



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Written Testimony Presented Before the
House Committee on Energy and Environmental Protection
Tuesday, March 29, 2011 at 10:00 a.m

By

Virginia S. Hinshaw, Chancellor

And

Dr. Darren K. Okimoto

Extension Leader/University of Hawaii Sea Grant College Program
University of Hawaii at Mānoa

**HCR 97/HR 89 – REQUESTING THE UNIVERSITY OF HAWAII SEA GRANT
COLLEGE PROGRAM TO REVIEW THE EFFECTS OF CLIMATE CHANGE ON
HAWAII'S COASTAL AND MARINE RESOURCES**

Chair Coffman and Members of the Committee:

Good morning. My name is Darren Okimoto and I serve as the Extension Leader for the University of Hawaii Sea Grant College Program (UH Sea Grant). I am offering testimony through the University of Hawaii at Mānoa in support of the adoption of the HCR 97/HR 89 resolution.

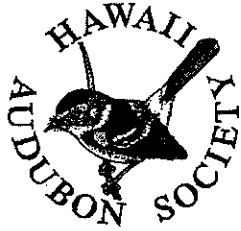
UH Sea Grant supports an innovative program of research, extension, education, and communication services directed to the improved understanding and stewardship of coastal and marine resources. Realizing the necessity of collaboration to address coastal resource issues, UH Sea Grant also provides links between academia, federal, state and local government agencies, industries, and local community members.

With the knowledge that adaptation to the impacts of climate change is critically important to vulnerable island communities such as the State of Hawaii, UH Sea Grant partnered with several schools and departments at the University of Hawaii at Mānoa to establish the Center for Island Climate Adaptation and Policy (ICAP) in January 2009 to facilitate a climate-conscious future and improve island resiliency. ICAP is led by law professor, Maxine Burkett, and housed at the UH Sea Grant as a Sea Grant center of excellence. The ICAP staff consists of a group of planners, attorneys, and coastal geologists from the Department of Urban and Regional Planning, the William S. Richardson School of Law, the School of Ocean and Earth Science and Technology, and UH Sea Grant who have a shared sense that, although climate change had already begun to affect the Hawaii climate, most actions to address climate change in the state had appropriately focused on mitigating greenhouse gases, but not yet on adapting to the impacts. UH Sea Grant and ICAP recognize that an effective response to the new challenges facing many sectors requires a multidisciplinary approach.

UH Sea Grant is also partnering with the National Oceanic and Atmospheric Administration (NOAA) Coastal Storms Program to conduct a NOAA Sea Grant Coastal Storms Program for the Pacific Region, which includes the State of Hawai'i. This three-year program was initiated in September 2010 and is led by Mr. Dolan Eversole who serves as its coordinator. The Coastal Storms Program is a nationwide effort led by the NOAA to reduce loss of life and negative impacts on coastal property and the environment caused by coastal storms and other coastal hazards that include climate change. The coordinator will work to engage and educate local stakeholders on the impacts of storms and these other hazards and support training on how to use tools and applications created to improve hazard resilience. Support to local stakeholders will be available through technical assistance by local and NOAA staff and through small grant awards.

The state can help to ensure the viability of its coastal communities by supporting the HCR 97/HR 89 resolution. While many questions remain unanswered with regard to the impacts of climate change, it is still possible – and imperative – to utilize the best information currently available to make sound policy decisions. A comprehensive assessment of the effects of climate change on its ocean and coastal resources is a vital first step to ensure adequate preparation and increased adaptive capacity for the state. This assessment will focus on necessary research and strengthen our planning to make our coastal communities more resilient and prepared to deal with the impacts of climate change. Passage of this resolution is an important first step in the process of building community resilience well in advance of dangerous changes to climate.

Thank you for the opportunity to testify in support of this resolution.



For the Protection of Hawaii's Native Wildlife

HAWAII AUDUBON SOCIETY

850 Richards Street, Suite 505, Honolulu, HI 96813-4709

Phone/Fax: (808) 528-1432; hiaudsoc@pixi.com

www.hawaii-audubon.com

March 27, 2011

TO: Committee on Energy & Environmental Protection
Representative Denny Coffman, Acting Chair

HEARING: Tuesday, March 29, 2011; 10:00 A.M., Conference Rm. 325

Re: HCR97 and HR15 – REQUESTING THE UNIVERSITY OF HAWAII SEA GRANT COLLEGE PROGRAM TO REVIEW THE EFFECTS OF CLIMATE CHANGE ON HAWAII'S COASTAL AND MARINE RESOURCES.

Testimony in Support

Acting Chair Coffman, and members of the Committee on Energy & Environmental Protection. On behalf of the Hawai'i Audubon Society we offer this testimony in support of both HCR97, and HR15.

The Hawai'i Audubon Society was founded in 1939, and is the oldest conservation organization in Hawai'i. The Society has over 1,500 dedicated members statewide working together to further the Society's primary mission is the protection of Hawai'i's unique ecosystems including native wildlife and habitats. The sad fact is that Hawai'i has the highest number of listed threatened and endangered species in the nation. One-third of the nation's endangered birds are in Hawai'i, and thirty-one Hawaiian bird species are listed as endangered, more than anywhere else in the country.

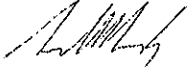
One of our primary concerns is the impact on our coastal ecosystems due to climate warming and sea rise. Our coastal zones are particularly vulnerable to climate variability, and changes will need to be made to our Coastal Wetlands Policy. In Hawai'i our coastal wetlands are home to the following bird species: **Koloa maoli** - Hawaiian Duck, **'A'o** - Wedge tailed shearwater or Newell's shearwater, and the **'Iwa** - Great Frigate Bird.

The Hawai'i Wildlife Center published a report, [The State of the Birds 2010 Report on Climate Change](#), which states that 93% of Hawaiian birds are at medium to high vulnerability. In February 2007, the American Bird Conservancy declared that the forests of the Hawaiian Islands are the most threatened bird habitat in the United States. Both climate change and sea rise will significantly impact these and other threatened or endangered bird species and their habitat.

The Hawai'i Audubon Society strongly believes that we must begin planning on how we can address the impacts of climate change, and begin to develop systemic policies to address the consequences climate change will have on our fragile ecosystems, economy and social infrastructure.

We thank the committee for the opportunity to submit our testimony on this very important and far reaching issue.

Sincerely,

A handwritten signature in black ink, appearing to read "George Massengale". The signature is written in a cursive style with a prominent initial "G".

George Massengale, JD
Legislative Analyst

Testimony of The Nature Conservancy of Hawai'i
Supporting with Amendments H.C.R. 97 and H.R. 89 Requesting the University of Hawaii
Sea Grant College Program to Review the Effects of Climate Change on Hawai'i's
Coastal and Marine Resources
House Committee on Energy and Environmental Protection
House Committee on Agriculture
Tuesday, March 29, 2011, 10:00AM, Rm. 325

The Nature Conservancy of Hawai'i is a private non-profit conservation organization dedicated to the preservation of Hawaii's native plants, animals, and ecosystems. The Conservancy has helped to protect nearly 200,000 acres of natural lands for native species in Hawai'i. Today, we actively manage more than 32,000 acres in 11 nature preserves on Maui, Hawai'i, Moloka'i, Lāna'i, and Kaua'i. We also work closely with government agencies, private parties and communities on cooperative land and marine management projects.

The Nature Conservancy supports H.C.R 97 and H.R. 89. We also recommend that you consider amending the resolution beyond just the consideration of the effects of climate change on Hawaii's coastal and marine resources and include effects on interrelated terrestrial resources as well, including such things as forested watersheds, streams, rainfall and freshwater supplies, and invasive species.

It is likely that the UH Sea Grant Program would be able to get assistance in this broader analysis from the following entities:

- Pacific Islands Climate Change Cooperative <http://piccc.net/>
- UH School of Ocean and Earth Science Technologies www.soest.hawaii.edu/coasts/
- UH Center for Island Climate Adaptation and Policy www.law.hawaii.edu/center-island-climate-adaptation-and-policy
- State of Hawai'i, Office of Planning, Coastal Zone Management Program <http://hawaii.gov/dbedt/czm/>

Climate change is an imminent and unprecedented threat to both natural systems (e.g., forests, coastlines, coral reefs, wetlands) and to every person in Hawai'i that—whether they know it or not—depends on services from the natural environment for their livelihoods, health and welfare. Scientists have examined the evidence and rapid climate change is real; it is clearly caused by human activity; it is already a problem for habitat for plants and animals; and, if sources of CO₂ are not dramatically reduced, climate change could well have catastrophic results for people and their relationship with the natural environment.

Even if we drastically reduce CO₂ emissions now, we will still feel the effects of climate change. In Hawai'i, science indicates that this may include:

- More frequent and more severe storms;
- Overall, less rainfall and therefore less fresh water;
- Higher temperatures that may affect the health of forested watersheds;
- Climatic conditions even more conducive to invasive plants, insects and diseases;
- Sea level rise and high wave events that will harm coastal areas and cause seawater infiltration into groundwater systems; and
- Ocean acidification that will inhibit the growth of coral reefs.

BOARD OF TRUSTEES

S. Haunani Apoliona Christopher J. Benjamin Anne S. Carter Richard A. Cooke III Peter H. Ehrman Kenton T. Eldridge
Thomas M. Gottlieb Donald G. Horner J. Douglas Ing Mark L. Johnson Dr. Kenneth Y. Kaneshiro Bert A. Kobayashi, Jr.
Faye Watanabe Kurren Eiichiro Kuwana Duncan MacNaughton Bonnie P. McCloskey Bill D. Mills Wayne K. Minami Michael T. Pfeffer
James C. Polk H. Monty Richards Jean E. Rolles Scott C. Rolles Crystal K. Rose Nathan E. Smith Eric K. Yeaman