MESSAGE FROM THE EXECUTIVE DIRECTOR

The past year has been a challenging one for Hawai‘i. The deepest global downturn in a half-century plunged the local economy into a steep tourism-led recession. The construction sector also contracted after a decade of healthy expansion. The Hawai‘i economy saw widespread job losses, and falling State tax revenues created a fiscal crisis that continues to unfold.

UHERO was ready to respond to the economic crisis. During the fiscal year ending June 30, 2009, our economic forecasting project provided timely and effective analysis of the changing economic environment. UHERO researchers provided hundreds of hours of commentary to the press and presentations to civic groups and policymakers. In partnership with KITV news, Dr. Sumner La Croix launched a weekly “UHERO report,” which features a UHERO economist interpreting the latest local and national economic news and reporting on important research findings.

At the same time, the past fiscal year saw a tremendous expansion of UHERO activities in other core research areas. Our project on Energy and Greenhouse Gas Solutions (EGGS), led by Dr. Denise Konan, undertook research on the determinants of Hawai‘i’s greenhouse gas emissions aimed at developing practical policy responses. Dr. Kimberly Burnett led UHERO efforts to evaluate the economic impact of invasive species in Hawai‘i and optimal management of our natural resources. Much of this work is collaborative with other UH units and local institutions including Kamehameha Schools and the Bishop Museum, and is supported by prestigious national grants. UHERO researchers Drs. Sang-Hyop Lee, La Croix and Burnett undertook a series of projects on important educational issues, including evaluating the impact of UH Manoa on Hawai‘i’s economy and the contribution of high school economics to economic literacy.

Overall, during FY2009 six UHERO faculty or fellows served as PIs on sixteen funded projects resulting in almost $900,000 in funding. These funds supported seven staff members, and they also supported UHERO’s central educational mission. UHERO provided financial support and opportunities for eight graduate assistants and several hourly graduate and undergraduate assistants. And we were able to bring on board 8 new undergraduate interns, who received real world research experience for the first time.

Key to this expansion of activities was the successful hiring of two full-time UHERO faculty members, economists Dr. Burnett and Andrew Kato, with funding approved by the State legislature during the 2007-2009 biennium UH budget process. It was a double pleasure to be able to bring back home to Hawai‘i these two outstanding local researchers.

UHERO also embarked on a year-long initiative to rebrand the organization and to redesign our primary website, reports and presentation templates. We also undertook a major redesign of our online data portal. Look for the launch of our new “face” early next year.

None of this would have been possible without the support of the University of Hawai‘i and our generous Sponsors too numerous to mention (but see the list on page 4.) Their financial commitment not only makes this work possible but also provides gratifying endorsement for the value UHERO can provide the State of Hawai‘i. With tough times yet ahead, we look forward to your continuing support over the coming year.

With Aloha,

Dr. Carl S. Bonham, Executive Director

---

1This report focuses on research initiatives underway during FY2009. As result, the dollar amounts reported here include some funds awarded in earlier periods.
THANK YOU TO UHERO SPONSORS AND GRANTORS

EXECUTIVE SPONSORS

Central Pacific Bank

Dowling Company, Inc.

Hawaiian Electric Company, Inc.

Kaiser Permanente Hawai‘i

Kamehameha Schools

Kaua‘i County of Economic Development

Matson Navigation Company

Maui Electric Company, Ltd.

SPONSORS

American Savings Bank

Prudential Locations, LLC

EGGS SPONSORS

Hawaiian Electric Company, Inc.

Michael Saalfeld

SeaGrant: University of Hawai‘i

Pierre & Pamela Omidyar Fund at the Hawai‘i Community Foundation

International Center for Climate and Society

Manoa Climate Change Commission

Renewable Energy and Island Sustainability

Science Education for New Civic Engagements and Responsibilities
UHERO'S MISSION

UHERO's mission is to inform public- and private-sector economic decision-making through quantitative and analytical research with a particular focus on the economies of Hawai'i and the Asia-Pacific region. UHERO provides a forum for interaction between scholars, public policy makers and business leaders on economic policy choices and facilitates the collaborative efforts of UH economists with other scholars. UHERO research associates support this mission by conducting substantive research which is widely disseminated to the public.

THE UHERO TEAM

UHERO faculty includes Carl Bonham, Kimberly Burnett, and Andrew Kato. UHERO staff includes Shih-Ling Chang and Craig Coleman.

UHERO Research Fellows are the Principal Investigators and Co-PIs on extramurally funded research projects administratively supported by UHERO. Research Fellows participate in UHERO governance and share administrative costs and benefits. Current Research Fellows include Makena Coffman, Byron Gangnes, Denise Konan, Sang-Hyop Lee, James Roumasset, and Gerard Russo.

UHERO Affiliate Researchers are engaged in research or service that supports UHERO's mission. Current Affiliate Researchers include Steve Alber, Paul Bernstein, Paul Brewbaker, Tim Halliday, Hui He, Ruben Juarez, Sally Kwak, John Lynham, Sumner La Croix, PingSun Leung, James Mak, Ilan Noy, Katerina Sherstyuk, Terrence Surles, Mary Tiles, and Jian Zhang.

UHERO graduate research assistants include Sean D'Evelyn, Julia Morgan, Olga Moulton, and Iman Nasseri.

UHERO undergraduate research interns are Ryan Akamine, Megan Chock, Elijah Frost, Magnus Frick, Jonathan Fung, Emily Makini, Leilani Pena and Sherilyn Wee.
HAWAI’I’S ECONOMY: ANALYSIS, FORECASTING, AND MEASUREMENT

$327,269 in funding in FY2009

UHERO’s Hawai’i economy group undertakes research and analysis on the operation of the Hawai’i economy and key policy challenges. UHERO’s Economic Information Service provides the Hawai’i community with information and forecasts of economic, demographic, and business trends in the State and the Asia-Pacific region. The EIS reporting schedule includes quarterly forecasts for the Hawai’i economy, an annual forecast report for the county economies, a semi-annual construction report, and an annual global outlook report. UHERO also maintains a free online data portal that provides public access to an extensive collection of relevant economic statistics.

Over the years, UHERO research associates have completed a wide range of studies assessing economic performance and policy issues for Hawai’i. These have included methodological inquiries into issues such as appropriate forecasting techniques for tourism and methods for evaluating the impact of tax and expenditure programs. UHERO has also studied the potential impact of external economic shocks, such as the 9/11 terror attacks. UHERO’s Hawai’i Economy research recognizes the unique features of the local economy including the key role of tourism, Hawai’i’s links with developing Asia, and the role of the State’s dynamic construction and service sectors.

Significant funded research during FY2009 included (names of Principle Investigators are given in parentheses):

- Public presentations. Drs. Carl Bonham and Byron Gangnes together made 34 separate presentations, and UHERO researchers including Andrew Kato and Senior Contributing Economist Paul Brewbaker provided crucial economic intelligence to the Hawai’i community.
- Continued expansion of the UHERO Economic Information service, various Sponsors/Subscribers. In FY2009 there were nineteen subscribers to one or more EIS report, and nine sponsors. Full reports were also circulated to University leaders, state legislators and several cooperating researchers (Bonham/Gangnes).
- UHERO Data Portal. UHERO continued to enhance functionality and coverage of the free online data portal, as well as a custom Kauai site underwritten by the County of Kauai (Bonham/Gangnes).
- Metropolitan Area Home Price Forecasting for more than 300 metro areas in US (quarterly), FIS Valuation Solutions (Bonham).
- Kauai County Online Data book project, plus economic forecasts, County of Kauai Office of Economic Development (Gangnes/Bonham).
- Estimating Visitor Demand, SeaGrant (Bonham).
- Sustainable Coastal Tourism, SeaGrant (Konan).
ENVIRONMENTAL ECONOMICS AND SUSTAINABLE ECONOMIC DEVELOPMENT

$461,407 in funding in FY2009.

The research group applies formal economic analysis to the study of key environmental challenges, including energy use and global warming, pollution control, water allocation and pricing, and policy design for the control of invasive species. Specific applications have included the simultaneous management of groundwater and watershed conservation, the economic benefits of environmental resource conservation, the design of policies for control of *Miconia calvescens* and the Brown Treesnake, and methods for measuring sustainable development. Supporting this applied research has been foundational analysis that has developed principles of environmental resource management and sustainability science with broad application.

THE UHERO ENVIRONOMY PROJECT

Led by Dr. Kimberly Burnett, this project undertakes research that articulates interactions between Hawai‘i’s natural environment (“enviro-”) and the State economy (“-nomy”). This year the project began several initiatives to begin to address this goal. Themes for FY2009 included invasive species management, water resources, nonmarket valuation, and environmental and natural resource policy.

Significant funded research during FY2009 included (names of Principle Investigators are given in parentheses):

- Sustainable groundwater management for Southern Oahu in the face of climate change, UHM Office of the Vice Chancellor for Research and Graduate Education (Roumasset). To mitigate the impact of climate change on groundwater resources, we develop a comprehensive water management program that jointly optimizes investment in watershed conservation and extraction from the down-gradient aquifer system.

- Evaluating Policy Options to Reduce the Risk of New Strains of Ohia Rust in Hawai‘i, United States Geological Survey (Burnett). This project will assess the economic costs and benefits of a quarantine program versus the costs and benefits of a complete ban on affected plants, and compare these policies to continuing “business as usual,” with no restrictions on high risk plants.

- Biological Control of Miconia, Entrix/DLNR (Burnett). UHERO researchers evaluated potential savings in management costs, the increased probability of eradication, and the reduced risk of spread of the invasive tree Miconia as a result of the biological control agents.

- Nonmarket Valuation of Surfing, Save the Waves Coalition (Coffman/Burnett). UHERO team members are working with Stanford University and Save the Waves Coalition on a study to quantify the annual economic benefit of surfing in Half Moon Bay, California. By gathering data on surfer’s willingness to pay for the sport, as reflected in their expenditures to visit the area, the team will estimate the annual economic benefit generated by the ocean environment.
Dr. Denise Konan heads UHERO’s *Energy and Greenhouse Gas Solutions* (EGGS) project. The project’s mission is to analyze and tailor energy and climate change policy by assessing technology options and the associated environmental and economic impacts. The core goals of the project are to: i) Engage in rigorous analysis and establish a global research reputation; ii) Develop and maintain data and models on Hawai‘i energy, economy, and resulting greenhouse gas (GHG) emissions; iii) Develop solution-based education and outreach programs on energy and GHG solutions for a variety of levels - legislators, business community, K-12, and higher education; and iv) Showcase Hawai‘i solutions that demonstrate a sustainable alternative for others.

The EGGS project’s primary funding have come from Hawaiian Electric Company, the Pierre & Pamela Omidyar Fund at the Hawai‘i Community Foundation, Michael Saalfeld, the International Center for Climate and Society, and the Hawai‘i Natural Energy Institute.

Significant funded research during FY2009 included (Dr. Konan is Principle Investigator for these projects):

- Greenhouse Gas Inventory, Michael Saalfeld.
- Greenhouse Gas Inventory and Policy Modeling, Pierre & Pamela Omidyar Fund at the Hawai‘i Community Foundation.
- Hawai‘i Bioenergy Master Plan, Hawai‘i Natural Energy Institute.

EGGS 2009 Working Papers include:

- Targeting Hawai‘i Greenhouse Gas Emissions Reductions: Emission Forecasts and Their Implications for Act 234
- Analysis of Introduction of Plug-in Electric Hybrid Vehicles to Honolulu
- Hawai‘i Greenhouse Gas Emissions Profile: 1990 and 2005
- Concepts in Greenhouse Gas Regulation: A Primer on Meeting Act 234
- An Overview of U.S. Regional and National Climate Change Mitigation Strategies: Lessons for Hawai‘i
This research group focuses largely on the microeconomics of health, education and the effectiveness of labor markets. Previous studies have looked at the problem of the medically underinsured and an array of education challenges. Dr. Burnett completed a study commissioned by the UHM Chancellor’s Office to examine the economic impact of UH Manoa on Hawai’i’s economy. Dr. Lee, Burnett, and Bonham have just completed a report to the UHM Chancellor on the determinants of faculty salaries at Doctoral Research Extensive Universities. Other work on education policy includes an analysis of the impact of high school economics on economic literacy, conducted by Kimberly Burnett and Sumner La Croix.

Significant funded research during FY2009 included (names of Principle Investigators are given in parentheses):

• A Comparative Study on Faculty Salary, UHM Chancellor’s Office (Lee). This study conducts a systematic analysis of salary levels for research-extensive universities by faculty rank and discipline, while accounting for relevant characteristics that determine a faculty member’s salary.

• Economic Impact of UHM, UHM Chancellor’s Office (Burnett). UHERO calculated the contribution of the Manoa campus to Hawai’i’s economy for FY 2007. UHM had a total impact of $1.895 billion on Hawai’i’s economy, representing approximately 2% of the State’s output and 2.5% of total jobs in Hawai’i.

• China-South Korea Trade Relationship Research Study, East West Center (Konan)


**BOOKS AND EDITED VOLUMES**


**ARTICLES IN EDITED VOLUMES**


**CONFERENCE PRESENTATIONS**


Burnett, Kimberly. Worldwide Herpetological Species Movements from 1850: Accidental, Purposeful, and Costly
Ecological Change, with Brooks Kaiser. 6th World Congress of Herpetology, Manaus, Brazil, August 17-23 2008.


Konan, Denise. Twelfth Annual Conference, Global Trade Analysis Project, 10-12 June 2009, Santiago, Chile.


INVITED LECTURES AND SIGNIFICANT MEDIA APPEARANCES


**Bonham, Carl.** “Maui Forecast Preview”, Maui Chamber of Commerce American Savings Bank

**Bonham, Carl.** Economic Update SBA Awards Luncheon, April 17, 2009.


**Bonham, Carl.** “No Quick Recovery From Hawai’i Recession”, Aiea/Pearl City Community Town Meeting, February 25, 2009


**Bonham, Carl.** “No Quick Recovery From Hawai’i Recession,” Joint informational briefing to the State of Hawai’i House Finance Committee and Senate Committee on Ways and Means, January 4, 2009.


**Bonham, Carl.** “Quarterly Forecast Update: No Quick Recovery From Hawai’i Recession”, United Public Workers Board of Directors Meeting, November 21, 2008.


**Bonham, Carl.** Everybody’s Business with Howard Dicus, November 21, 2008.

**Bonham, Carl.** “A Hard Fall for Hawai’i Tourism”, University of Hawai’i Professional Assembly Board of Directors, November 15, 2008.

**Bonham, Carl.** “A Hard Fall for Hawai’i Tourism”, University of Hawai’i Council of Chancellors, October 29, 2008.

**Bonham, Carl.** Gary Hooser’s Pau Hana Discussion with Legislators, October 28, 2009.


**Bonham, Carl.** ULI Young Leaders Event, October 7, 2008.

**Bonham, Carl.** “Quarterly Forecast Update: A Hard Fall for Hawai’i Tourism”, University of Hawai’i at Manoa Deans and Directors meeting, October 7, 2008.


**Bonham, Carl.** “Quarterly Forecast Update: A Hard Fall for Hawai’i Tourism”, Hawai’i Government Employees Association, September 26, 2008.

**Bonham, Carl.** “Quarterly Forecast Update: A Hard Fall for Hawai’i Tourism”, House Majority Caucus, September 24, 2008.

**Bonham, Carl.** Everybody’s Business with Howard Dicus, September 19, 2008.

**Bonham, Carl.** “Annual Construction Forecast: Construction Downturn Milder than Mainland”, Subcontractors


Gangnes, Byron. Hawai‘i Economic Outlook, University of Hawai‘i College of Arts & Sciences Alumni Association, March 12, 2009.


Konan, Denise. Hawai‘i Bioenergy Financial Incentives and Barriers, Hawai‘i Bioenergy Master Plan Stakeholders Meeting, with Iman Nasseri and Craig Coleman, Honolulu, HI, April 2, 2009.

Konan, Denise. Economic Impact of Climate Change Policy, Legislative Hearing on Global Climate Change, Honolulu, HI, January 15, 2009.

