

The funding provided by this scholarship along with CRAMP's Hawai'i Coral Reef Initiative (HICRI)



**Congratulations to Ku'ulei Rodgers,  
2001 Nancy Foster Scholar**

grant will allow me to focus on this research full-time. It has helped provide the means to pursue my goals in a more timely and efficient manner.

### ***Where would you like to see yourself in the future?***

I have gained considerable knowledge and experience from the coral reef community and would like to make a substantial contribution in the coral reef field in the future. I would like to continue conducting research at the Coral Reef Ecology Lab after I complete my Ph.D. CRAMP is a long-term monitoring program that I believe is globally important, and I am committed to providing continued support. I am also interested in pursuing other research related to

***Continued on page 5***

## UH Mānoa MOP Events

October 8th	Thanksgiving (in Canada).
October 13th	Rainbow Days. High School recruitment. If you can volunteer for this event, please contact the UHM MOP office.
October 27th	Fieldtrip to Fish Auction and Longliner. Contact UHM MOP office for more information.
October 31st	Halloween.
November 3rd	Fieldtrip to the Maritime Center. Contact UHM MOP office for more information.
November 8th	Students admitted free to Oceans 2001 Exhibits and Student Poster Session. The conference is being held at the Hilton Hawaiian Village. See page 11 for conference information.
November 12th	Veterans' Day (Holiday)
November 17th	Fieldtrip to Clean Islands Council. Contact UHM MOP office for more information.
November 22nd	Thanksgiving (holiday).
November 23rd	Instructional holiday.
December 3rd to 14th	Spring 2002 regulation.
December 13th	Last Day of Classes.
December 17th to 21st	Final Exam Period.
December 21st	Oahu MOP Graduation.
December 23rd	Commencement.
December 25th	Christmas.
January 14th	First day of instruction.
January 21st	Martin Luther King, Jr. Day (holiday).

## Leeward CC MOP EVENTS

November 6th, 2001

Eric Hochberg, HIMB, *Coral reef remote sensing: from the sea floor to the space station.*

LCC MOP meets the first Tuesday of every month. All meetings are in MS 102 (note the new room) from 12:30 to 1:20. For more information contact Dr. Frank Stanton at 455-0286 or at <fstanton@hawaii.edu>.

## Windward CC MOP EVENTS

October 2nd, 2001

UH Scientific Diver Meeting, 12:30-1:30 Imiloa 122

Interested in getting Scuba Certified? Alan Hong will be talking about Scuba Certification, the different types of certification, and when his classes will be offered. Dave Pence will also be there to talk about being a UH Certified Scientific Diver. For more information, contact the WCC MOP office.

2

### Seawords

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**For more information on MOP events contact your local MOP office. Pre-registration is required for all field trips.**

## UPCOMING EVENTS AROUND HAWAII

### The American Fisheries Society Fisheries 2001 Symposium Thursday, November 1, 2001 830-1800 UH Mānoa, Campus Center

The state of fisheries at the end of the millenium will be assessed through reports on: Reef and shore fisheries, Aquarium fish harvesting, Coastal pelagic fisheries, Apex predators, Invertebrate fisheries, Innovative management options, Socio-economic analysis of resource users, Fishing gear analysis. For more information, contact Carol Stimson at e-mail <stimson@aloha.net>; phone: (808) 262-0789

### Future Flight Hawai'i Workshop and Displays

Any marine organization that would be interested in providing a workshop and/or display for the 2nd annual Onizuka science Day to be held on January 26, 2002, at UH Hilo, please contact Art Kimura, Program Director, Future Flight Hawai'i, Hawaii Space Grant College; web: <<http://www.higp.hawaii.edu/futureflight/>>, phone: (808) 934-7261.

### Kaho'olawe Island Reserve Commission (KIRC) Meeting

Please join us for a Public Information Meeting to learn more about the proposed new Administrative Rules for the Kaho'olawe Island Reserve. The meeting is scheduled for: October 18th, 2001 from 6:00 to 8:00 pm at Maui Waena Intermediate School, 795 Onehe'e Avenue, Kahului, Maui. KIRC will provide a brief presentation on the Hawaii Administrative Rules HAR 13-261, the proposed new rules for managing the Reserve including information on the integration of traditional Hawaiian approaches to resources management, access procedures, and fishing. Informational hand-outs will also be available. Questions and discussions welcome.

For more information, or to volunteer, please contact, Sam Whitcraft, Ocean Resources Manager, Kaho'olawe Island Reserve Commission, 811 Kolu St., #201, Wailuku, HI 96793; phone 243-5889; web page: <<http://www.state.hi.us/kirc/>>.

### Summer Field Course on Lanai

The web pages from the Summer 2001 field course on Lanai can be found at <<http://www2.hawaii.edu/mop/lanai2001intro.htm>>. Information for the 2002 field course can be found at <<http://www2.hawaii.edu/mop/gmahcp/mast2002.html>>. For more information, contact Hans Van Tilburg at <hkvant@hawaii.edu>.

### Looking for an old Textbook

Ed Bartholomew is looking for about 15-20 copies of *Marine Biology* by Huber and Castro (1st edition) for an ever-expanding marine science class at Lahainaluna High School. If anyone has extra or discarded copies of this 1991 text, please contact Ed at <edbarth@maui.net>.

### Waikiki Aquarium Educational Classes & Activities



Preregistration is required for all activities. Please call Mark Heckman or Carol Hopper in the Education Department for registration materials. Phone: 923-9741, Monday to Friday, 8:00 a.m.- 5:00 p.m. For more information on these events, visit the Waikiki Aquarium's web site at: <<http://www.waiaquarium.org>>.

### Evening Beach Walk

Friday, October 19, 5:30 to 7:00 p.m

Experience the natural history of waves, beaches, and Waikiki in this sunset stroll along the shoreline. Learn about the origins and changes of the Waikiki shoreline. For adults and families, minimum age 5 years, youngsters must be accompanied by an adult. Registration: \$6/adult, \$5/child.

### Beneath the Sea Overnight

Saturday, November 3, 7:00 pm to 8:00am

Study sea life while you sleep over at the Aquarium. In this new overnight, you'll enjoy marine life crafts, stories and fun educational activities, then dream about the ocean as you sleep among the exhibits. Minimum age 5 years; youngsters must be accompanied by an adult. Evening refreshments and continental breakfast included. Registration: \$25/adult, \$20/child.

### Small Fry

October 2nd to 30th, 8:30 to 10:00 or 10:30 to noon

November 7th to December 5th, 8:30 to 10:00 or 10:30 to noon  
In five weekly sessions for parents and their 1 to 3 year olds learn marine life through craft, song, movement and tour. Registration is \$70 for adult and child for all five sessions.

### Gifts from the Sea Workshop: Fish Printing & Seaweed Pressing

Sunday, November 4, 1:00 to 4:00 p.m.

Make personalized gifts from the sea this season. Try your hand at gyotaku – an oriental art form for “printing” real fish on paper or fabric. Press Hawai'i's beautiful and diverse seaweeds (limu) to create one of a kind cards, prints or other gifts. For adults and families, minimum age 8 years; youngsters must be accompanied by an adult. Registration: \$20/person, includes supplies.

### DLNR — Division of Aquatic Resources Brown Bag Lecture Series — noon to 1:00

**Drs. Bill Walsh, Leon Hallacher, et al.  
October 18, 2001**

*West Hawai'i Reef Fish Studies: Has Designation of No Aquarium Fish Harvest Areas Had an Effect?*

**Jennifer Smith  
November 15, 2001**

*Alien Algae on Hawai'i's Reefs, How Far Has it Spread?*

All Brown Bag Lectures take place at DLNR's Board Room, 1151 Punchbowl Street, Room 130. For more information contact Athline Clark at (808) 587-0099 or visit : <<http://www.state.hi.us/dlnr/dar/brownbag.htm>>



# Get the Drift and Bag It!

## September 15th, 2001

by Lauren Collins

On Saturday September 15th, UHM MOP joined hundreds of other people throughout the state of Hawai'i, as well as hundreds of thousands across the globe in the 2001 International Coastal Cleanup, otherwise known as Get the Drift and Bag It! in Hawai'i.

The University of Hawai'i Sea Grant College celebrates Get the Drift and Bag It! throughout the state of Hawaii every year. The International Coastal Cleanup is held the third Saturday in September.

MOP's designated area of cleanup was Makapu'u Beach. Headed by staff from Sea Life Park, the cleanup was a great success. When we first arrived at the beach, it was more than a bit disheartening to look at the extent of the trash that had accumulated. However, gathering into groups of about 4 people the bags and bags of trash were gathered in a matter of a few hours.

As each piece of refuse was collected, it was recorded on a data card. The tally of the accumulated results shines some light on the pollution problem. For the seventh consecutive year, the most frequently recorded item was, you guessed it, the plastic filter of cigarette butts! Lets give a round of applause to the smokers who contributed to the massive accumulation. Keep up the good work guys! Hawai'i's other most plentiful refuse items were bottles, food wrappers, paper and plastics — all recyclable.



A group of UHM MOP students collecting garbage along the beach at Makapu'u at the annual *Get the Drift and Bag It!* UHM MOP's participation in this event was organized by Suzy Cooper Alletto, the UHM MOP Student Coordinator.

Last year more than 844,000 volunteers in 73 countries covered over 20,700 miles and picked up 10,700,498 pieces of debris weighing over 13.5 million pounds. The data collected during the Cleanup also helps The Ocean Conservancy draw conclusions about sources of the marine debris such as whether it was introduced accidentally or whether it resulted from illegal or thoughtless actions.

The saddest part about the cleanup was seeing that this wasn't debris cast into the ocean by some careless sailors, or trash washed up from other countries. Rather, the vast majority came simply from people in Hawai'i who found it too demanding to find a trash can to throw their cigarette butts, beer bottles, and other trash into.

There was a positive side to the experience though. There was a visible difference on the beach once the cleanup was over. If people could continue to use trash cans for their garbage, then perhaps someday a beach cleanup wouldn't be necessary. Maybe someday....

The Hawaiian islands alone are home to more than 5,400 square miles of coral reef ecosystems. These ecosystems are home to over 5,000 marine plants and animals, of which a quarter are found nowhere else on earth. Sea Grant scientists estimate that debris intake or entanglement affects 43% of all marine mammal species throughout the world. Wildlife often pay a heavy price when they encounter debris the water. Birds, seals, sea lions, sharks, snakes, turtles, snakes, dogs, skunks, even fish are affected.

### Hawai'i's "Dirty Dozen" of picked-up debris items are:

1. cigarette butts	53,892
2. plastic bottles	19,022
3. glass pieces	17,222
4. glass beverage bottles	10,655
5. paper pieces	9,079
6. food bags/ wrappers (plastic)	8,849
7. other plastic items	8,591
8. foamed plastic pieces	8,462
9. beverage cans	7,980
10. caps, lids (plastic)	7,613
11. beverage bottles (plastic)	6,122
12. bottle caps (metal)	5,221
<b>Dirty Dozen Total:</b>	<b>162, 718</b>

source: <[http://www.soest.hawaii.edu/SEAGRANT/get\\_the\\_drift\\_poster.html](http://www.soest.hawaii.edu/SEAGRANT/get_the_drift_poster.html)>

# Ku'ulei Rodgers

*continued from page 1*

mentors and close friends, Drs. Fenny Cox, Paul Jokiel and Sherwood Maynard, without whom none of this would have been possible.

### ***Any words of advice/encouragement for MOPers and other students alike?***

In 1992, returning to WCC as a non-traditional student, aspiring to be a marine biologist was utterly absurd for me. I thought my age and background would never allow it, but there are people willing to help you overcome the hurdles, no matter how high. This 9th grade drop-out, who married at 16 would never have survived without the support of MOP and WCC/Manoa educators. Keep your vision alive and never deny your dreams.

coral reefs. Like many of the people I have worked with, I am dedicated to helping provide answers to assure a future for Hawai'i's reefs.

### ***What did you gain from your experiences with MOP?***

MOP has been highly instrumental in providing me with the resources, skills and experience to achieve my goals. It kept the interest of marine science alive for me in my early academic years through field trips, activities, classes, workshops, and symposiums. Through the dedication and caring of MOP personnel and students, I received guidance and was provided choices and career opportunities that led to my current status. The Quantitative Underwater Ecological Surveying Techniques Workshop (QUEST) opened the door to surveying and monitoring for me. With this training, employment opportunities through MOP soon surfaced, including Maui reef surveys with the Division of Aquatic

Resources (DAR). Serving as the MOP student coordinator under the direction of Dr. Dave Krupp at Windward CC increased my organizational skills. The financial support from MOP stipends and student employment provided the freedom to pursue academic goals. MOP employment and experience led to survey positions, environmental assessment contracts, and scientific journal publications.

I can't stress enough what a solid foundation MOP has provided and how important a role it has played in my career and my academic and personal life.

MOP and the Coral Reef Ecology Lab provided me with the opportunity and training to fulfill my dreams of becoming a marine scientist, an elusive dream I never thought possible less than a decade ago but I didn't get here on my own. Many people contributed substantially on my journey but I would like to recognize my most instrumental

The Nancy Foster Scholarship was a means of honoring the life of Dr. Nancy Foster, who was a key person in NOAA (National Oceanic and Atmospheric Administration) until her unfortunate death from cancer last year. The scholarship is administered through NOAA's National Ocean Service and is funded annually with 1% of the amount appropriated each year to carry out the National Marine Sanctuaries Act.

The Dr. Nancy Foster Scholarship Program provides support for outstanding scholarship and encourages independent graduate-level research in oceanography, marine biology, or maritime archaeology, particularly by women and members of minority groups. For the 2001-2002 academic year, Dr. Nancy Foster Scholarships provide

support of up to \$28,800: a 12-month stipend of \$16,800, in addition to an annual cost-of-education allowance of up to \$12,000. A maximum of \$57,600 may be provided to masters students (up to two years of support) and up to \$115,200 may be provided to doctoral students (up to four years of support).

This annual stipend is paid directly to the scholar. For periods lasting less than 12 months, stipends will be prorated. The stipend is not intended to be used as a research grant. NOAA anticipates the student and their faculty advisor will secure research funds independent of the scholarship. Those eligible to apply are United States citizens currently pursuing or intending to pursue a masters or doctoral level degree in oceanography, marine biology, or

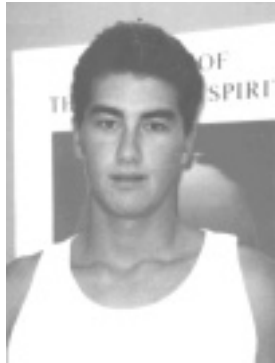
maritime archaeology, including the curation, preservation, and display of maritime artifacts. Studies must be conducted on a full-time basis. Additional eligibility requirements that must be met before the release of funds are acceptance to an institution in the U.S. with an accredited program in the areas described above, and certification by that institution that the award recipient will adhere to a detailed plan of study with approved research. Recipients of scholarship awards may be employed at the time of the award if it is a requirement of their degree program or directly related to their research effort. Other forms of employment will not be allowed and scholars will be required to submit a letter certifying that they meet this requirement. Eligibility must be maintained for each succeeding year of support and annual reporting requirements will apply.

**For the details of the 2002 applications, visit the web site at: <<http://fosterscholars.noaa.gov>>, or e-mail the Dr. Nancy Foster Scholarship program at <[fosterscholars@noaa.gov](mailto:fosterscholars@noaa.gov)>.**

# Welcome New UHM MOPers!

by Suzy Cooper Alletto, UH Mānoa Student Coordinator

UH Mānoa campus would like to welcome and introduce its newest MOP students. We had a successful turnout at our Fall Orientation on August 30th and have added sixteen new faces to our program.



**Kyle Chun**

Kyle Chun, a Biology major, is a Leilehua High School graduate from Wahiawa. Some of his marine activities include fishing, SCUBA diving, surfing, sailing, and canoeing. Kyle has also worked as a Honolulu lifeguard.

Lauren Collins, a Travel Industry Management major from Fort Collins, CO is also one of our newest MOP staff. She is the assistant editor for *Seawords*. She is a volunteer at Hanauma Bay and is interested in conservation and ecotourism.

Danielle Derrick is a Business Management major from Oak Park, CA. She snorkels and would like to become SCUBA certified. She is looking to gain interesting experiences with the ocean.

Kristina Elson is an Elementary Education major from Sissonville, WV. She has been involved in the 2000 Whale Count and has volunteered at the Hawaiian Islands Humpback Whale National Marine Sanctuary.

Shannen Frederick is from Yankton, SD and interested in pre-med with hopes of going on to Medical School. She would like to learn more about marine life.

Keri Hill, a Biology major, is from Las Vegas, NV. She has been an exhibit guide at the National Aquarium in Baltimore, MD and is interested in marine mammal conservation. She hopes to

become SCUBA certified in the future.

Thomas Abbott is a Biology major from Green Bay, WI. He is hoping to gain hands-on experience with MOP. He is particularly interested in sharks and hopes to become SCUBA certified.

Andy Brenner, a Zoology and Spanish double major, is from Phoenix, AZ. He is looking to become SCUBA certified and has interest in working hands-on with marine mammals.

Kyle Chun, a Biology major,

Chuck Impastato is a Zoology major from LaGrange, IL. He is a SCUBA diver and hopes to pursue a marine-related career. Chuck is interested in studying the behavioral aspects of large marine animals such as whales, dolphins and sharks.

Nandina Jinnohara is an Environmental Science major from Springfield, VA. She has been involved with the Summer Ocean Studies Program at the Waikiki Aquarium. Nandina is interested in coral reef ecology /conservation as well as the implementation of artificial reefs.

Allison Manning, a Biology major, is from Baton Rouge, LA. She is SCUBA certified and is planning to become a UH Scientific Diver. Her interests include marine conservation and education through outreach programs.



**Jade Ellen Tillery**

Jade Ellen Tillery is a Political Science major from Tulsa, OK. She is interested in marine mammal research, particularly the behavioral aspects.

Emily Russo is a Communications major originally from Wailuku and schooled in Pohnpei, Federated States of Micronesia. She is interested in the human impacts on the marine environment such as overfishing. Emily also would like to become SCUBA certified.

Ryan Wuestewald, a Biology major, is from Yankton, SD. He is SCUBA certified and hopes to pursue a marine career which includes working with dolphins and whales.



**Emily Russo**



**Allison Manning**

For anyone who has only visited the Waikiki Aquarium during the day, going on a nighttime tour is a must. The Aquarium was mostly bathed in black, save the lighting from the glow of a few tanks. Near the entrance is one filled with corals that glow a multitude of iridescent florescent colors. The silence and absence of other people and their chatter also add to the eerie feeling.

Visiting the Aquarium at night gave me the opportunity to see the fish and other aquatic creatures in an environment I wouldn't have been able to see had I visited during the day. The Waikiki Aquarium's "Visit the Aquarium at Night" began at about 7:00 p.m..

We assembled in the Aquarium's classroom for a slide lecture and orientation in order to give us a better feel for what to be aware of once we were actually examining the tanks. This orientation was given by Aquarium staff member Mark Heckman. He talked to us about the different routines of the creatures that frequent the ocean waters around Hawai'i.

There are diurnal aquatic creatures — those that are awake and feed during the day, and nocturnal creatures — those awake at night; as well as the predators that often frequent the water at both dawn and dusk. This is when the most fish are in the open rushing out to feed, as well as rushing home to sleep. The predators take advantage of this confusion.

He also talked to us about some of the defense mechanisms of the fish, and showed us slides of how the color of some fish changes once it gets dark. He explained that we would be able to see the differences on our flashlight tour.

He also asked us to keep our eyes open for anything strange or interesting that we saw going on in the tanks. Since most of the time there is no Aquarium staff at night, the night tours are a way for the staff to get an idea about what is going on at the times when there is usually no one there to observe it.



**The Edge of the Reef exhibit, one of the areas explored at night at the Waikiki Aquarium's nighttime tour.**

Photo from the Waikiki Aquarium's website, which can be found at: <http://www.waquarium.org>.

# The Waikiki Aquarium at Night

by Lauren Collins

Before we began our tour, we were all given a piece of red cellophane that was placed around our flashlight, and held in place with a rubber band. The reason that we were asked to do this was because the fish are very sensitive to light and having the flashlight beam shine directly into their eyes blinds them and causes them to become frightened. In their frenzy, the fish can end up slamming into the glass. Fish get bruises too, just like humans. In some of tanks, which contained very light-sensitive fish, we were not allowed to even shine the red light in.

The predator tank was one of these. The sharks and fish were wide-awake and full of energy, swimming rapid circles around the tank. This tank was the most lit up, Mark saying that they need to, "see each other all the time". The glass gives them the impression of being about 20% bigger than usual. Mark shone his flashlight against the side of one of the fish, giving us a view of the vibrantly silver sheen of its scales.

We headed outside soon after that. At the Edge of the Reef exhibit we were asked to keep a lookout for any crabs that might be in the tank. The Edge of the Reef is a 7500-gallon outdoor exhibit that recreates a typical Hawaiian shoreline. In one of the pools live shingle urchins (*Colobocentrotus atratus*) and slate-pencil sea urchins. There are also crabs that have been found to be living in the tank as well. They are not supposed to be part of the display. However, crabs somehow have managed to get in to the pools; and, once they are big enough, begin munching on the urchins. They come out mainly at night. Since the Aquarium staff goes home at that time, it is often hard to make observations that are only possible at night.

The last tank we visited was one which holds the Waikiki Aquarium's two male monk seals. The two males were each on different ends of the enclosure, sleeping. Listening closely we were able to hear their breathing. Monk seals are not highly social animals, and in the wild they spend much of their time alone or spread out on the available beaches. They are also most active in the morning and evening, so they don't present much excitement in the later hours.

This exhibit concluded our tour and we were all given about a half an hour to wander around on our own and look at the tanks again at our leisure. We had a wrap up back in the classroom, and then all of us diurnal creatures went home to sleep in our beds.



# REU Student Symposium, 2001

by Lauren Collins

For the past 14 summers the Department of Oceanography and MOP at the University of Hawai'i at Mānoa have hosted a number of students for their Research Experiences for Undergraduates Program (REU). The Hawai'i REU program is funded by the National Science Foundation. It is one of its longest lived programs. Although it is uncertain whether there will be funding or not for a 15th summer next year, this summer's REU symposium showed the program's continuing success.

This summer's eight students and their projects were:

**Acoustic assessment of bottomfish stocks:  
Acoustic properties of non-target fish species**

Kristine Hiltunen – Texas A&M University at Galveston,  
Marine Biology

Faculty Mentor: Whitlow Au, HIMB

Graduate Student Mentor: Kelly Beniot Bird

Knowledge of what areas are important breeding grounds for bottomfish such as ehu, onaga, and opakapaka is needed in order to protect them from fishing, and determine what areas can be safely fished. Kristine participated in research to develop a non-lethal survey technique that uses sound waves. Each species of fish gives off a different kind of reflection, and so it is hoped that people will soon be able to go out into the open ocean,

shoot down a sound beam, and depending on what reflection comes back, tell the species, size and number of the fish being looked at.

**The role of the chaetognath *Sagitta enflata* in Kaneohe Bay: A comparison between pre- and post-sewage outfall diversion**

Anita Sederstrom –

Hawai'i Pacific University, Oceanography  
Faculty Mentor: Michael Landry, Oceanography  
Graduate Student Mentor: Rebecca Scheinberg

The primary goal of Anita's research was to determine if and how the role of *Sagitta enflata* has changed in Southern Kaneohe Bay through a comparison of pre- and post-sewage diversion. From 1940-1977, untreated sewage was released into Kaneohe Bay. The ecosystem of coastal waters holds an intricate food web relationship, all regulated by the phytoplankton abundance in the corresponding ecosystem. Anita found that the feeding patterns of *Sagitta enflata* were similar to studies done in the early 80s, with more prey items in their gut at night. The relationship between prey length and the number of prey in the gut of *Sagitta enflata* was not explicit showing a random pattern, while the length-width relationship showed the expected linear correlation.

**Biochemical cyclings of phosphorus in Ordy Pond, Oahu: The effect of natural and anthropogenic forcings on phosphorus levels in the water column and bottom sediments**

Ellen Shultz – Harvard, Earth and Planetary Sciences  
Faculty Mentor: Fred Mackenzie, Oceanography  
Graduate Student Mentor: Geoffrey Garrison

For her project, Ellen studied the phosphorus cycling in Ordy Pond, a small, brackish, anoxic pond near Barber's

REU students from Summer, 2001. From left to right:  
Lauren Kaupp,  
Lauren Crawford,  
Zachary Hallinan,  
Anita Sederstrom,  
Caleb Fasset,  
Lauren Rogers,  
Kristine Hiltunen, and  
Ellen Schultz.



Point, Oahu. The bottom sediments of the pond hold a remarkably complete and clear record of the past 10,000 years. Cores of these sediments have been taken and studied. Most noticeably, there was a shift in the type of sediment deposited around 150 years ago, which may correlate with the arrival of Europeans to the island and the introduction of cattle grazing to the area.

**Food web structure in an introduced habitat: The case of the Hawaiian mangroves**

Lauren Crawford – University of North Carolina-Wilmington, Marine Biology  
Faculty Mentor: Craig Smith, Oceanography  
Graduate Student Mentor: Amanda Demopoulos

Lauren studied mangrove communities on Molokai that were introduced in 1902. Specifically, she looked at one species, *Rhizophora mangle*, which has spread widely among the islands, and focused on different aspects of the communities to assess the positive and negative impacts that the mangroves are having on coastal habitats they have ‘invaded’. One result of the study was that animals were generally not feeding on the mangroves. The study also indicated that mangroves tended to take over the communities where they were introduced.

**Palatability of intertidal algae to *Colobocentrotus atratus* and effects of wave exposure on total phenolic content of a brown alga**

Zachary Hallinan – University of Pennsylvania, Chemistry/Biology  
Faculty Mentor: Celia Smith, Botany  
Graduate Student Mentor: Christopher Bird

Zach studied the effects of wave exposure on algal secondary metabolites in the shingle sea urchin to attempt to explain the distribution patterns of the urchins that live along wave exposure slopes, hypothesizing that it might be due to a food preference for a certain type of algae. The study was inconclusive, but offered insights into the observed distribution pattern of *Colobocentrotus atratus* along the rocky intertidal shores.

**Optimal median filtering, bathymetry, and constraints on geophysical models**

Caleb Fasset – Williams College, Astrophysics/Geosciences  
Faculty Mentor: Paul Wessel, G&G

Seafloor topography (or bathymetry) reflects a number of different geological processes. On the large scale, oceanic crust (or lithosphere) is usually found at a depth dependent on age, so that young crust recently formed at a mid-ocean ridge is shallower than older crust found farther from a ridge. Caleb examined median filtering techniques in detail and then examined the seamounts that were extracted from the background.

**Solubility of iron from atmospheric dust**

Lauren Kaupp – University of Maryland, Chemistry  
Faculty Mentor: Chris Measures, Oceanography  
Graduate Student Mentor: Toshiko Sato

Lauren looked at how dust depositions relate to glacial/interglacial periods, which may help scientists model and predict climate changes. She attempted to determine how to find the solubility, and develop a method that would allow her to measure the amount of Fe in atmospheric dust. The correlation of atmospheric carbon dioxide levels with atmospheric dust levels has led scientists to believe that there may be a causative relationship between atmospheric dust levels and ice ages.

**Using sediment traps to interpret a 10,000 year sedimentary record from Ordy Pond, Oahu.**

Lauren Rogers – Stanford, Earth Systems Science  
Faculty Mentor: Craig Glenn, G&G  
Graduate Student Mentor: Geoffrey Garrison

Lauren also studied Ordy Pond, attempting to understand what the sediments that have been accumulating at the bottom of the pond for the last 10,000 years could tell us. "Why are there more organisms at some times and not others? Why are there more of certain minerals at some times and not others?". She studied how the chemistry and sediments change throughout one year in order to correlate that with sediments from the past.

**Award to MOP Alumna**

At its annual award banquet on September 20th, the Hawai‘i Audubon Society bestowed its Environmental Journalism Award on MOP Alumna Susan Scott for her weekly “Ocean Watch” column in the *Honolulu Star-Bulletin* and for her books promoting awareness, appreciation and conservation of Hawai‘i’s unique environmental resources. Congratulations Susan!

**Correction for Dr. Hodgson’s Spring 2002 Midway Course**

The on-island cost of dorm and board is only \$500 (rather than the \$1000 reported in the last *Seawords*), so the total cost for tuition, airfare, and the on-island dorm will be about \$1300. For more information, contact Lynn Hodgson at <hodgson@hawaii.edu>



## EMPLOYMENT

### Manager, Thunder Bay National Marine Sanctuary

NOAA is seeking a manager for the Thunder Bay National Marine Sanctuary and Underwater Preserve in Alpena, Michigan. The manager will direct the sanctuary's cultural resource protection, education, research, and recreation enhancement programs. Job qualifications include experience in leadership and/or management; administration of an office; and knowledge of the management of historic shipwrecks. To view the vacancy announcement or to apply for the position, go to: <[www.jobs.doc.gov](http://www.jobs.doc.gov)>, select "Search", select "National Oceanic and Atmospheric Administration", and select announcement # HNOS01.049FRG. All applications must be made on-line. Closing date is October 18, 2001.

### Friends of He'eia State Park Part-time Program Coordinator

Enthusiastic self-starter who would like to learn how to direct, facilitate and lead field trips in Environmental Science. Responsible for program marketing, curriculum development, intern training & supervision, etc. This position is typically staffed by a graduate student in the natural sciences. Desirable qualifications include a Bachelors of Science degree with one plus year work experience; excellent oral & written communication skills; knowledge of Hawaiian ecosystems/culture; enjoys working with children and community members. Send resume to: Friends of He'eia State Park, P.O. Box 698, Kaneohe, HI 96744. No phone calls please!

### Turtle Stranding Response Team

A part-time student position is available to assist the National Marine Fisheries Service sea turtle biologists with after-hours and weekend response to sea turtle strandings on Oahu. The responder has a beeper while on duty. The responder must provide their own transportation. Training and all equipment for handling the turtles will be provided. Applications will be accepted until October 15th, 2001. For more information, contact the UHM MOP office at 956-8433 or Hans Van Tilburg at 956-2418; e-mail: <[hkvant@hawaii.edu](mailto:hkvant@hawaii.edu)>.

## VOLUNTEERING

### Field Sampling around Hawai'i

Chris Bird, a graduate student at the UHM Botany department, is investigating the intertidal habitat with a focus on urchins, ophi, and algae and their relationships to the physical environment. He is looking for volunteers from all the islands to assist with field sampling. Presently he expects to spend one week on each of the neighbor islands. If dependable student assistants can be identified, more frequent sampling is possible. These would be great projects for MOP students.

For more information, contact Chris at e-mail: <[cbird@hawaii.edu](mailto:cbird@hawaii.edu)>

### Hawksbill Turtle Volunteers Hawaii Volcanoes National Park

We are seeking volunteers to work during the nesting season, which extends to early December. The program entails nightly watches at remote backcountry beaches to observe nesting hawksbills and basking green sea turtles. Volunteers will monitor nesting activities, handle and tag turtles, rescue stranded hatchlings, excavate nests, record field data, and trap and euthanize introduced predators (mongooses, rats, feral cats) to protect turtle eggs and hatchlings. Dorm style housing and a food stipend will be provided. Additional (personal) funds will be needed to supplement the stipend. Please contact: Hawksbill Turtle Project, Hawai'i Volcanoes National Park, Resources Management Division, P.O. Box 52, Hawaii National Park, HI 96718; or call the Turtle Project at phone: (808) 985-6090, fax (808) 985-6029; e-mail <[havo\\_turtle\\_project@hps.gov](mailto:havo_turtle_project@hps.gov)>.

### Hawaiian Monk Seal Helminthology

Michael Kliks is looking for two to three students to help with our work on the Hawaiian Monk Seal Helminthology Survey and Data Base Project at the NMFS Kewalo Basic Research Lab. If interested, phone 988-7203 or e-mail <[mmkliks@hawaii.rr.com](mailto:mmkliks@hawaii.rr.com)>.

## INTERNSHIPS

### Annual Sanctuary Ocean Count

Intern will assist Sanctuary staff with special projects during whale season, especially the Annual Sanctuary Ocean Count. Other projects include: Ocean Users' Enforcement Workshops, Sanctuary Awareness Week, and various other outreach activities. Intern duties will consist primarily of administrative tasks in support of these projects. Internship based at Hawai'i Kai Sanctuary Office — own transportation desirable. Position runs from November 2001 to April 2002. The stipend is approximately \$500 per month. To apply, submit a letter of interest, and indicate whether you plan to use this project to meet the MOP Certificate requirement, include a resume, a transcript or list of relevant courses with grades and times completed, and names and contact information for two references. Applications are due October 12th, 2001. For more information, contact Christine Brammer at the Sanctuary Office — phone: 397-2651 or Dr. Sherwood Maynard at the UH Mānoa MOP office.

### Oceanic Institute Internship

Opportunities in research programs and other capacities. To apply, send proposal letter indicating program preference, available time, and if it is for school credit. Send your proposal to The Oceanic Institute, Attention Gary Karr, Training & Education Coordinator, Makapuu Point, 41-202 Kalaniana'ole Hwy, Waimanalo, HI 96795-1820; fax: 259-5971; e-mail:

<[gkarr@teligentmail.com](mailto:gkarr@teligentmail.com)>. For more information, visit the Oceanic Institute website at <<http://www.oceanicinstitute.org>>.

### Environmental Education The Friends of He'eia State Park

The Friends of He'eia State Park, a Windward nonprofit environmental education organization are looking for undergraduate students for Fall Semester 2001 and Spring Semester 2002 as environmental education interns. Duties include teaching and supervising classes in various disciplines such as marine biology, ethnobotany, geology, and environmental preservation. Stipends (\$500 per semester) and/or possible independent study credit hours are available. Interns are needed a minimum of two days per week either Monday/Friday or Tuesday/Thursday from 8:00 a.m. until 1:00 p.m. each day. Prefer Sophomore or above standing; natural science background or similar experience; and enjoyment of outdoors and children. Please contact us at 247-3156 for more information.

## SCHOLARSHIPS

### Postdoctoral Research Associates

The two positions involve molecular biology and/or toxicology background to work on coral genetics, biomarkers of environmental stress, metamorphic induction in coral planulae and coral reef ecotoxicology and the other on a project studying the effects of watershed discharges on coastal coral reef ecosystems. Both positions will be based at the University of Guam Marine Lab, but a portion of the research will be conducted in Palau and other sites in Micronesia. Both positions can be extended for 2 to 3 years. If interested, please contact Bob Richmond Robert H. Richmond, Professor of Marine Biology Marine Laboratory, University of Guam, UOG Station, Mangilao, Guam 96923. Phone: (671)735-2188; Fax: 671-734-6767; e-mail: <[richmond@uog9.uog.edu](mailto:richmond@uog9.uog.edu)>.

### Council on Undergraduate Research 2002 Summer Fellowships

The Council specifically encourages proposals that represent new research activities for the faculty applicant, which may range from initiation of a research program for a new faculty member to re-igniting the research program of a senior faculty member. Directions and the application can be found on the CUR website, <<http://www.cur.org/Fellowships.html>>. Deadline for application: November 22, 2001.

### Environmental Education Grants

The U.S. Environmental Protection Agency announces the 2002 round of Environmental Education Grants. Applications must bear a postmark no later than midnight, November 15, 2001. The notice and complete directions and forms can be obtained at <<http://www.epa.gov/enviroed/solnotice01.html>> or by calling the EPA Region 2 at (212) 637 3674. Additional information on the program can be found at <<http://www.epa.gov/enviroed>>.

# CONFERENCES & CALLS FOR PAPERS

## **Society for Hawaiian Archaeology Conference** **October 5th to 7th, 2001 - Maui, HI**

The conference, which will be held at Maui Community College, will cover a wide array of topics relating to archaeology throughout Hawai'i. A fieldtrip is also planned for October 5th. The conference web address is <http://www.sha.hawaii.edu>.

## **Asia-Pacific Marine Biotechnology Conference** **October 21 to 24, 2001 - Honolulu, HI**

The conference, co-sponsored by the Asia-Pacific Society for Marine Biotechnology (APSMB) and the Marine Bioproducts Engineering Center (MarBEC), will include papers on aquaculture biotechnology, algal biotechnology, photobioreactors, genetics, ecology and marine microbiology, marine natural products, environmental biotechnology and extremophiles. Visit the conference web site at <http://www.MarBEC.org/APMBC> for additional details and an on-line registration form. For more information, e-mail: [apmbc@marbec.org](mailto:apmbc@marbec.org).

## **Wetlands Regulatory Workshop** **October 29 to November 2nd, 2001 - Atlantic City, NJ**

This workshop will investigate contemporary wetland regulatory issues. The workshop strives to increase dialogue and foster partnerships between federal, state, and local regulatory agencies, non-governmental organizations and the regulated community. For more information, e-mail [spagnolo.ralph@epa.gov](mailto:spagnolo.ralph@epa.gov).

## **Undersea Defense Technology Conference** **October 30 to November 1, 2001 - Honolulu, HI**

The conference will be held at the Hilton Hawaiian Village. Information and registration can be found at <http://www.udtmet.com/hawaii>.

## **Going to Extremes: Seabed Mining and Biotechnology** **October 31st to November 3rd, 2001 — Hilo, HI**

Being held at the Hilo Hawaiian Hotel, the conference will present cutting-edge advancements in seabed exploration, development, and research specific to marine minerals. For more information, phone: 956-9772, or visit [http://soest.hawaii.edu/Hurl/umi\\_2001](http://soest.hawaii.edu/Hurl/umi_2001).

## **Hawai'i Aquatics Conference, 2001: Planning for a Sustainable Future.** **November 3 to 4, 2001 — Waianae, HI**

This conference, which will be held at the Waianae Recreation Center, will focus on the traditional Hawaiian *moku*, as the basis for a more regional approach to sustainable management of aquatic resources. In the regional framework of the *moku*, traditional and western-style management practices may be integrated, drawing upon the experience, skills, and knowledge of ahupua'a-based communities. For further information, please contact Conference Coordinator Carol Stimson at e-mail [stimson@aloha.net](mailto:stimson@aloha.net); phone: (808) 262-0789.

## **Oceans 2001: An Ocean Odyssey** **November 5th to 8th, 2001 — Honolulu, HI**

MTS/IEEE Conference and exhibition will be held at the Hilton Hawaiian Village. Topics will consider advances in science and engineering in the ocean environment or address ocean economic, policy or education issues. For more information visit the conference website at <http://www.Oceans2001.com>. On Thursday, November 8th, Hawai'i college and university students can view the Exhibits and Student Poster Competition for free. Student I.D. is required.

## **Western Society of Naturalists** **November 8th to 12th, 2001 — Ventura, CA**

We will hold symposia, contributed paper and poster sessions at the Clarion Ventura Beach Hotel in Ventura, CA. In addition to a variety of symposia, contributed oral papers, and, of course, the AAH & Presidential Address, this year's meeting will also feature a student poster session and a field trip to the Channel Islands. For more information, visit their website at: <http://www.wsn-online.org>.

## **Environmental Management of Enclosed Coastal Seas** **November 19th to 22nd, 2001 — Kobe, Japan**

The 5th EMECS conference will provide a forum for scientists, government officials, industry representatives and members of the general public from all parts of the world to discuss the achievements made in the environmental management of enclosed coastal seas and to determine what needs to be done from this point on. Visit the conference website at <http://emecs2001.jtbcom.co.jp/en/index>.

## **Second International Conference on Marine** **Ornamentals: Collection, Culture & Conservation** **November 26 - December 1 — Lake Buena Vista, FL**

Conference will be held at the Wyndham Palace Resort and Spa, in Walt Disney World Resort. For more information, visit <http://www.ifas.ufl.edu/~conferweb/MO>.

## **Ocean Sciences 2002** **February 11th to 15th — Honolulu, HI**

Abstract Deadline is November 1st, 2001. Sponsored by the American Society of Limnology and Oceanography, the American Geophysical Union. For more information, visit <http://www.agu.org>.



## **Solutions to Coastal Disasters Conference 2002** **February 24th to 26th — San Diego, CA**

Conference will bring together coastal planners, managers, scientists, engineers, geologists, economists, oceanographers, meteorologists and others to exchange information relating to coastal disasters. The four main conference tracks are Coastal Storms, Seismic Effects, Impacts on Climate Change and Shoreline Change. For more information, visit <http://www.asce.org/conferences/cd2002/index.html>.

## **Phytoplankton Productivity** **March 18th to 22nd, 2002 — Bangor, U.K.**

The conference will include talks on the present state and the future of major topics in both freshwater and marine plankton productivity. For more information, please contact the organizers at e-mail: [conf2002@bangor.ac.uk](mailto:conf2002@bangor.ac.uk) or visit the conference web-site at <http://plankton-productivity.org>.

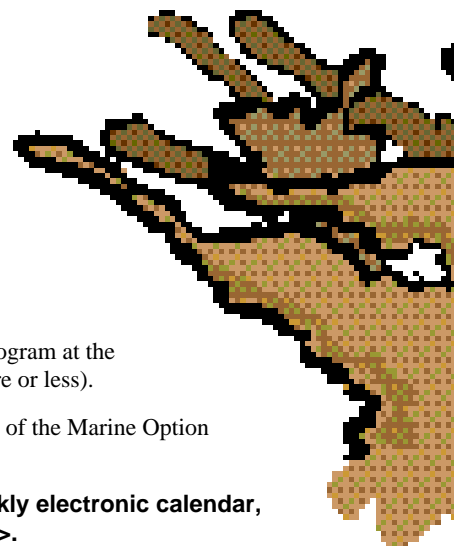
## **American Society of Limnology and Oceanography** **June 9th to 14th, 2002— San Diego, CA**

The ASLO 2002 Summer Meeting will provide a forum for researchers to highlight recent advances linking the various sub-disciplines within limnology and oceanography and to examine the potential for new linkages with scientific disciplines beyond the aquatic sciences. For more information, visit <http://aslo.org/forms/victoria2002.html>.

## **PACON 2002** **July 21st to 26th, 2002 - Chiba, Japan**

PACON is now accepting papers for next years conference. Submission deadline is February 15, 2002. For more information, contact PACON International, P.O. Box 11568, Honolulu, HI, 96828. Fax: (808) 956-2580; e-mail: [pacon@hawaii.edu](mailto:pacon@hawaii.edu). PACON's website is: <http://www.hawaii.edu>.

# Contents



MOP Alumna Ku'ulei Rodgers  
Receives Major Award . . . . . 1  
MOP Activities . . . . . 2  
Events Around Hawai'i . . . . . 3  
Get the Drift and Bag It! . . . . . 4  
Welcome New UHM MOPers. . . . . 6  
The Aquarium at Night . . . . . 7  
REU Summer Interns . . . . . 8  
Employment, Scholarships,  
Internships & Volunteering . . . 10  
Conferences . . . . . 11

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**If you would like to subscribe to our bi-weekly electronic calendar, please e-mail us at <[seawords@hawaii.edu](mailto:seawords@hawaii.edu)>.**

Suggestions and submissions are welcome. Submissions can include articles, photographs, art work, or pretty much anything that would be of interest to the marine community in Hawai'i and around the world.

Our web pages are located at <<http://www2.hawaii.edu/mop>>.

Our e-mail address is <[seawords@hawaii.edu](mailto:seawords@hawaii.edu)>.

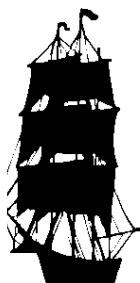
The *Seawords* staff are:

- Brian Richardson (Editor),
- Lauren Collins (Assistant Editor),
- and Dr. Sherwood Maynard (*éminence gris*).

## Coming up in the next issues...

- Sunken Ships
- Marine-related Courses in the Spring
- Book Reviews

October 2001



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