The Faces of UH Sea Grant: A Year in Pictures
In this issue of *Ka Pili Kai*...

At the University of Hawai‘i Sea Grant College Program, our strength lies in the unique group of highly dedicated staff, faculty, and researchers that comprise the program. Focusing on a multitude of critical issues such as hazard resilience, safe and sustainable seafood supply, healthy coastal ecosystems, and sustainable coastal development, we are poised to address the most critical issues of today to assist the coastal communities we serve be better prepared for the challenges of tomorrow. As the old saying goes, “a picture is worth a thousand words,” so I hope you enjoy this issue which transports you, in pictures, throughout Hawai‘i and the Pacific and into the lives of our faculty and staff.

Happy New Year and best wishes for 2010!

Cindy Knapman
Communications Leader
This year marked a milestone for the University of Hawai‘i Sea Grant College Program (UH Sea Grant) as we celebrated our 40th anniversary of service to the people of Hawai‘i and the Pacific region. Since its establishment in 1968 as an institutional program at the University of Hawai‘i, UH Sea Grant has had a long-standing reputation for identifying Hawai‘i’s critical resource management issues and guiding cutting-edge scientific research, outreach, and education efforts to address these challenges.

In the last 40 years, UH Sea Grant has grown and evolved into a dynamic, innovative, and effective program. One of its greatest strengths has been developing working partnerships and nurturing relationships with existing organizations and businesses and the current director, Dr. Gordon Grau, has expanded these partnerships and created a new operational model for Sea Grant – the center of excellence model. Now, UH Sea Grant partners with diverse university units through joint faculty positions and other synergistic relationships that build coastal sustainability and resiliency. We now have four new centers of excellence: 1) Center of Excellence in Island Climate Adaptation and Policy; 2) Center of Excellence in Marine Science Education; 3) Center of Excellence in Sustainable Coastal Tourism; and 4) Center of Excellence in Sustainable Aquaculture. These new centers join the Center for Smart Building and Community Design which was established in 2004 and is a successful partnership between UH Sea Grant, the UH School of Architecture, and others.

It is a critical time to focus attention on the nation’s coastal environment. In this first decade of the 21st century, increased rates of climate-related environmental changes have made coastal communities vulnerable in ways never before imagined. Overfishing and habitat degradation have contributed to declines in many US fisheries. Heightened concerns about human health and safety are bringing greater attention to port security, coastal infrastructure deterioration, and seafood safety. As hundreds of thousands more Americans move to the coast every year, it is increasingly important that we find adequate ways to balance human social and economic activities. UH Sea Grant will continue to work closely with our partners, those we have worked with for many years as well as our multitude of new partners we are connected with through the new Centers of Excellence, to create economically viable, attractive coastal communities that enhance our environment, economy, and culture.
Hazard Resilience in Coastal Communities

Promoting Awareness, Preparation and Response

It is vital that coastal communities are prepared for the potential impacts of coastal natural hazards, including coastal erosion, earthquakes, floods, tsunamis, coastal storms, and hurricanes. As the only state that is entirely surrounded by the ocean, Hawai‘i faces unique challenges regarding these hazards. UH Sea Grant extension faculty are committed to helping communities throughout the state and the nation achieve greater awareness, preparation and response to these events.

Photos capture selected activities of UH Sea Grant faculty and staff: Murray Ford, Coastal Processes Extension Agent; Andrew Bohlander, Coastal Hazard Specialist; James O’Connell, Coastal Land Use Specialist; Chris Conger, Shoreline Specialist; Dolan Eversole, Coastal Geology Extension Agent.
Activities

A. As awareness of coastal processes and natural hazards increases in the Republic of the Marshall Islands, UH Sea Grant assists local agencies, organizations, and individuals in preparing for the impacts of sea-level rise.

B. UH Sea Grant provides hands-on learning experiences regarding coastal and marine resources for elementary school students on the island of Hawai‘i.

C. UH Sea Grant conducts topographic lidar work at Ehukai beach park on O‘ahu to measure beach volume change. Through the Center for Island Climate Adaptation and Policy, UH Sea Grant provides information, tools, and technologies to help island communities prepare for and mitigate the impacts of natural hazard events.

D. On the island of Kaua‘i, UH Sea Grant has been working with the Kaua‘i County Planning Department, Planning Commission, and County Council to update the County’s Shoreline Setback and Coastal Protection Ordinance. UH Sea Grant is also assisting Kaua‘i County in developing alternatives to replace the existing dilapidated seawall fronting the multi-use coastal path and Pono Kai Resort.

E. UH Sea Grant is active in assisting the Kaua‘i County Parks Department in designing and implementing a dune restoration and beach nourishment project at Poipu Beach County Park, Poipu. This county park is one of the more highly used beachfront county parks on Kaua‘i.
For decades, concentrated population growth along our nation’s shorelines has transformed our coastal landscapes and greatly intensified demand on finite coastal resources. In response, UH Sea Grant formed the Center for Smart Building and Community Design in 2004 to address the relationships between the environment, growing coastal communities and development. Since its inception, the extension faculty have been successful in linking economic and environmental sustainability with an elevated quality of life for residents of Hawai‘i.
A. UH School of Architecture students produced design options with assistance from the Center for Smart Building and Community Design for the revitalization of a sugar cane town on Kaua‘i. The students were part of a national American Institute of Architects Sustainable Design Assessment Team.

B. Energy analysis and zero-carbon design options for the Wai‘anae Coast Community Mental Health Center which provides mental health services to a largely Native Hawaiian population. The options were created with the assistance of the Center for Smart Building and Community Design.

C. The Center for Smart Building and Community Design addresses campus sustainability and planning issues with UH School of Architecture students.

D. The Mānoa Energy Performance Assessment team has inventoried the lighting of approximately 800,000 square feet of building space on the UH Mānoa campus and has identified energy saving measures which, when implemented, can save approximately 50% of the energy used for lighting. UH Sea Grant oversees the student team involved in this process.

Photos capture selected activities of UH Sea Grant faculty and staff: Stephen Meder, Director, UH Sea Grant Center for Smart Building and Community Design; Eileen Ellis, Sustainability Specialist; Eric Crispin, Affiliate Faculty, Assistant Vice-Chancellor for Financial and Physical Management. Student involved in the projects are: E. Ebisui; C. Higa; J. Manuia; W. Marquez; T. Peterson; G. Takahashi; L. Walker; A. Aviel; E. Siwy; H. Joon Yang; A. Gabriel; J. Shon; L. Simonson; G. Wong; B. Makanoa; Justin Szajnecki; Matt Mayberry; Erika Formata; Micah Thrasher; Eric Siwy; Samia Silveira; Ajala "Kuubi" Kenyatta.
Healthy Coastal Ecosystems

Supporting Education, Conservation, and Stewardship

Healthy coastal ecosystems are the foundation of life in our islands. However, rapid population growth and urbanization in coastal areas have destroyed large swaths of coastline, degraded coastal water quality, and placed substantial strain on coastal ecosystems. For over 40 years UH Sea Grant extension faculty have been developing innovative approaches to protect coastal and nearshore marine habitats from further degradation and to restore and maintain these ecosystems.

Photos capture selected activities of UH Sea Grant faculty and staff: Sara Peck, Coastal Resource Extension Agent; Elizabeth (Liz) Kumabe Maynard, Regional Environmental Education Specialist; Kanesa Duncan, Director, UH Sea Grant Center for Marine Science Education; Jolie Wanger, Maunalua Bay Coastal and Watershed Coordinator; Jennifer Barrett, Waikīkī Coastal Coordinator UH Sea Grant Hanauma Bay Education Program staff: Gavin Iwai, Shawn Carrier, Anne Rosa, Morgan Mamizuka, Rian Calugcugan, Liz Kumabe Maynard, Darren Okimoto, Kosta Stamoulis
Through the Center for Marine Science Education, UH Sea Grant provides leadership, support and training to formal and informal educators and engages scientists, professionals and the local community about the benefits of perpetuating the wise and sustainable stewardship of our coastal and ocean resources.

In collaboration with the Waikīkī Improvement Association, Harold K. L. Castle Foundation, and the Waikīkī Aquarium, UH Sea Grant and the Center for Sustainable Coastal Tourism work to build awareness and stewardship of Waikīkī's marine and coastal resources among tourists, community members, and key decision makers. UH Sea Grant participated in the Blue Line Project which involved physically drawing a line in blue chalk demarcating the extent of a rise in sea level by 1 meter.

The award-winning UH Sea Grant Hanauma Bay Education Program includes a dedicated team of faculty, staff, and volunteers who engage numerous visitors and members of the community in supporting marine education and the value of a healthy marine environment. The education program, administered by UH Sea Grant on behalf of the City and County of Honolulu, provides guests with information on the Bay’s geology, history, marine inhabitants, and cultural significance. Over one million visitors are educated through this program each year.

In West Hawai‘i, UH Sea Grant has developed several novel ongoing marine education programs including ReefTalk, ReefWatch, and ReefTeach. ReefTalk provides lectures on scientific research and issues of relevance relating to marine life and coastal resources. ReefWatch is an ongoing volunteer coral reef monitoring program along the Kona coast. ReefTeach began in November 2000 and is an ongoing volunteer program helping to reduce coral trampling at intensely used, highly popular, shallow snorkeling areas.

In partnership with Mālama Maunalua, UH Sea Grant coordinates Mauka Watch, a citizen monitoring and education program in east O‘ahu. Through Mauka Watch, local residents learn how to monitor water quality and rainfall, perform rapid stream and neighborhood assessments, and pollution control measures within their community.
Safe and Sustainable Seafood Supply

Preserving Island Heritage, Supporting Local Farmers, and Building Local Capacity

UH Sea Grant extension faculty have been leaders in the support and development of sustainable aquaculture in Hawai‘i and the Pacific for more than 40 years. By working directly with the farmers, both in Hawai‘i and throughout the Pacific, they are able to provide consultation services and scientific expertise necessary in maintaining healthy, viable, and productive aquaculture businesses.

Photos capture selected activities of UH Sea Grant faculty and staff: Maria Haws, Aquaculture Extension Specialist; Ephraim Temple, Aquaculture Extension Agent; Robert Howerton, Aquaculture Extension Specialist
A. In partnership with the Maui County Office of Economic Development and USDA, UH Sea Grant helped to construct thirteen small-scale backyard aquaponics systems for working families and three educational institutions and also provided technical and educational support in maintaining these systems. The systems have produced fish, vegetables and herbs for home use and have resulted in considerable savings for participating families.

B. During the 2009 Aquaculture Week event held at the Magoon Agriculture Research Facility, UH Sea Grant faculty presented selected projects representing their fascinating work throughout Hawai‘i and the Pacific.

C. UH Sea Grant provides Lahainaluna High School, Pā‘ia Learning Center and Kamehameha School on the island of Maui with expertise regarding on-site small-scale aquaponics systems. Students learn an array of subject matters including biology, chemistry, math, agriculture, aquaculture and home economics. Moreover, students have been able to learn about environmental issues, water conservation, food sustainability and the recycling of water and nutrients.

D. In American Samoa, UH Sea Grant provides information, tools and technologies to local aquaculture farmers, Manu‘a High School and American Samoa Community College students.
Nā mea like ‘ole

The faces of UH Sea Grant...

behind the scenes