Over the President’s Day long weekend, February 17th to 19th, over fifty people from around Hawai‘i, and the world congregated at the Hawai‘i Maritime Center for the 13th annual Symposium on Maritime Archaeology and History of Hawai‘i and the Pacific.

The Symposium, sponsored by the University of Hawai‘i at Mānoa, the Maritime Archaeology and History Program, and the Hawai‘i Maritime Center, was once again organized by Hans Van Tilburg, instructor for the Maritime Archaeology and History program and graduate student in the UH History department.

There were twenty papers presented over two days, followed by a field trip to the Makapu‘u Lighthouse. The papers discussed a wide variety of topics, from Hawaiian petroglyphs to Thor Heyerdahl, from American Civil War submarines to fishponds in Hawai‘i. It was a fascinating mixture of topics.

The meeting was attended by students, professors, government officials and interested people from the community. Many of the people who attended the conference this year had participated in previous years.

Each night, the papers were followed by receptions on the deck of the Hawai‘i Maritime Center, where the historians and the archaeologists could mingle. These receptions were fundraisers for the students of the Maritime Archaeology and History Program to help them attend conferences. While the light of the setting sun was periodically blinding everyone, the Symposium participants engaged in interesting, and sometimes heated, discussions. It was like a family reunion. Unfortunately, before the first reception was finished, the keg had been run dry. This travesty was not repeated the following night.

A group of ten symposium participants and friends took a hike Monday morning to historic Makapu‘u Lighthouse. The tour was led by Coast Guard Petty Officer Peter Zauner, who filled in details of the structure’s history and related U.S. Coast Guard operations. The numerous whale sightings were an additional feature especially prevalent this time of year.

The 14-ton lens at the lighthouse is the key artifact. Once displayed at world fairs, the lens was installed in 1908, after having been lifted 400 feet from the surf below the point. Several shipwrecks and strandings on nearby reefs, including the SS Manchuria in 1906, prompted the merchants and officials of the territory of Hawai‘i to construct the picturesque lighthouse.

A summary of the papers presented at the symposium, along with some pictures, begins on page six of this issue of Seawords.
March 3rd  
Annual Aquaculture Fieldtrip has been postponed until April. Date and time are to be announced.

March 9th  
Nomination Deadline for the Anna Toy Ng Memorial MOP Scholarship (extended from March 1st).

March 17th  
Fieldtrip to the Bishop Museum’s new “Extreme Science” exhibit. Cost is $6.95 (regular admission is $14.95). Sign up at HIG 214 or call 956-8433. Transportation leaves UH Mānoa at 10:00 a.m.

March 26th  
Prince Kuhio Day (Holiday)

March 26th to 30th  
UH Mānoa Spring Break

April 7th  
MOP Fieldtrip to the IMAX Theater

April 13th  
Good Friday (Holiday)

April 21st  
MarBEC Teachers’ Workshop on Marine Biotechnology at the Kamehameha Schools. For more information, contact Sara Peck at e-mail <peck@hawaii.edu> (postponed from March 10th)

April 21st to 22nd  
18th Annual MOP Symposium, at Leeward CC. MOP students from around the state are welcome.

May 2nd  
Last day of instruction at UH Mānoa

May 7th to 11th  
Final Examinations at UH Mānoa

May 11th  
Oahu MOP graduation. Stay tuned for details.

May 13th  
Commencement at UH Mānoa

May 25th to 27th  
Fisherman’s Festival at Ko Olina.

March 13th  
Gyotaku fish printing workshop 4:30-6:00pm

March 17th to 18th  
Camping and Sailing with MOP

April 8th  
Pololu Valley Hike

May 2nd  
MOP end of semester awards party on the Four Winds 5-7pm

June 13th  
UHH-Marine Science Summer Session Starts!

A schedule of the Spring UH Hilo MOP events can also be found at their web site:  
UPCOMING EVENTS AROUND HAWAI‘I

Earth Science Field Trips for Teachers
All field trips will begin with an introductory session on the UHM campus in the Pacific Ocean Science and Technology (POST) building. For more information, contact Leona Anthony at: e-mail <lanthony@soest.hawaii.edu>; phone 956-8763; or visit <http://www.soest.hawaii.edu/gg>.

Shorline History and Processes II
April 7th, 8:00 a.m. at Kaena Point
This field trip will be led by Chip Fletcher Professor, Department of Geology & Geophysics. Daypack, hiking boots, water bottle and lunch, sunscreen, rain gear, hat or visor recommended, participants will hike approximately 3-4 miles in hot open conditions along the shore. Enrollment is limited to 25 people.

Hawai‘i State Science and Engineering Fair
April 2nd to 5th, 2001
The 44th HSSEF will be held at Blaisdell Center Exhibition Hall. Entries for the State Science Fair must be received by the State Science Fair Office by 3:00 p.m. on February 20th. For more information, contact Kay Aratani, HSSEF Director, phone: (808) 956-7930 or visit the Hawaii Academy of Science website at <http://www.hawaii.edu/acadsci>.

The McInerny Foundation will offer six $1000 scholarship awards at the next Hawaii State Science and Engineering Fair to college-bound 12th graders with outstanding research projects in Computer Science, Physics, Engineering, and Mathematics. In addition, the teacher advisers of the winners will receive a $1000 award for classroom supplies or teaching aids.

Water Resources Research Center Seminars
Bill Wong, State Department of Health
March 15th, 2001
Water quality for drinking water

Khalil Spencer, UHM Department of Geology & Geophysics
April 5th, 2001
Trace metals in Mānoa stream

Samir El-Swaify, UHM Department of Agronomy and Soil Sciences
April 12th, 2001
Land use effects on water quality

Seminars are from 3:00 to 4:15 in MSB 114. For more information, contact the UHM Water Resources Research Center at 956-7847; e-mail <aly@soest.hawaii.edu> or visit their website at: <http://www.hawaii.edu/wrnc/spring01seminars.html>.

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.mic.hawaii.edu/aquarium>.

Exploring the Reef at Night
March 9th, Friday, 8:00 to 10:30 p.m.
March 23rd, Friday, 7:30 to 10:00 p.m.
Discover Waikiki’s true night life as you wade the reef shallows by flashlight. Guided by Aquarium education staff, learn about Hawai‘i’s marine life, fieldtrip safety, and reef conservation. Class size is limited, so sign up early and give a second choice date. For adults and families; minimum age 5 years, youngsters must be accompanied by an adult. Preregistration required. Members: $8/adult, $6/child ($10/8, non-members).

Director’s Overnight
March 10th, Saturday, 7:00 p.m. to 8:00 a.m.
Aquarium Director, Dr. Bruce Carlson hosts this very special overnight, featuring a back scenes peek at research and operations. For adults and families, minimum age 5 years; youngsters must be accompanied by an adult. Evening snack and continental breakfast are provided. Preregistration required. Members: $16/adult, $12/child ($20/14, non-members).

Midway Atoll
Family Camp, June 9-15 & June 16-22
Teaching Marine Science, June 16-22
Shark Biology, June 2-9 & June 9-16
The Waikiki Aquarium eco-learning experiences at Midway Atoll are designed and taught by Aquarium educators and researchers. A unique and educational family vacation for teacher enrichment that brings field biology into your classroom, for college students looking for hands-on experience in research.

Spring 2001 Aquarium Lecture Series
Dr. Bruce Carlson, Director, Waikiki Aquarium
March 21, Wednesday, 7:30 - 9:00 p.m.
A New Treasure for Kaka‘ako — Sharing the Vision
Kumu John Ka‘imikaua & Hālau Kukunaokala
April 4, Wednesday, 7:30 - 9:00 p.m.
Sustainable Environments through Traditional Hawaiian Practices: A Mau A Mau (For Ever and Ever)
This year’s lecture series celebrates the diversity of the tropical Pacific’s natural history and natural resources. Members of Hawai‘i’s active research community share examples from Hawaiian and Pacific waters and identify some of the challenges we face in sustaining these resources for generations to come. No reservations are required, but seating is limited. Doors open at 7:00 p.m. and the exhibits are available for viewing. A $4 donation is appreciated.
In a recent lecture given by Terry L. Hunt titled, “Rethinking Rapa Nui Prehistory” the UH anthropologist revealed some of the new theories being considered about the history of Rapa Nui, or Easter Island.

Even though Professor Hunt has studied in such regions as Fiji, Samoa, and Melanesia, Rapa Nui is the most remote. Easter Island is located in the southeastern Pacific about five thousand kilometers from the nearest neighboring island. It is considered to be one of the most remote islands in the world and also the most thoroughly studied. The controversy surrounding the origins and the culture of the people that inhabited Rapa Nui is the direct result of their sensational statues and mysterious demise.

One of the main points Dr. Hunt made in his lecture was that because there is so much research done on Rapa Nui, there is also a great deal of myth as well as constructive analysis. When looking at all of the research done on Rapa Nui, there are, according to Hunt, four main areas of concentration. The areas that most anthropologists studying Rapa Nui examine are the first date of settlement, the chronology of the statues, or Moai, that were constructed during civilization, the nature and chronology of the deforestation that occurred on the island, and lastly the events surrounding the crash of civilization on the island.

Hunt contends that there are many more directions of study on the island but these would be the most widely studied and therefore would be the most associated with any recent theories being developed about Rapa Nui.

Hunt accompanied his presentation about Rapa Nui with slides that he took while on the island. When discussing the first date of settlement Hunt showed the remains of Rapa Nui housing, a canoe-shaped structure made of large foundation rocks with drill holes that would have held the wooden framework that constituted the walls.

The human period on Rapa Nui was estimated to have started somewhere between three hundred and six hundred A.D. and lasted about sixteen hundred years. The origin of civilization on Rapa Nui is one of the most controversial theories surrounding the island. Early studies suggested a South American influence, but now an eastern Polynesian origin is generally accepted.

The statues that are present on the island are probably the most famous aspect of Rapa Nui. The Moai first appeared on the island between seven hundred and nine hundred A.D. and are believed to be ceremonial or religious in nature. Their existence is especially puzzling because of their enormous size and the fact that they were moved from the quarry where they were built into their strategic positions throughout the island. How they were produced has never been fully answered.

Hunt makes the point that the ecological fate of Rapa Nui is often applied metaphorically to the United States. It is believed that the existence of people on the island contributed largely to its deforestation and eventually to their own demise. The island was completely deforested sometime after 1650 A.D., and remains one of the biggest mysteries about Rapa Nui because no one is certain whether people were entirely responsible. The ecology of Rapa Nui ties directly into the crash of civilization that occurred. According to Hunt, it is generally considered an age of decadence representing the destruction humans are capable of. The society on Rapa Nui also fell because of the introduction of European civilization and the diseases.

When listening to Professor Hunt speak it is obvious that he is excited and interested in the mysteries of Rapa Nui to which he has devoted so much time in examining. He spoke of a UH field study course that he’ll be leading this summer, which will return to Rapa Nui to make a new map of the site and study more carefully the agricultural techniques that were used on the island. They’ll also study the homes and research the old findings that have been recorded.

The mysteries of Rapa Nui still attract many scholars and anthropologists like Professor Hunt, and there will be speculations about the island for many years. One can only wonder if much of the curiosity surrounding Rapa Nui could be that the events that occurred there are thought to represent the future of our own country.

For more information on Dr. Hunt’s research on Rapa Nui, visit his website at: <http://www2.soc.hawaii.edu/css/anth/projects/PPP/rapa_nui/index.html>.

Dr. Terry Hunt standing beside one of the famous statues on the island of Rapa Nui.
Global Warming Map

Global Warming: Early Warning Signs Map is a poster-sized map of the world, which illustrates global climate change. It includes global warming Fingerprints (places with direct manifestations of widespread and long-term trend toward warmer global temperatures) and global warming Harbingers (events that foreshadow the types of impacts likely to become more frequent and widespread with continued warming). In addition to viewing the entire global map, you can click on individual continents to explore the current local indicators of global warming.

The website also includes a link to a Curriculum Guide to use with the global map. The guides consists of four different activities that can be downloaded using Adobe Acrobat. The site also contains a link to the findings from the first US National Assessment of the Potential Consequences of Climate Variability and Change. All of these can be accessed at: <http://www.climatehotmap.org>

Environmental Field Course in Cuba
May 14th to June 2nd, 2001

Through travel and meetings with scientists and representatives of governmental agencies, the course participants will explore environmental issues related to water and energy use, agriculture, deforestation, species diversity and preservation, environmental regulations, and sustainable development. The course will include time in Havana and Santiago de Cuba to examine urban environmental challenges in Cuba's two largest cities. Travel in rural areas will permit participants to view a variety of rural environmental problems and sustainable development programs. Included in this travel will be visits to a range of natural areas, some present in biosphere reserves and national parks, which will include coastal, wetlands, mountain, and dry forest ecosystems. The course will also expose the participants to the rich cultural aspects of Cuba, including its music, food, and history.

The course is open to university-level students and faculty. Cost is approximately $1400 + roundtrip airfare US departure city-Bahamas. For further information, contact Alan Stam, Dept. of Biological Sciences, Capital University, Columbus, OH 43209, (614) 236-6507; e-mail: <astam@capital.edu>.

MOP Certificates now open to Graduate Students

In a 12/01/00 Memorandum, Assistant Vice President for Academic Affairs stated that “the awarding of certificates to graduate or post-baccalaureate students will be limited by the following provisions:

1. All undergraduate certificates shall be clearly labeled on the students transcript as ‘UG Certificate in (subject),’
2. The award of an undergraduate certificate shall be posted to the term in which the certificate requirements were completed.
3. The student must be registered for credit in the term in which the certificate requirements are completed. No undergraduate certificate will be awarded ‘in absentia.’”

This will be in effect for undergraduate certificates awarded from Spring 2001, inclusive.

What this means is that MOP enrollment is now open to any post-baccalaureate student who enrolls at UHM — through Outreach College as an Unclassified Graduate Student, to classified graduate students pursuing Masters or Doctoral studies, and to the professional students in Law, Medicine, and so on.

Seacamp — Pine Key Florida
Looking for Science Instructors

Seacamp is a non-profit, marine science education facility located on Big Pine Key in the tropical Florida Keys adjacent to Looe Key and Florida's fragile coral reefs. Founded in 1966, Seacamp offers marine science education and summer camp experiences including SCUBA, sailing, board sailing, and arts & crafts to students from 12 to 17 years of age.

Science instructors must be at least 21 years old, with a Bachelors degree in science or related field and have an interest in teaching teens about the environment in a tropical residential camp setting. Employment dates are May 23rd to August 26, May 23rd to December 18th, or year-round. Non-degree positions, such as counselors, unit leaders, SCUBA instructors, and arts instructors are also available.

Seacamp is also searching for a Science Program Director, which will require a four year commitment on a year-round basis.

For more information, visit their website at <http://www.seacamp.org>; e-mail <seacamp2001@aol.com>; or write to them at Seacamp, 1300 Big Pine Avenue, Big Pine Key, FL 33043-3336.
Hans Van Tilburg began the 13th annual Symposium on Maritime Archaeology and History of Hawai‘i and the Pacific by welcoming everyone. He then recognized the graduate students who were helping with the Symposium: Alex Hazlett, Elisa Junqueira, Todd Aoki, and Megan Moews.

Bob Moore, general manager of the Hawai‘i Maritime Center, introduced the audience to the Center, which was developed after the first Hoku‘lea voyage, in 1976. The museum has been in its present location for thirteen years. The Center includes Hoku‘lea, which has sailed over 90,000 miles around the Pacific, and is also the custodian of Hawai‘i Loa. The Center is also home of the Falls of Clyde, a commercial vessel owned by Matson in the 19th century. The Center also includes displays on the maritime history of Hawai‘i.

Dr. John Craven, whose new book, The Silent War: the Cold War Beneath the Sea, will be published by Simon and Schuster in April, was the keynote speaker. First, he noted the absence of Dean Barry Raleigh from the Symposium, and then talked at some length about the design of the dust jacket of the new book, over which he claimed to have no control. He claimed that the popularity of Blind Man’s Bluff, which gave him a persona more like James Bond, gave him the opportunity to write his own book. For Craven, his new book is part of a much larger study that has been carried out for centuries, addressing the continuous development of humanity on the sea, divided into bite-sized lives and short stories. But these stories are not only recounts of facts. Fiction offers models and inspirations for real people. We read Jules Verne’s 20,000 Leagues Under the Sea, and name the first nuclear submarine Nautilus, because it, like the submarine in Verne’s novel, had an unlimited supply of electricity. We read Jack London’s Sea Wolf, and name a hunter-killer submarine after the fictional attack submarine. And just as fiction helps to make the world meaningful, the technological innovations that have been connected to these submarines make it possible for humans to occupy inner space, to further expand their connection with the sea.

Captain Gerald Hofwolt, a former commander of submarines and currently the director of the USS Bowfin Museum, spoke on the F-4 disaster. In 1915, there were four submarines based in Hawaii, with diesel engines and a pop-riveted hull design. At first, submarines were typically used as scouts, connected to the battleships, which had been the center of the navy. With the First World War, however, the functions of the submarine were changed. The first U.S. submarine disaster, which occurred just off the coast of Hawaii on March 25th, 1915, was probably due to a battery explosion. All men on board were killed. Deep diving was at its infancy, and salvaging the submarine, which was over 300 feet down, was a long and dangerous process. It took several months to salvage the submarine. In fact, it was at this time that methods for recovering submarines were first developed.

Burl Burlingame, from the Honolulu Star-Bulletin, discussed the dilemma faced by Admiral Kimmel just before the Japanese attack on Pearl Harbor: whether to commit limited resources to protect ships from the known threat posed by Japanese submarines or to protect the islands from the much less likely attack from larger ships or from the air.

William Dudley’s discussion of the H. L. Hunley took us back to the American Civil War. The Union, with its much larger and more established navy, attempted to strangle the Confederates through blockades. One of the responses was the development of submarines. The H. L. Hunley was a confederate submarine that was technologically advanced for the time. Construction was begun in 1863. However, when it was used to sink the Union ship Housatonic, the submarine was also sunk. After the sub was found in 1995, a massive effort was mounted which led to its recovery last August when it was moved to a special holding tank, where it is being studied and conserved. Eventually, the submarine will be put on display at a museum in Charleston.

Patrick Smith, the Director of Operations for Coastal Maritime Archaeology Resources in California, discussed UB-88, a World War One
submarine that was disposed of in 1921 off the beach at Long Beach, California. The submarine had been used to rebuild flagging support for the Victory Bond drive — bonds were sold from the deck. Recent efforts to relocate the remains were also described. The search continues.

Victoria Creed discussed the value of the Mahele Documentation (1848 to 1853) for maritime research. There are over 75 records that name vessels and captains in Hawai‘i during that time. Not only does this information complement information from other sources, it also helps to connect these ships to the social and economic changes that were sweeping across the islands.

Hans Van Tilburg talked about Chinese junks voyaging across the Pacific. He pointed to problems with finding historical records, both in China and North America, and went through a history of these junks, from both technological and social points of view. Lastly, Hans considered what the junks meant to North Americans who were offered a “glimpse into the maritime past of a foreign empire.”

Erika Ginsberg-Klemmt discussed the origins of the Kon Tiki theory, which posited that the people of Polynesia originally came from South America. In particular, she considered the absence of Henry Lie from Thor Heyerdahl’s account of the origins of the theory. Lie, a Norwegian, had lived in the Marquesas for over 40 years, and it was after meeting Lie that Heyerdahl first published the theory.

Rick Rogers offered an overview of the more than 142 shipwrecks around Maui. There is also a Hellcat fighter plane and a submarine. Finally, there are the remains of many different landing sites along the coast of Maui that were used for loading such commodities as sugar, pineapple, and cattle. Most of the shipwreck information was culled from old newspapers.

Todd Aoki, the final speaker on the first day and a Maritime Archaeology and History student, discussed early 20th century battlecruisers. Winston Churchill had once called them “splendid cats.” The battlecruisers were not battleships, they were not cruisers. Compared to battleships, battlecruisers had less armor and weapons, but they were much faster. As a result, their primary value was in reconnaissance, because they could break though enemy defensive lines, which were composed primarily of weaker cruisers. Their role, however, was soon to be performed by aircraft, and so technological changes rendered these ships obsolete.

Day two began with caffeine, donuts, and Don Froding talking about steamships. Don is an alumnum of the Maritime Archaeology and History Program. The talk offered a general history of the development and uses of steamships, as well as an account of the early steamships in Hawaii. As Don noted, his work is a preliminary study for his research on the SS Kauai, a steamship that sunk off the Big Island in 1913. One of the values of this kind of historical and technological background is that it helps people doing archaeological research recognize and identify relevant objects in the field.

The second presentation of the day was by Dr. Fred Magee, who is teaching at Hawai‘i Pacific University.
Fred discussed the hidden black diaspora in Hawai‘i, and urged the audience to recognize that the history of post-contact Pacific is much more intricate and interracial than traditional histories suggest. Although much of the history is closely connected to the slave trade carried on by English, French and Americans, blacks were also sailors on many voyages, including those of Captain Cook and the New England whalers. Likewise, during the 19th century, blacks were living throughout the Pacific and they played a significant part of the history and current identity structures of the region.

Tom Wolforth then discussed the changing shoreline at the West Loch of Pearl Harbor, appealing to archaeological data that stretched over 6000 years, when, he argued, the loch was a lagoon. Later, pondfields for growing taro were constructed, and eventually a delta formed. By analysing the sediment profile from different places in the area, it is possible to trace the events and activities that left their marks on different parts of the area.

Elisa Junqueira, a graduate student with the Maritime Archaeology and History Program, discussed her study of a fishpond on the north Kona coast on the Big Island. The walls of the fishpond are now underwater. The average width of the pond is 32 feet, and its length is almost 500 feet. As Elisa noted, such ponds provide evidence for studying ancient Hawaiian aquaculture methods.

Kathy Billings, the superintendent of the USS Arizona Memorial, updated the symposium on recent research on the USS Arizona. Recently, a study has been undertaken to document the hull interior, record large main deck areas with graphic imagery, and investigate the deterioration of the ship’s structure. This research is essential not only to help preserve the ship, but to also plan for potential ecological problems that the ship may create as it deteriorates.

Megan Moews, also a graduate student with the Maritime Archaeology and History Program, presented findings from last summer’s underwater archaeology course, where students created a submerged resources survey in Kane‘ohe Bay. Much of the funding for Megan’s project was from a National Park Service grant to MOP. The primary target of this research were several PBY flying boats which had been sunk during the Japanese attack on Pearl Harbor. One relatively intact PBY had been discovered several years ago, and the goal of this research was to search for others. Unfortunately, the silt in the water made the entire project that much more difficult to carry out. Visibility was seldom more than an arm’s length, and often worse. Only small scattered debris was discovered, which eliminated the possibility of another relatively intact PBY in the area.

Suzanne Finney, an alumnus of the Maritime Archaeology and History Program, presented some results from her field research in Pohnahtik Harbor in Pohnpei. She has been looking for four whaling vessels sunk by Confederate raider CSS Shenandoah in April 1865, during the American Civil War. The project was funded by the National Park Service, and part of the purpose of this fieldwork was to determine if this site should be nominated as a significant historic U.S. battlefield. Three wrecks were documented, but only two were mapped. There is still more work to be done.

Alex Hazlett, a graduate student with the Maritime Archaeology and History Program, discussed the relationship between sail and steam in the 19th century. One issue that has been raised is why sail persisted so long after steam had become cheap and reliable. The argument is that sailors often adopted new technology to make superior sailing vessels, rather than completely switching from sail to steam. Alex proposed to gather information at Koloa landing, on the
There were twelve shipwrecks in that area, which would provide suitable information to test this theory.

Patrick Smith returned near the end of the symposium to discuss the loss of the *Comet*, a three-masted schooner that was hauling lumber between the Pacific Northwest and southern California when she was lost in 1911. Heavy surf made salvage operations impossible, and the ship soon sunk into the sand. In 1999, the *Comet* resurfaced from the sand. Attempts to study the ship were hindered, to some extent, by the tide, which tended to cover during the night what had been excavated during the day.

Finally, Mikilani Ho, a researcher in Polynesian petroglyphs, discussed the images of canoes and other sailing ships. The character and distribution of these images suggest that, while canoes were important to pre-contact cultures, they were not a typical motif in petroglyphs. Likewise, images of canoes were typically not included in accounts of important events. On the other hand, after contact, and especially in recent years, petroglyphs have been produced which frequently include canoes.

Meagan Moews describes her ordeals last summer while creating a resources survey in Kane‘ohe Bay.

Field Trip to Waimanalo
by Marleen Kilcoyne

On Saturday, January 27th the Marine Option Program hosted a field trip to Waimanalo Beach Park where the main attraction was the opportunity to snorkel or swim over a 19th Century archeological site. The history behind the site involves a landing built during the existence of large sugar plantations in Hawai‘i. The Waimanalo site was originally owned and operated by high chief John Adams Koakani Cummins and was used as a vacation site for Hawai‘i’s royalty as well as for its main function, to harvest sugar cane.

On the plantation, there was a pier which was primarily used for loading and unloading ships that extended out about two hundred meters over the water. The attraction for Saturday’s trip was the long ago collapsed pier and the site that has been created from its demise. We put on snorkel gear and were into the beautiful water of Waimanalo Beach at around ten in the morning. Hans Van Tilburg provided a brief history of John Cummins and the plantation life that involved the old pier. What we could see in the water was the large steam equipment that accompanied the railway extending out onto the pier. The forgotten steel structures loomed in the water, having been cast off when irreparable. One of the mechanisms scattered around the pier’s original pilings that actually caused the rediscovery of the pier was an old fire extinguisher that would have been used on the pier.

The sea-life that the pier has attracted is plentiful and varied, including fish, eels, and marine turtles. We didn’t see any turtles on Saturday but the fish and eels were in abundance. There was also some talk about jellyfish, but thankfully those were absent as well. The sun was shining and all who went enjoyed an informative adventure, both visually and historically. A warm thanks is extended to all who came out for the morning and helped to arrange the trip. Stay tuned for future trips sponsored by MOP.

Hans Van Tilburg, who lead the Summer 2000 Maritime Archaeology and History course at this site, provided a history of the Waimanalo site, once a place for freighters and royal vacations.
SCHOLARSHIPS

Darwin Trust of Edinburgh

The Darwin Trust invites applications for a postgraduate research studentship tenable at any UK university from graduates of any nationality, who wish to study for a PhD in the history or philosophy of science & technology. The scholarship will provide a maintenance grant of 7450 UK pounds (equivalent to Medical Research Council's scholarships), a travel grant where appropriate, and the necessary university fees. Candidates should hold, or be expected to obtain, academic qualifications equivalent to a First Class Honours degree from a British University and must have an application confirmed or pending for a postgraduate position within an appropriate university department. Preference will be given to candidates who propose moving on to another University or department.

Applications should be lodged by 30 April 2001 with Professor K Murray, Institute of Cell and Molecular biology, University of Edinburgh, Darwin Building, Mayfield Road, Edinburgh EH9 3J, Scotland, UK from whom application forms may be obtained.

INTERNSHIPS

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 Kalanianaole Hwy, Waimanalo, HI 96795-1820; fax: 259-5971; e-mail: <gkarr@teligentmail.com>. For more information, visit the Oceanic Institute website at <http://www.oceanicinstitute.org>.

The Friends of He'eia State Park

Interns are needed to assist the Education Coordinator with the development and implementation of interpretive programs in the environmental sciences. Additionally, interns would teach classes in marine biology, ethnobotany, earth science, and Hawaiian studies to school age children. Possible independent credit hours and/or small stipend available. Contact Carole at 247-3156 for more information.

United Fishing Agency

United Fishing Agency is offering internship opportunities for students interested in fish wholesaling, marketing, etc. For more information contact Brooks Takenaka, phone: 536-2148; e-mail <btakenaka@netscape.net>.

VOLUNTEERING

Hanauma Bay Education Program

Volunteers are needed to staff beach desk and visitors' center. Duties include leading interpretive talks, answering general questions and promoting proper environmental etiquette. For information contact Jeff Kuwabara (MOP alumnus) at 397-5840 or e-mail: <hanauma@hawaii.edu>.

Tern and Laysan Island Volunteers Needed

The U.S. Fish and Wildlife Service is looking for a few good volunteers for the Tern Island and Laysan Island field stations. These islands are essential nesting areas for 20 species of seabirds and Hawaiian green sea turtles and are the principal pupping grounds for the Hawaiian monk seal. Work at the stations includes monitoring and banding migratory and resident seabirds, shorebirds, and endangered land birds, alien plant eradication, native plant propagation and out-planting, at times some sea turtle work, data collection and entry, and up to 50% facilities and equipment maintenance. We expect a 3 to 6 month commitment from volunteers. Room and board are paid for by USFWS. For an information packet about the volunteer positions and greater detail on duties for each station as well as how to apply, please contact Dominique Aycock at 541-1201; e-mail: <Dominique_Aycock@fws.gov>, or at P.O. Box 50167, Honolulu, HI 96850.

Malama Hawai'i needs Volunteers

Hoku'lea's Statewide Sail

There are many things that can be done to help Malama Hawai'i and Hoku'lea's sail around the islands.

- Volunteer an hour or more of your time at the canoe to help educate keiki and the community about our mission.
- Duties include: greeting the classes, bringing materials and timekeeping.
- Help spread the word to the community about the development of a national internet-based water quality reporting system.
- Bring materials. Hands on learning tools, pictures, anything that provides information on water quality issues.
- Help spread the word to the community of the Hoku'lea's arrival. There will be general community tours on Tuesdays and Thursdays when the Hoku'lea is at port from 5:00 pm to 7:00 pm. School tours will take place from 9:00 a.m. to 1:00 p.m. Tuesday through Friday.
- Please call Moani Pai at (808) 944-7242 or e-mail: <jomalley@honlab.nmfs.hawaii.edu> for more information and to coordinate with the sail schedule. The Hoku'lea's next visits will be to Maui, Moloka'i and O'ahu.

UH/JIMAR Study

Do you speak Vietnamese or Korean and are interested in fisheries? Joseph O'Mally, a research associate with JIMAR, is looking for volunteers to assist in a study of longline finery cost/earnings. The work will entail helping researchers conduct in-person interviews of vessel owners and operators, specifically fishers who speak Vietnamese or Korean. For more information, contact Joseph at phone: 983-5741; e-mail: <jomalley@honlab.nmfs.hawaii.edu>.

EMPLOYMENT

Bishop Museum

Invertebrate Zoology

Student with invertebrate zoology background needed to sort invertebrates into major taxa from sediment samples taken in Kane'ohoe Bay and off Waikiki. Part of a project to identify alien species invasions in Hawai’i’s nearshore waters. Hours flexible. Pay depending on qualifications. The project could count as MOP project. For more information, contact Dr. Lucus Eldredge at e-mail: <pia@bishop.bishop.Hawaii.org>; phone: 848-4139

Shrimp Hatchery Technician

Kahuku Shrimp Company

Position can lead to hatchery manager or eventually farm manager. Qualifications: baccalaureate degree, marine biology desirable. Best for someone who lives in vicinity, for example Wahiawa, Waialua, Kaneohe, etc. Starting Salary is $20,000/year. Kahuku Shrimp Company also has a variety of other full-time job openings, including assistant hatchery manager, hatchery helper, and assistant growout manager trainee. For more information, contact Bruce Smith at 293-0157.

Project Coordinator

Beach Water Quality Page Coordinator

The Surfrider Foundation, a San Clemente, California based environmental organization, is seeking a motivated and self-starter to coordinate the development of a national internet-based water quality reporting system. The position will be responsible for coordinating with private and government partners to develop and expand the system.

Skills: Knowledge of water quality issues and legislation; knowledge of general coastal zone management principles; understanding of internet applications; understanding of Geographic Information Systems. Responsibilities include: Coordinating contracted services for web site design and implementation; quality control and assessment of web based information system; development of educational materials on water quality issues.

Masters Degree in Marine Science or a related field or 2-4 years professional experience required. One year contract position, $32,000 to $35,000 based on experience. Fax resume and cover letter to (949) 492-8142
CONFERENCES & CALLS FOR PAPERS

Current Marine Environmental Issues and the International Tribunal for the Law of the Sea March 16th to 19th — Hamburg, Germany
The Conference is sponsored by the Center for Oceans Laws and Policy. For more information, contact the center: e-mail: COLP@Virginia.edu or visit their web site at <http://www.virginia.edu/colp>.

**NAI Spring Training Workshop**
April 3rd to 7th, 2001 — Honolulu, HI
The National Association for Interpretation is holding a four-day training on interpreting sacred places and native peoples. Most of the conference will be held at Ala Moana Hotel and there will also be post-workshop events, including a visit to Hawai‘i Volcanoes National Park. For more information, visit their website at <http://www.interpret.com> or phone: (888) 900-8283.

**The Oceanography Society Biennial Meeting**
April 3rd to 5th, 2001 — Miami, Florida
Conference will focus on interdisciplinary topics and research enabled through advanced technology. To be held in conjunction with the Oceanology International Americas conference (see below). For information, visit their website at <http://www.tos.org>.

**Oceanology International Americas**
April 3rd to 5th, 2001 — Miami, Florida
Oceanology International Americas is the new biennial event that brings together industry, scientific, and government professionals involved in marine science and ocean technology from throughout the Americas. For information, visit <http://www.oiamericas.com> or e-mail oiamericas@spearhead.co.uk.

**Marine Science and Technology**
April 24th to 27th, 2001 — Pontevedra, Spain
This multi-disciplinary international congress will bring together scientists, technologists and other specialists related to the marine environment. For more information, contact the organizers at fomar@fomar.org or visit their web page at: <http://www.fomar.org>.

**Our World Underwater**
April 27th to 29th, 2001 — Chicago, IL
The 31st annual Our World Underwater conference will again feature in-depth workshops. Come see the latest in equipment, dive travel and training and come meet with your local dive retailers. Their web site is <http://www.ourworldunderwater.com>.

**Offshore Technology Conference**
April 30th to May 3rd, 2001 — Houston, TX
The conference will provide industry professionals with new, innovative ways of working. For more information, e-mail: tech-prog@otcnet.org or mail P.O. Box 833868, Richardson, Texas, 75083-3868. Their web site is <http://www.otcnet.org>.

**PACON 2001**
July 8th to 11th, 2001 — Burlingame, CA
This conference will focus on environmental technologies for sustainable maritime development. Abstracts are due February 15th, 2001. For more information, visit their website at <http://www.hawaii.edu/pacon>.

Coastal Zone 2001
July 15th to 19th, 2001 — Cleveland, OH
Conference will center around the most pressing challenges of today and tomorrow, including challenges associated with expanding ports, and concerns with the production, transportation, and use of energy resources. For more information, visit the conference website at <http://www.csc.noaa.gov/cz2001>.

**NMEA 2001: A Water Odyssey**
July 17th to 21st, 2001 — Victoria, B.C., Canada
The National Marine Educators Association conference will look at our relationship with water through time and history, traditions and cultures, art and humanities, and science. For more information, contact Mike Spranger at e-mail MSSpranger@gateway.net. The conference website is: <http://www.uvex.uvic.ca/conf/nmea2001>.

**18th Pacific Educational Conference**
July 23rd to 27th — Guam
The conference, entitled “Our Pacific Communities: Voyage to Building our Foundation,” will be an opportunity for educators from around the Pacific to share their successes. Early registration is due May 22nd, 2001. For more information, e-mail pec2001@guam.doe.edu.gu.

**Hawai‘i Conservation Conference**
July 29th to August 1st, 2001 — UH Hilo
The 15th annual meeting of the Society for Conservation Biology will focus on conservation challenges facing islands that are sometimes unique and sometimes similar to mainland systems. Field trips, a welcoming reception, and a symposium are also planned. Abstracts are due by January 31st, 2001. Given the limited space for oral presentations, the organizers strongly encourage poster presentations. For more information visit the web-site at <http://www.ubh.hawaii.edu/scb>.

**Water Security for the 21st Century**
August 13th to 16th, 2001 — Stockholm, Sweden
Convened by the Stockholm International Water Institute, the conference will help search for effective, long-term water resources management. Abstracts are due February 15th, 2001. For more information, contact the Symposium Secretariat at phone: +46 8 522 139 75 and e-mail: sympos@siwi.org, or visit their website at <http://www.siwi.org>.

**Oceans 2001: An Odyssey of Ocean Exploration**
November 5th to 8th, 2001 — Honolulu, HI
Conference and exhibition will be held at the Hilton Hawaiian Village. Authors are invited to submit papers dealing with new technology which describe advances in science and engineering in the ocean environment or address ocean economic, policy or education issues. Abstracts are due March 30th, 2001. For more information, contact the organizers at e-mail: oceans@jspargo.com or visit their website at <http://www.Oceans2001.com>. A student poster exhibit is also being organized — for more information, contact Sherwood Maynard at the UH Mānoa MOP office.

**Phytoplankton Productivity**
March 18th to 22nd, 2002 — Bangor, U.K.
An appreciation of 50 years of the study of production in oceans and lakes, this conference will include talks given by leaders in their field which will summarise the development, present state and 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 or visit the conference web-site at <http://plankton-productivity.org>.
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Seawords is the newsletter of the Marine Option Program at the University of Hawai‘i. It is published monthly (more or less).

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If you would like to subscribe to our bi-weekly electronic calendar, please e-mail us at <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 <mop@hawaii.edu>.

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