

CTAHR RESEARCH NEWS

May-June 2010
Volume 6, Issue 5 (49)



Christopher Lepczyk regularly uses maps to investigate landscape change.

Human impacts on natural systems

USDA Undersecretary visits CTAHR

Grants still available

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From the Associate Dean and Associate Director for Research

I hope you are having a relaxing summer! This summer marks a major milestone in CTAHR's history. After almost 10 years as dean for CTAHR, Dr. Andy Hashimoto returns to faculty rank on July 1; and we still do not know who will assume the post of interim dean at this writing. Dr. Charly Kinoshita is acting dean for the next two weeks until the Board of Regents approves the appointment of an interim dean. In the last three weeks we went through a priority staffing process, and have identified two faculty positions, one for Family and Consumer Sciences, and one for Tropical Plant and Soil Sciences, as our top priorities for refilling. In addition, we will use Smith-Lever fund to hire three temporary extension agents. However, the Vice Chancellor of Academic Affairs has indicated that the interim dean will need to submit the staffing plan so, we will wait for the interim dean to be decided before submitting our staffing plan for next year.

There is no news on the budget front. Plenty of indicators show the economy is improving; however, other evidence predicts a double-dip rebound, which means the economy may go down again in the short term before a true recovery kicks in. How does this affect our budget? Your guess is as good as mine. One thing is for sure: we are not out of trouble yet! So, stay tuned.

I was invited by the Hawaii Department of Agriculture to join a marketing team to visit China in June. This USDA-funded China mission was to explore the feasibility of marketing Hawaii agricultural products to China. The team visited flower markets in Shanghai and Beijing, and met with Chinese agencies responsible for quarantine and import regulations, as

well as US Embassy Agricultural Trade Office staff to discuss issues related to the entry of agricultural products into China. Ample opportunities exist for our producers to sell their products to China; as the Chinese economy continues to expand there are needs for high-end products in every sector. Speaking of China, the second cohort of students from the South China Agricultural University is arriving later this month to spend four weeks at CTAHR.

Dr. Christopher Lepczyk of the Department of Natural Resources and Environmental Management is one of our newer faculty who joined CTAHR in recent years. His research is focused on the impact of humans on wildlife. Results from his research are needed for making management and policy decisions dealing with our natural resources. As you can see from his story, Chris has been very busy working on various projects. He, and other young assistant professors we hired in the recent years, are doing excellent work and they are the future of our college.

Dr. Doug Vincent also provides us with a story about USDA Deputy Secretary, Dr. Kathleen Merrigan's, April visit. And, as always, we profile open and successful grants and publications.

Enjoy your summer and we will see you in the new academic year!



CTAHR
Office of Research
College of Tropical Agriculture
and Human Resources
3050 Maile Way
Gilmore Hall 202
University of Hawaii at Manoa
Honolulu, HI 96822 USA
ph 808.956.4142
fx 808.956.9150
research@ctahr.hawaii.edu
www.ctahr.hawaii.edu

CRN staff
James R. Hollyer
Sharee Pepper



C.Y. Hu
Associate Dean
and Associate
Director for
Research

A integrative approach to conservation and management in a human-dominated world

By Christopher A. Lepczyk (lepczyk@hawaii.edu)
Assistant Professor
Department of Natural Resources and Environmental Management



Cheryl Lohr, Chris Lepczyk and Bart Batista check the status of a UHM campus cat feeding station. Students not pictured are Mark Chynoweth, Alisa Davis, Deidre Duffy, Brianna McDowell, Christopher Miller, Batistino Mponzi, Devolent Mtui, Tammy Summers and Danica Zupic.

Today the world faces a number of challenges to the environment, including the continued loss of habitat and concurrent rise in human-dominated and urban landscapes, the rise in human-nature conflicts, the resilience of ecosystems to deal with anthropogenic stressors, the homogenization of the world's biodiversity, the continued rise in exotic species and extinction of native species, climate change,

unabated population growth, and the importance of multiple stakeholders and private landowners in managing and conserving biodiversity. To address such a diversity of interrelated challenges, the goal of my lab's research is to pursue questions that provide needed information for conservation, management, and policy. In particular, our focus is on understanding the linkages between landscapes, people, and species using a suite



Tammy Summers weighs an endangered turtle on a digital scale as part of her monitoring study in the CNMI.

of interdisciplinary approaches. Hence, our research falls into many different disciplines, including landscape ecology, human dimensions of natural resources, ornithology, conservation biology, wildlife ecology, community ecology, animal welfare, endangered species, invasion biology, human demography, and natural resource management, depending upon what hat we are wearing for a given project. Because of this diversity, we also implement many different approaches and tools in our research, such as GIS/remote sensing, social surveys, bird banding, vegetation sampling, spatial statistics, and modeling. In essence, we seek to use the most appropriate approach to answer the question at hand, using either experimental or descriptive frameworks.

To address the multitude of pressing questions facing the environment, my students and I are involved in a diversity of research projects around the world. While some of the research is basic in nature, the majority of our efforts are directed at applied questions that relate to the conservation and management of ecosystems and landscapes. Similarly, some of our research falls within a

single discipline, but most crosses several disciplines. To offer a glimpse of these areas of research, let us now take a brief look at the ongoing research.

The role of landscape change

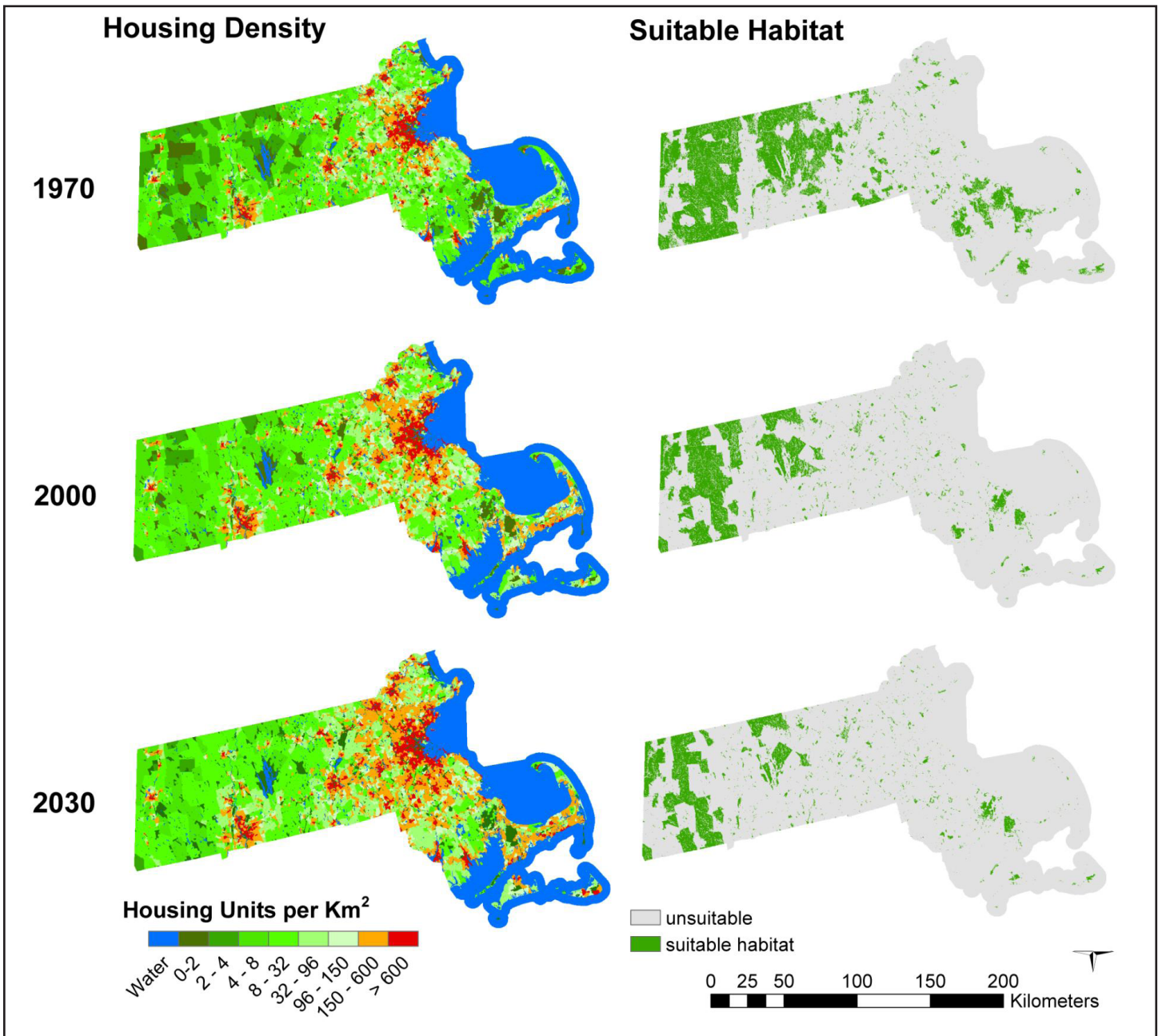
Changes in the landscape (i.e. changes in land use and land cover) over time underlie most of the major questions and problems facing ecosystems today. For instance, landscape change can lead to habitat loss and fragmentation, contribute to increases in the global atmospheric carbon pool, and impact animal migrations. As we gain increasingly powerful tools to understand the landscape (e.g., LIDAR, fine grain remotely sensed imagery, agent based modeling, etc.), our ability to ask questions has markedly improved, such that we can dig deeper into exploring the drivers of landscape change as well as the implications of that change on the ecology of the system, from species through ecosystem level processes.

Currently we are working on several projects related to landscape change around the world. In

one long-term set of projects, I am working with a host of colleagues (Dr. Qi Chen, UH Geography; Dr. Curtis Flather, USDA Forest Service; Dr. Roger Hammer, Oregon State University; Dr. Marc Linderman, University of Iowa; and Dr. Volker Radeloff, University of Wisconsin) on understanding how landscape change relates to dynamics in animal communities and populations across the conterminous United States, using birds as a proxy taxa. Specific questions of interest include: 1) does housing growth lead to community turnover across bird guilds of the Eastern US; 2) how does three-dimensional forest

structure relate to bird diversity across an entire state using LIDAR based data; and, 3) do stable ecosystems house greater biodiversity?

One approach that we have been using to measure landscape change is housing growth. While the building of a new house can replace an existing home, most new houses are built on land that did not previously contain a home. Hence, as new homes are built they change the land on which they were built as well as the surrounding environment and thus serve as a useful proxy for landscape change. Moreover, because houses are a better measure of many human demographic



An example of how housing growth in Massachusetts leads to landscape change, depicted here as habitat change. Over the 60 year period, housing growth in forested ecosystems is expected to reduce habitat for the Ovenbird by nearly 50%.



Deidre Duffy taking a bit of free time to explore Hawai'i's wildlife.

trends, in terms of environmental impact, they also allow for a strong coupling of ecology and demography. As a member of the USDA W2001 Multistate Working Group, we have been working on investigating how houses can serve as an integrator of land use, landscape change, and demographic trends in rural America.

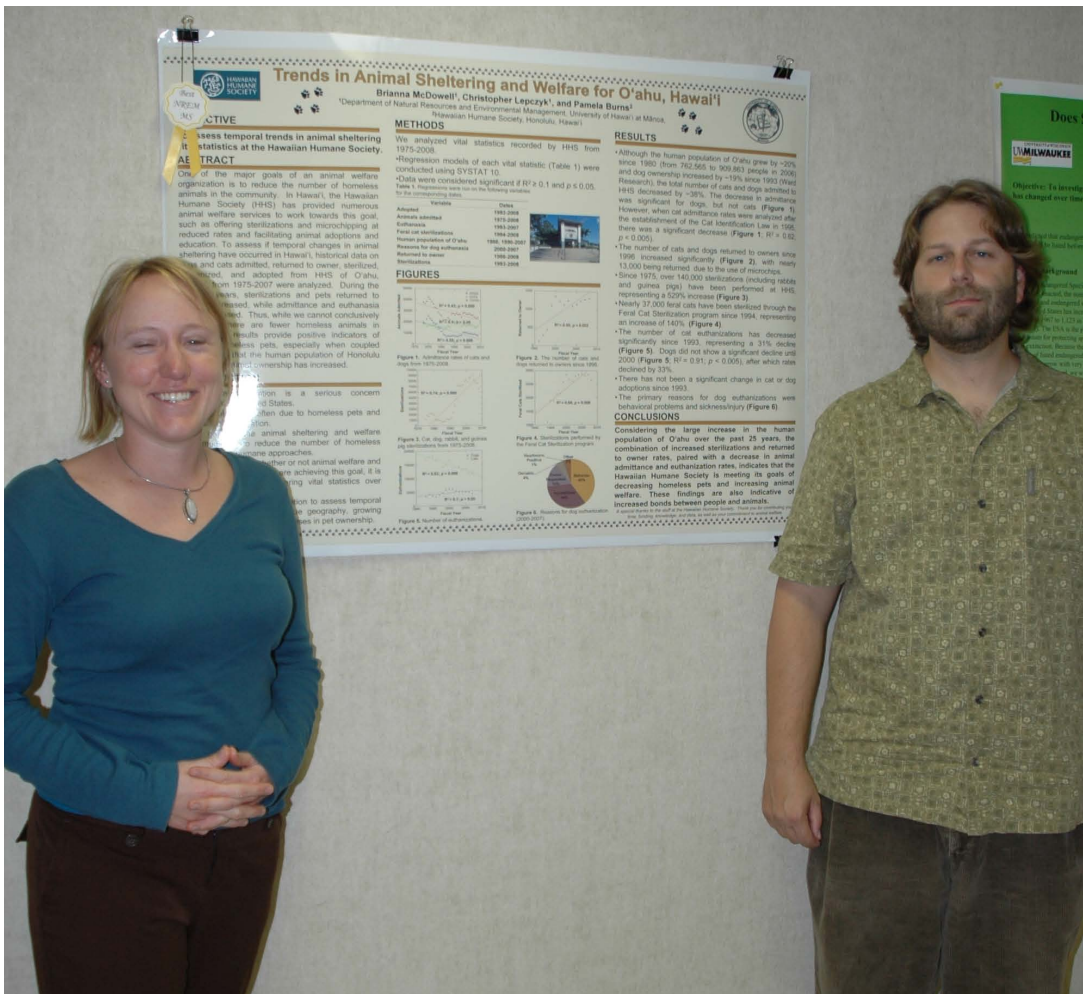
A third area of interest is looking at how landscape change translates into changes in ecosystem services. **Bart Battista** (NREM M.S. student) is currently working with Dr. Daniel Rutledge of Manaaki Whenua - Landcare Research (New Zealand) and myself to map and assess a suite of ecosystem services (flood mitigation, carbon storage, and wildlife habitat) and how they change in space and time in the Huron River Watershed of Michigan from the early 1930s to the mid 1990s using historical aerial photography. Because historical aerial photography offers a much longer window on landscape change than satellite imagery, Bart's work has the potential to markedly influence

our ability to assess historic ecosystem services. Upon completion, Bart's analysis will be the first ever large-scale attempt of mapping and valuing ecosystem services over time.

The rise of Urban Ecology

Today more than half of the world's population lives in urban areas, making these novel ecosystems a critical area of research in the twenty first century. Although urban ecosystems are often viewed in a negative light, due to phenomenon such as urban sprawl, the fact is that they are both understudied and can serve as critical habitats for many species. Currently, I am working with colleagues Owen Boyle (Wisconsin DNR), Tim Vargo (Urban Ecology Center), and Bill Mueller (Cedarburg Science LLC) on a large scale project investigating how urban parks and recreation areas in Milwaukee serve as critical stopover habitat for migrating birds, based upon such aspects as invasive species management and location in the urban matrix. We use a citizen science approach to accomplish our goals and over the past five years have trained over 150 individuals. These individuals work with us to conduct vegetation sampling, bird counts, mist-netting, and bird banding in an effort to assess the birds and the habitat. Given our level of success in training individuals, we were awarded the Citizen-based Monitoring Program of the Year in 2007 by the Citizen-Based Monitoring Network of Wisconsin.

Aside from my research in urban parks I am also in the process of developing new research in Hawai'i. In particular, as the remotest urban area in the world, Honolulu offers many unique opportunities to understand how urban ecosystems operate. Having recently co-organized two symposiums on urban systems at the Ecological Society of America (ESA) meeting (Trophic Dynamics in Urban Ecosystems) and North American Ornithological Congress (New Directions in Urban Bird Ecology and Conservation), one main highlight was the lack of understanding related to urban ecosystems in both the tropics and on islands, a role Honolulu can easily fill. Besides my research interest in urban systems, I also serve as the vice chair of the Urban Ecosystems section of the ESA and have just completed editing (along with Paige Warren, University of Massachusetts Amherst) a volume of twenty manuscripts for *Studies in Avian Biology* entitled "New Directions in Urban Bird Conservation and Ecology."



Brianna McDowell and Chris Lepczyk highlighting recent findings for the Hawaiian Humane Society newsletter.

From game species to pets to endangered species: wildlife ecology in Hawai'i

Across the US, most Land Grant Institutions house wildlife ecologists, both as research and Extension faculty. Notably, UH has never housed a professionally trained wildlife ecologist. As such, there have been large gaps in our knowledge about most terrestrial vertebrates in Hawai'i, with the exception of endangered forest birds, several shorebirds, and one or two feral animals. This lack of knowledge has often resulted in a stagnation of management actions, policy directions, and restoration efforts because of the multitude of competing interests and different stakeholder views related to wildlife issues (see below for more on the social aspect of this issue). Thus, my laboratory is engaged in understanding wildlife related issues to help improve management and conservation efforts.

Feral animals have long been considered problematic in Hawai'i, but our management has been constrained by a lack of knowledge about how they move across the landscape. In one set of questions my former student **Lasha Salbosa** (NRME M.S. 2009)

and current student **Mark Chynoweth** (NREM M.S. student; co-advised with **Dr. Creighton Litton**) have been investigating the movement of feral pigs and goats, respectively, across forested landscapes using GPS collars and satellite imagery. Lasha tested a new model of animal movement that incorporated Brownian bridge motion, and demonstrated that it is vastly superior for determining home ranges of feral animals in the topographically challenging forested landscapes of Hawai'i compared to previous methods. Mark, with support from a National Science Foundation Graduate Fellowship, will be working to ascertain how feral goats move in relation to the structure, composition, and phenological changes in the plant communities of several ecosystems on the Big Island as part of a larger USDA Forest Service project led by Dr. Susan Cordell.

Another feral animal that is a significant problem across the islands as well as on campus is the house cat. Feral, and even just outdoor, cats are opportunistic predators and harbor toxoplasmosis, both of which pose problems to endangered species. On campus, an undergraduate student (**Alisa Davis**, NREM B.S.

2010) has spent the past year estimating the upper campus cat population in order to provide baseline information requested by UH Facilities. In addition, **Cheryl Lohr** (NREM Ph.D. student) has recently completed an economic analysis of different feral cat management alternatives in Hawai'i. Finally, with a number of colleagues on campus (**Drs. David Duffy** and **Sheila Conant**) and around the world, we continue to contribute conservation and management guidelines for reducing the impact of feral cats on wildlife and the environment. For a glimpse of our conservation efforts, you can watch an upcoming documentary on feral cats that is being produced for the Canadian Broadcast Corporation.

A second group of animals that presents many ecological and cultural challenges is game species. Although none of the game species currently hunted in Hawai'i is native, the state is mandated to manage for them. Interestingly, little analysis has ever been done on the game species of Hawai'i, which is critical, given the disagreements between conservation biologists, wildlife managers, hunters, and other stakeholder groups. To begin filling in the gaps in knowledge of game species, Hawai'i's Department of Land and Natural Resources has been supporting **Deidre Duffy** (NREM M.S. student) to compile and analyze all historical hunting records across the state from the annual Pittman-Robertson reports. Deidre has constructed a well-received chronology of all game species introductions to the state, by island and species, and just completed an analysis of game harvests and hunting effort since World War II. This analysis of game species will provide the first ever detailed record of hunting and harvest in the state and allow all interested stakeholders to see what has changed over time.

Pets are often studied in the context of veterinary medicine or animal science, but more recently have become a part of wildlife ecology and applied ecology research. In large part this increase is because pets, especially feral or free-ranging ones, can interact with other animals and/or impact the ecosystem. For instance, entire colonies of native seabirds have been trampled and killed by unleashed dogs. Recently, **Brianna McDowell** (NREM M.S. student) has been investigating how vital statistics (i.e. admittance, adoption, euthanasia, etc.) have changed over the past 30 years at the Hawaiian Humane Society (HHS). Because HHS is the primary animal sheltering organization on O'ahu, changes in their vital statistics can shed a

light on what might be happening in the environment. One of the biggest findings from our analysis is that feral and stray animal intake on O'ahu has declined markedly over the past three decades. While we cannot conclusively state that there are fewer feral and stray animals on the landscape, the data strongly suggest this to be the case, especially for dogs. The conservation implication of such findings is quite positive in that it means fewer non-native animals that native species must contend with for survival and reproduction.

Among the native species, the most compelling group for conservation and management is endangered species. One group of endangered species well-known to the Pacific region is sea turtles. **Tammy Summers** (NREM M.S. student) has been working with colleagues in the Commonwealth of the Northern Mariana Islands to investigate traditional capture methods of Green (*Chelonia mydas*) and Hawksbill (*Eretmochelys imbricata*) turtles in order to track and monitor juvenile turtles in nearshore foraging areas. To date, Tammy's work has already yielded more turtle records than all previous years combined, indicating the value for traditional handling methods. When finished, Tammy's work will help both scientists and managers understand much needed natural history information about sea turtles in the South Pacific.

On the other side of the globe, **Devolent Mtui** (NREM Ph.D. student), an East-West Center Fellow, is planning to study the economic and policy aspects of captive breeding and re-introduction programs for the Kihansi Spray Toad (*Nectophrynoides asperignis*) in Tanzania. Because the Kihansi Spray Toad has been extirpated in the wild, Devolent's work can provide much needed research on the limitations, costs, and benefits of maintaining and reintroducing this unique amphibian. Aside from work on sea turtles, my colleagues (Dr. Rebeca Christoffel—Iowa State University and Daniel Rutledge) and I have been working to understand different temporal dynamics of endangered species listing in the US. In our most recent study, we found that a number of human perception measures correlate well to when an endangered species was listed as endangered by the federal government.

Understanding the human side of natural resources

A classic saying is that managing nature is really about managing people. This statement has never been more true than today, and will only continue to grow as people

continue expanding ever further into the wilderness and strain the world's ecosystems. At the same time, it has become increasingly apparent that we as scientists will never understand every single aspect of a system being investigated. This begs the question of how best to understand and conserve our ecosystems? Two approaches that we use to understand people are human dimensions (i.e. applied sociology) and a systems approach that integrates sociological approaches with paradigms of ecology (i.e. coupled human-natural systems approach).

Introduced animals, be they game, pets, biocontrol, or livestock, all have the potential to alter, influence, and degrade the unique ecosystems of Hawai'i. Because of this potential, there is a strong desire among a number of stakeholders to manage introduced animals through such means as fencing, culling, biocontrol, etc. However, there are also many stakeholders that either oppose management or have different views on their preferred methods of control. Ultimately, then, the management of introduced animals becomes a social question. With support from a Hatch grant, **Cheryl Lohr** is currently investigating management options for introduced animals using both wildlife stakeholder

acceptance capacity and decision theory models. Both modeling approaches will provide direction to policymakers and agencies on what alternatives should be implemented for management and control as well as advance the field of natural resource management.

Another area in which understanding people is critical is evaluating environmental education. **Danica Zupic** (NREM M.S. student), with support from a National Oceanic and Atmospheric Administration (NOAA)—Hawai'i Institute of Marine Biology (HIMB) Fellowship, is currently working on compiling and evaluating NOAA's Bay Watershed Education and Training (BWET) program in Hawai'i. The BWET program is part of a congressional mandate that provides regionally based, locally relevant grants to promote experiential environmental literacy. Dani is currently conducting a program evaluation while developing performance tracking tools, which are needed prior to any expansion of the program to the territories of Guam, American Samoa and the Marianas.

A final project that is part wildlife and part people is **Batistino Mponzi's** (NREM M.S. student) investigation of human-wildlife conflict. Batistino, an East-West Center Fellow, is planning to investigate the



A flood of feral goats is being pushed out of a newly fenced area on Big Island.

spatial relationships of large African predator (lions, leopards, hyenas, jackals and wild dogs) attacks on livestock and people in the Maasai Steppe of Northern Tanzania. Because of the growing problem of human-wildlife conflict, Batistino's work will provide a much needed assessment of the geographic distribution of the conflicts in relation to where villages and livestock are present.

Fitting the pieces together

Ultimately, ecosystems and landscapes must be studied, managed and conserved in an increasingly human-dominated world. Thus, developing management plans for new conservation areas, which **Chris Miller**

(NREM M.S. student) is pursuing on O'ahu, requires an integrative understanding of natural history, invasive species, abiotic conditions, landscape context, and people. However, in order to achieve this integrative understanding, we will need to embrace new technological approaches, such as ecoinformatics, and test our management, policy, and restoration actions in an adaptive management framework. Only through such approaches can we reduce uncertainty and increase our understanding of the environment in ways that will lead to a sustainable future.

Christopher A. Lepczyk

Hometown: Traverse City, MI

Joined CTAHR: 2007

Educational History: B.S. Biology and Geology, Hope College, 1993; M.S. Wildlife Ecology, University of Wisconsin-Madison, 1996; Ph.D. Fisheries and Wildlife and Ecology, Evolutionary Biology, and Behavior, Michigan State University, 2002.



Specialization: Wildlife Ecology, Landscape Ecology, and Conservation Biology

Current Work: Understanding how landscape change influences biodiversity and ecosystem services at both regional and continental scales; disentangling the relationships between ecosystem stability, land use, and human demography; investigating management alternatives for non-native animal species in Hawai'i using human dimensions approaches; developing a synthesis of citizen science in ecology and conservation.

Languages Spoken: English

Recent Publications

Lepczyk, C.A., N. Dauphiné, D.M. Bird, S. Conant, R.J. Cooper, D.C. Duffy, P.J. Hatley, P.P. Marra, E. Stone, S.A. Temple. 2010. What conservation biologists can do regarding trap-neuter-return: response to Longcore et al. *Conservation Biology* 24:627–629.

Lepczyk, C.A., C.J. Lortie, and L. Anderson. 2008. An ontology of landscapes. *Ecological Complexity* 5:272-279.

Lepczyk, C.A., R.B. Hammer, V.C. Radeloff, and S.I. Stewart. 2007. Spatiotemporal dynamics of housing growth hotspots in the North Central U.S. from 1940 to 2000. *Landscape Ecology* 22:939-953.

Recent Grants

Lepczyk, C.A. 2008-2010. Research to improve estimates of game harvests and hunting participation in the state of Hawaii. Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife, \$52,344.

Lepczyk, C.A. 2008-2010. Research Starter Grant—Understanding the relationship between housing density and forest structure on avian communities across forested landscapes. National Science Foundation, \$50,000.

Lepczyk, C.A. 2008-2010. Home range and disturbance patterns of feral pigs. The Nature Conservancy, \$35,000.

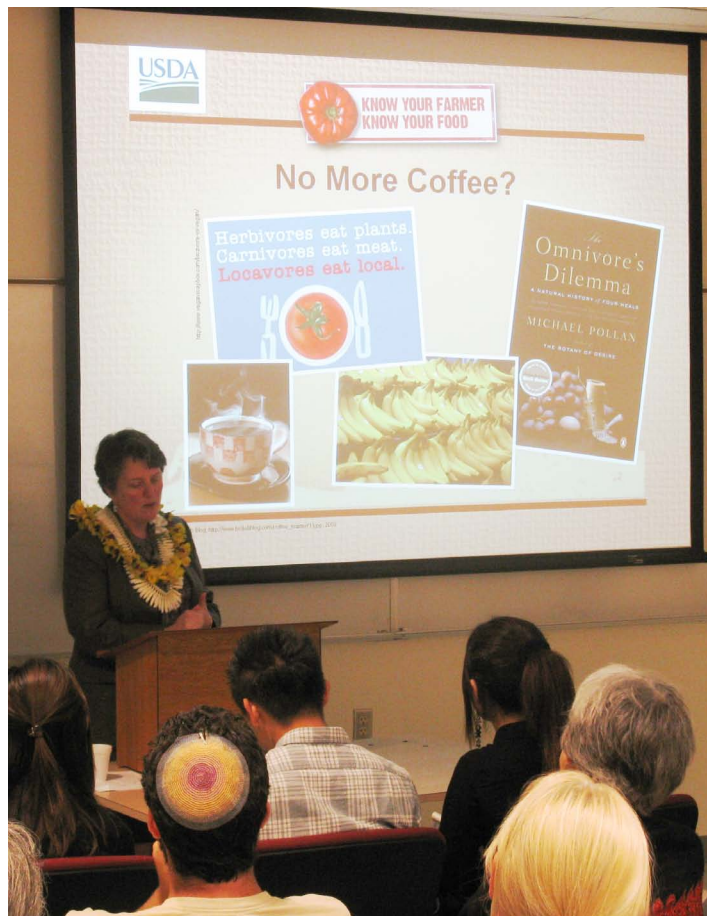
Know your farmer, know your food

Doug Vincent, Chair (vincent@hawaii.edu)
Department of Human Nutrition, Food and Animal Sciences

“**K**now Your Farmer, Know Your Food” was the message presented to CTAHR stakeholders, students and faculty by USDA Deputy Secretary, Dr. Kathleen Merrigan on Tuesday, April 6, 2010. Dr. Merrigan was visiting stakeholders and agricultural community leaders as part of the “Know Your Farmer, Know Your Food” College Tour. Following a meeting with important stakeholders, including CTAHR students, and a reception hosted by HNFAS, Dr. Merrigan presented this important message to an overflow crowd in Ag Sciences. The “[Know Your Farmer, Know Your Food](#)” initiative promotes local and regional food systems by stimulating community economic development and ensuring equitable access to affordable fresh and local food. The emphasis of “Know Your Farmer, Know Your Food” is the critical importance of consumers connecting their food with the farmers that produce it. One way farmers can get involved, is to participate in local farm to school programs that enable schools to feature health, locally-sourced products in their cafeterias. Providing greater access to fresh and healthy food is a priority of the Obama Administration.

Thanks to Diane Ley of USDA Farm Service Agency in Hawaii for organizing the event and to Dr. Linda Cox and Eunice Morisaki for coordinating on behalf of CTAHR. Thanks are also in order to the HNFAS students who helped prepare the food for the reception and to Mieko MacLaughlin, TPSS, Caren Char, Dean’s Office, Carrie Asuncion, HNFAS and Colleen Bird, HNFAS for set up and cleaning. Special thanks to Chef Mark Segobiano who organized and prepared great food for the reception.

Chef Mark Segobiano, HNFAS (middle front) and his students, preparing food for USDA meetings.



Dr. Kathleen Merrigan, Deputy USDA Secretary



MAY 20 2010

Office of the Chancellor



UNIVERSITY
of HAWAII®
MĀNOA

May 11, 2010

Dr. Daniel Rubinoff
Associate Professor
Dept. of Plant and Environmental Protection Sciences
College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa
3050 Maile Way, Gilmore Hall 412A
Honolulu, Hawai'i 96822

**Congratulations
Dan Rubinoff!**

Dear Dr. Rubinoff:

I am delighted to offer my congratulations on your selection by the University Research Council for the 2010 Regents' Medal for Excellence in Research. The Council received numerous nominations of outstanding faculty members for this award. A committee of former award recipients did an initial screening to identify top nominees. The Council then requested evaluations of each of the top nominees from leading U.S. scholars in the candidates' particular specialties. Your accomplishments have earned high praise and you join an honored group of faculty who remain dedicated and committed to the highest level of research.

As the award recipient, you will be recognized at the 2010 Convocation ceremony on September 21, 2010 when the Regents' Medal and a \$1,000 monetary award will be presented. You will receive more information about the event at a later date.

In addition, we would be honored if you would consent to give a public lecture early in the 2010 Fall semester, targeted primarily for undergraduate students. The University Research Council will coordinate arrangements for this public lecture with your home department.

Congratulations on your achievement in receiving this prestigious award. Your excellence in research brings honor to your department and the University of Hawai'i at Mānoa.

*Makaloa Imae
Hale*

With warm regards,

A handwritten signature in black ink, appearing to read 'Virginia S. Hinshaw'.

Virginia S. Hinshaw
Chancellor

- c: Vice President James Gaines
Vice Chancellor Gary K. Ostrander
Dean Andrew Hashimoto
Associate Dean Ching Yuan Hu
Dr. Peter Garrod/Dr. Vassilis Syrmos, University Research Council

2500 Campus Road, Hawai'i Hall 202
Honolulu, Hawai'i 96822
Telephone: (808) 956-7651
Fax: (808) 956-4153

An Equal Opportunity/Affirmative Action Institution

NIFA grants are now available!

By Sharee Pepper
Grant coach

The following list includes some current funding opportunities that may be of interest to CTAHR faculty. If the deadline is too short for this year, it is still a good indication of the likely due date for next year. Let us know if we can be of any assistance with developing and editing your grant application.

For information on submitting grants electronically on grants.gov the following publication may be useful.

USDA, NIFA Grants.gov Application Guide – A guide for the preparation and submission of NIFA applications via grants.gov.

http://www.nifa.usda.gov/funding/grant_forms/electronic_app_guide.pdf

NIFA Help Desk - Phone: 202-401-5048 (M-F 7:00 am -5:00 pm ET)

UH ORS Help Desk – Phone: 956-5198 (M-F 7:45-4:30 pm HST)

Agriculture, Rural and Community Development Grants

See appendix table at end for new AFRI deadline dates or URL: http://www.nifa.usda.gov/funding/afri/afri_program_deadline_dates.html

\$ - DOD - Center for High Technology Research (PICHTR), Hawaii Technology Development Venture (HTDV)

Deadline: July 12, 2010

<http://www.hitdv.com/2010%20HTDV%20RFP%20Final.pdf>

\$ - USDA, NIFA - Small Business Innovation Research Program (SBIR) Phase I Commercialization Assistance Program (CAP)

Deadline: July 15, 2010

http://www.nifa.usda.gov/funding/rfas/sbir_cap_rfa.html

\$ - USDA, NIFA - Biomass Research and Development Initiative Competitive Grants Program (BRDI)

Deadline: July 13, 2010

<http://www.nifa.usda.gov/funding/rfas/brdi.html>

\$ - USDA, NRCS - Pacific Islands Area Conservation Innovation Grants (CIG)

Deadline: July 16, 2010

<http://www.pia.nrcs.usda.gov/technical/cig/index.html>

\$ - USDA, Business and Cooperative Programs - Small Socially Disadvantaged Producer Grant

Deadline: July 27, 2010

<http://www.rurdev.usda.gov/rbs/coops/ssdpg/ssdpg.htm>

\$ - Aetna Foundation Announces 2010 Grant Program Funding Priorities

Deadlines: Quarterly - February 15, May 15, August 15, & November 15, 2010

<http://www.aetna-foundation.org/foundation/apply-for-a-grant/grantseeker-information/index.html>

\$ - USDA, NIFA - Small Business Innovation Research Program Phase I

Deadline: September 2, 2010

http://www.nifa.usda.gov/funding/rfas/sbir_rfa.html

\$ - Farm Foundation

Deadlines: October 31

<http://www.farmfoundation.org/webcontent/Farm-Foundation-NFP-Small-Grants-Program-357.aspx?z=85&a=357>

\$ - USDA, NIFA – Western SARE - Producer Grant (formerly farmer/rancher grants)

Deadline: December 3, 2010

https://wsare.usu.edu/grants/RFA/FRG_2011.pdf

\$ -USDA, NIFA - Western SARE - Sustainable Agriculture Tour grants

Deadline: applications accepted year round

https://wsare.usu.edu/grants/RFA/TRG_2010.pdf

\$ - USDA, Rural Development

Community Facilities Loan and Grant Program

Deadline: Applications accepted on an ongoing basis

<http://www.rurdev.usda.gov/rhs/cf/cp.htm>

http://www.rurdev.usda.gov/rhs/cf/brief_cp_grant.htm

Education

\$ - USDA, NIFA – Western SARE -Professional Development Program Grant

Deadline: November 5, 2010

https://wsare.usu.edu/grants/RFA/PDP_2011.pdf

\$ - Human Frontier Science Program – Short Term Fellowship Program

Deadline: rolling – applications accepted year round

http://www.hfsp.org/how/appl_forms_STF.php

\$ - NSF – Active Funding Opportunities

Deadline: Multiple

http://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date

Environment, Water, Energy, Invasive Species Grants

\$ - National Forest Foundation: Community Assistance Program

Local Forest Partnerships Fund

Deadline: proposals accepted on a rolling basis throughout year

http://www.natlforests.org/consp_05_cap.html

\$ - National Geographic Conservation Trust Offers Funding to Preserve Earth's Resources

Deadline: Open

<http://www.nationalgeographic.com/field/grants-programs/conservation-trust-application.html>

Families, Youth and Children Grants

\$ - CHS Foundation

Rural Youth and Leadership Development

Deadline: rolling – applications accepted year round

<http://www.chsfoundation.org/programs/ryld.htm>

Financial Grants

\$ - Money Management International Financial Education Foundation,

Financial Education Grants

Deadline: rolling – applications accepted year round

<http://www.mmifoundation.org/GrantSeekers.asp>

\$ - Hitachi Foundation: Business and Communities Grants Program

Grants Address Economically Isolated Communities

Interested organizations may submit an online inquiry to provide information about project ideas **at any time** and the Foundation's will determine if it fits their priorities.

<http://www.hitachifoundation.org/grants/guidelines/index.html>

Health, Nutrition, Food & Biomedical Grants

\$ - Aetna Foundation Announces 2010 Grant Program Funding Priorities

Deadlines: Quarterly - February 15, May 15, August 15, & November 15, 2010

http://foundationcenter.org/pnd/rfp/rfp_item.jhtml?id=288000014

\$ - Robert Wood Johnson (RWJ) Foundation - Healthy Eating Research Announces 2010 Call for Proposals

Deadlines: Rapid-Response Grants due September 1, 2010

<http://www.healthyeatingresearch.org/component/content/article/230>

\$ - RWJ - Proposals Invited for Round Five of Healthy Eating Research: Building Evidence to Prevent Childhood Obesity

Deadline: September 1, 2010

<http://www.rwjf.org/applications/solicited/cfp.jsp?ID=20922>

\$ - RWJ and Pew Charitable Trusts Announce Health Impact Project

Deadline: Open

<http://www.rwjf.org/applications/solicited/cfp.jsp?ID=20921>

Science Grants

NSF – Active Funding Opportunities

Deadline: Multiple

http://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date

\$ - National Geographic Society – Waitt Grants Program

Deadline: Rolling

<http://www.nationalgeographic.com/field/grants-programs/waitt-grants-application.html>

UH, Hawaii and Regional Grants

\$ - UH, University Research Council - Faculty Travel Funds
Proposal Deadline: rolling – applications must be in >4 weeks before travel.

http://www.hawaii.edu/urc/pdf/factravel_g.pdf

http://www.hawaii.edu/urc/pdf/factravel_f.pdf

NIFA / AFRI deadlines

The Agriculture and Food Research Initiative (AFRI) encompasses several different Request for Applications (RFA) that contain many Program Areas. These Program Areas cover a broad array of issues and topic important to US agriculture. Important deadlines are summarized in the table below. Refer to the following RFAs for related detailed information on Program Area Priorities for FY2010:

[AFRI Foundational Program RFA](#)

[AFRI Childhood Obesity Prevention Challenge Area RFA](#)

[AFRI Climate Change Challenge Area RFA](#)

[AFRI Food Safety Challenge Area RFA](#)

[AFRI Global Food Security Challenge Area RF](#)

[AFRI Sustainable Bioenergy Challenge Area RFA](#)

URLs: http://www.nifa.usda.gov/funding/rfas/afri_rfa.html or http://www.nifa.usda.gov/funding/afri/afri_program_deadline_dates.html

Foundational Program within AFRI (\$64 million)	Funds Available (Millions)	Letter of Intent Deadline	Application Deadline
Plant Health and Production and Plant Products (A1101)	\$7.5	Tuesday, April 20, 2010	Wednesday, July 07, 2010
Pest and Beneficial Insects in Plant Systems (A111)	\$6.0	Thursday, April 22, 2010	Thursday, June 10, 2010
Animal Health and Reproduction: Animal Bioinformatics and Development of Tools for Livestock, Poultry, and Aquaculture (A1201)	\$5.0	Wednesday, April 21, 2010	Wednesday, July 14, 2010
Animal Health and Reproduction: Animal Reproduction (A1211)	\$4.0	Not Required	Tuesday, May 04, 2010
Animal Health (1221)	\$5.0	Not Required	Wednesday, May 05, 2010
Food-borne Pathogen-Plant Interactions (1301)	\$3.5	Wednesday, April 14, 2010	Wednesday, May 26, 2010
Practical Approaches to Food Safety (1311)	\$2.0	Wednesday, May 12, 2010	Wednesday, August 04, 2010
Reducing Food Allergies by Improving Food Quality (A1321)	\$4.5	Wednesday, April 14, 2010	Monday, June 14, 2010
Microbial Communities in Soil (A1401)	\$4.5	Monday, May 03, 2010	Monday, August 23, 2010
Agriculture Water Science (A1411)	\$4.5	Not Required	Wednesday, May 19, 2010
Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare (A1501)	\$4.0	Wednesday, April 14, 2010	Thursday, July 08, 2010
Nanoscale Science and Nanotechnology to Ensure Safe Food (A1511)	\$3.5	Not Required	Friday, May 14, 2010
Prosperity of Small and Medium-Sized Farms and Rural Communities (A1601)	\$7.0	Not Required	Wednesday, July 14, 2010
Economics of Markets and Development (A1611)	\$3.0	Not Required	Wednesday, July 07, 2010

Childhood Obesity Prevention (\$25 million)			
	Funds Available (Millions)	Letter of Intent Deadline	Application Deadline
Integrated Research, Education and Extension to Prevent Childhood Obesity (A2101)	As many as 15 awards up to \$1.0 million per award per year	Not Required	Tuesday, June 29, 2010
Extension Interventions to Prevent Childhood Obesity (A2111)	As many as 5 awards up to \$0.2 million per award per year	Not Required	Tuesday, June 29, 2010
Transdisciplinary Graduate Education and Training in Nutrition and Family Sciences or Child Development or Related Fields to Prevent Childhood Obesity (A2121)	As many as 2 awards up to \$1.0 million per award per year	Not Required	Tuesday, August 03, 2010
Methodological Research to Assess the Effectiveness of Obesity Prevention Strategies (A2131)	As many as 4 awards up to \$0.5 million per award per year	Not Required	Tuesday, June 29, 2010
Community-based Childhood Obesity Prevention (A2141)	As many as 1 award up to \$5 million per award per year	Monday, May 03, 2010	Tuesday, August 03, 2010
Climate Change (\$55 million)			
	Funds Available (Millions)	Letter of Intent Deadline	Application Deadline
Regional Approaches to Climate Change (A3101)	As many as 5-8 awards up to \$4.0 million per award per year	Friday, May 07, 2010	Friday, July 16, 2010
Regional Approaches to Climate Change: Planning (A3111)	As many as 10 awards up to \$0.05 million per award per year	Not Required	Friday, May 14, 2010
National Cereal Germplasm Phenotyping (A3121)	As many as 2 awards up to \$5.0 million per award per year	Friday, May 07, 2010	Friday, July 16, 2010
Impacts of Climate Change on Animal Health and Production (A3131)	As many as 5 awards up to \$0.5 million per award per year	Friday, April 30, 2010	Friday, July 02, 2010
Climate Change Mitigation and Adaptation in Agriculture (A3141)	As many as 13 awards up to \$1.0 million per award per year	Friday, April 30, 2010	Friday, July 02, 2010

Global Food Security (\$19 million)			
	Funds Available (Millions)	Letter of Intent Deadline	Application Deadline
Improving Sustainability by Improving Feed Efficiency of Animals (A5101)	As many as 3 awards up to \$3.0 million per award per year	Wednesday, April 14, 2010	Wednesday, July 14, 2010
Minimizing Losses from Dairy Diseases with Major Impact on Production, Marketing, and/or Trade (A5111)	As many as 1 award up to \$2.0 million per award per year	Friday, April 23, 2010	Tuesday, July 13, 2010
Oomycete Pathosystems in Crop Plants to Minimize Disease (A5121)	As many as 2 awards up to \$1.9 million per award per year	Monday, April 26, 2010	Monday, August 02, 2010
Program Delivery and Implementation of Wide-area Pest Monitoring (A5131)	As many as 1 award up to \$1.2 million per award per year	Wednesday, May 19, 2010	Wednesday, August 11, 2010
Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally (A5141)	As many as 5 awards up to \$1.0 million per award per year	Friday, April 30, 2010	Tuesday, June 29, 2010
Food Safety (\$20 million)			
	Funds Available (Millions)	Letter of Intent Deadline	Application Deadline
Prevention, Detection, and Control of Shiga toxin-producing Escherichia coli from Pre-Harvest through Consumption of Beef Products (A4101)	As many as 1-2 awards up to \$5.0 million per award per year	Wednesday, May 05, 2010	Wednesday, September 22, 2010
Microbial Ecology and Shiga toxin-producing Escherichia coli Shedding in Cattle (A4111)	As many as 7 awards up to \$0.5 million per award per year	Wednesday, April 21, 2010	Tuesday, June 29, 2010
Prevention, Detection, and Control of Food-borne Viruses in Food: A Focus on Noroviruses (A4121)	As many as 1-2 awards up to \$5.0 million per award per year	Monday, April 26, 2010	Wednesday, September 01, 2010
Food Processing Technologies to Destroy Food-borne Pathogens with an Emphasis on Viruses and Shiga toxin-producing Escherichia coli (A4231)	As many as 4 awards up to \$1.0 million per award per year	Wednesday, April 21, 2010	Tuesday, June 29, 2010
Addressing Critical and Emerging Food Safety Issues (A4141)	As many as 5 awards up to \$0.3 million per award per year	Wednesday, April 28, 2010	Tuesday, June 29, 2010

National Education Programs for Food Safety (A4151)	As many as 2 awards up to \$0.5 million per award per year	Wednesday, April 28, 2010	Tuesday, June 29, 2010
Sustainable Bioenergy (\$40 million)	Funds Available (Millions)	Letter of Intent Deadline	Application Deadline
Regional Approaches to Sustainable Bioenergy (A6101)	As many as 3-5 awards up to \$9.0 million per award per year	Friday, July 09, 2010	Wednesday, September 15, 2010
Regional Approaches to Sustainable Bioenergy: Planning (A6111)	As many as 4 awards up to \$0.05 million per award per year	Not Required	Friday, May 14, 2010
Sustainable Bioenergy Research (A6121)	As many as 40 awards up to \$0.2 million per award per year	Friday, April 30, 2010	Monday, June 14, 2010
Investing in Americans Scientific Corps: Stimulating a New Era of Students and Faculty in Bioenergy (A6131)	As many as 2 awards up to \$1.0 million per award per year	Friday, April 30, 2010	Monday, June 14, 2010
National Loblolly Pine Genome Sequencing (A6141)	As many as 1 award up to \$3.0 million per award per year	Friday, May 07, 2010	Friday, July 16, 2010

Faculty publications

J. B. Friday (NREM)

Scowcroft, P. G., J. B. Friday, J. Haraguchi, T. W. Idol, and N. S. Dudley. 2010. Poor stem form as a potential limitation to private investment in koa plantation forestry in Hawaii. *Small-Scale Forestry* 9: 243-262. doi: 10.1007/s11842-009-9107-1 .

Friday, J. B., and H. J. McArthur. 2010. A participatory approach to community resource management: Building upon local knowledge and concerns. In: *Sustainability Science for Watershed Landscapes*, Roumasset, J., K. Burnett, and A. Balisacan, eds. SEARCA, University of the Philippines, Los Baños, Laguna, Philippines.

C.N. Lee (HNFAS)

Gebremedhin, K.G., C.N. Lee, P.E. Hillman and R.G. Collier. 2010. Physiological responses of dairy cows during extended solar exposure. *Transactions of ASABE*. 53(1):239-247.

Shu-Hwa Lin (FCS)

Lin, S. (2010). The case of Hawaii: Who will pay more for organic cotton? *International Journal of Consumer Studies*, 34, 481-489.

Successful grants for CTAHR faculty

From 4/1/2010 to 5/31/2010 as listed by UHM Office of Research Services

Last Name	First Name	Proposal Title	Sponsor Name	Department	Award Amount
Hara,	Arnold H	Survey of Landscape and Ornamental Nurseries for Insect Pests	Agriculture, Dept - FED	Department of Plant and Environmental Protection Sciences	\$44,977
Krush-elnycky,	Paul D	Survey of the Invasive Odorous House Ant, <i>Tapinoma sessile</i> , in Upcountry Maui, Hawaii	California Davis, University of	Department of Plant and Environmental Protection Sciences	\$4,985
Litton,	Creighton	An Experimental Test of the Impacts of Rising Temperature on Carbon Input, Allocation, and Loss in M	National Science Foundation	Department of Natural Resources and Environmental Management	\$15,000
Radovich,	Theodore J.	Enhancing Phyto-Nutrient Content, Yield and Quality of Vegetables with Compost Tea in the Tropics	Utah State University	Department of Tropical Plant and Soil Sciences	\$52,247
Stern,	Ivette	Community Stabilization Initiative Indicators	Hawaii Community Foundation (HCF)	Center on the Family	\$30,000
Uehara,	Goro	Field Evaluation of Oil Seed Crops at Benchmark Locations	Hawaii Agriculture Research Center	Department of Tropical Plant and Soil Sciences	\$25,000
				Award Count: 6	Total: \$ 172,209