



THE HAWAI'I INVASIVE SPECIES PROGRAM

Summary of the Report to the 24th Legislature

2008 Session

THE INVASIVE SPECIES PROBLEM IN HAWAI'I

The silent invasion of Hawai'i by insects, disease organisms, snakes, weeds, and other pests is the single greatest threat to Hawai'i's economy, natural environment and to the health and lifestyle of Hawai'i's people. Invasive species are responsible for:

- Millions of dollars in crop losses
- The extinction of native species
- The destruction of native forests
- The spread of disease

Government-sponsored spending of at least \$40.8 million in 2006

THE PURPOSE OF HISC

- Coordinate and promote efforts that prevent, eradicate or control invasive species
- Coordinate the State's efforts to stop the introduction and spread of invasive species in Hawai'i
- Advise the Governor and Legislature on budgetary and other issues
- Provide support and direction to HISC Working Groups



KISC and HDOA crews remove miconia.

OVERVIEW OF HISC ACCOMPLISHMENTS

The Council provides a forum to encourage cooperation among agencies. Key actions include:

- *Creating a common list of invasive species for Hawai'i*
- *Setting priorities for invasive species prevention and control*
- *Building capacity (knowledge and human resources)*

HISC funding has been used to develop integrated strategic high priority projects in the following areas:

- *Prevention*
- *Mitigation and eradication of established pests*
- *Public outreach*
- *Research and technology*

The aim is to fill gaps and provide needed infrastructure, technology, knowledge and human resources. Our goal is to incorporate the lessons learned and adopt the most successful HISC-supported projects into the agencies that have the responsibility to prevent the introduction of invasive species, or to control those already here.

HISC MEMBERS

- Co-chairs: Department of Land and Natural Resources (DLNR/ administering agency) and Department of Agriculture (DOA)

Lead agency staff chair interagency Working Groups that focus on specific program areas:

- DOA chairs the Prevention Working Group
- DLNR chairs the Established Pests Working Group
- University of Hawaii chairs the Research and Technology Working Group
- Department of Business, Economic Development, and Tourism chairs the Resources Working Group
- Department of Health (DOH) chairs the Public Outreach Working Group

Eight members from the Legislature (four Senators and four House representatives) serve in ex-officio and non-voting advisory capacity. Directors from the Departments of Hawaiian Home Lands (DHHL), Commerce and Consumer Affairs (DCCA), and Defense (DOD) have been invited to participate.

HISC PROGRAM AREAS

New funding provided by HISC has developed high priority projects and critically needed infrastructure. It is our goal to incorporate both the lessons learned as well as adopt the most successful projects into the agencies that have the responsibility to prevent the introduction of invasive species or control those that have already arrived.

• PREVENTION

1. Inspection and risk assessment of incoming cargo at the Honolulu International Airport and maritime ports (DOA)
2. Implementation of a Weed Risk Assessment (WRA) system screening for plants
3. Adoption of voluntary codes of conduct by Lyon Arboretum and Nursery Growers Association
4. West Nile Virus (WNV) surveillance, analysis, and improved response capabilities (DOH)
5. New interim rules were passed to prevent the import of plants in the myrtle family from areas infested with ohia rust
6. “A plan for prevention of establishment of new ant species in Hawai‘i, with special attention to the Red Imported Fire Ant (*Solenopsis invicta*) and little fire ant

(*Wasmannia auropunctata*)” was completed. Potential damages from the red imported fire ant are estimated at \$200 million per annum (if it were to arrive and establish in Hawai‘i). A position was approved to coordinate and implement the plan.

• RESPONSE & CONTROL

To detect and eradicate invasive species before they become widespread, HISC has supported the County-based invasive species committees. HISC funds are matched by other county, state and federal sources. Some examples include:



The new “Supersucker” barge, a partnership between DLNR, UH and The Nature Conservancy, cleans up alien algae off Waikiki.

1. Coqui frog: O‘ahu frog populations accidentally established via imported plants from the Big Island were brought under control. NO frogs have been heard at infested sites since November 2006. As no coqui frog funding was provided for FY08, the HISC was able to fund monitoring efforts on O‘ahu to ensure that eradication was completed. Kaua‘i and Maui continue to implement successful control programs and eradication is feasible as long as inter-island movement of frogs can be prevented by quarantine measures such as the HISC-supported development of hot water treatment facilities. Coordinating control efforts for the separate appropriation for coqui by the Big Island-based Coqui Frog Coordinator has improved overall efficacy of the program.

2. Miconia: All known populations are under control on Kaua‘i, O‘ahu and Maui. Searches covered 300, 4,000, and 28,000 acres on these islands respectively. Eradication of a population requires all plants to be controlled before they reach maturity and since the seed bank is known to survive for at least 14 years, continuous revisits to sites are needed for that period. On the Big Island control is undertaken to contain its distribution.

3. Aquatic Species on O‘ahu: A successful control method, the “Supersucker” barge, was developed to control reef-damaging algae; invasive anemone eradicated.

• RESEARCH & TECHNOLOGY

Reduction in the FY 2007 budget allowed for no funding for research projects. In FY 2008, a budget of \$700,000 was approved by HISC for a request for proposals for research and technology projects that contribute to the effective management of invasive species. Forty-eight proposals requesting \$2.8 million were received for evaluation with funds allocated early in 2008.

Many projects funded in FY 2006 are still in progress. Highlights of ongoing HISC funded research projects:

1. Promising biocontrol measures investigated for major forest weeds *Miconia*, *Tibouchina* and *Clidemia*
2. Investigation of biocontrol measures for the *Erythrina* gall wasp
3. Development of the Supersucker for control of alien algae on reefs
4. Development of commercial hot water treatment technology to control coqui frogs in shipments of plants from frog infested areas destined for frog free areas
5. Development of lures to detect and trap stinging nettle caterpillar moths used to delimit and control moths introduced from the Big Island to other islands

The focus of research grants to date has been on a variety of pests. Between FY 2005 and 2006, a total of \$1.2 million dollars has been awarded to researchers working principally on control, biocontrol, early detection and risk assessments. Nine major groups of research providers were funded with UH receiving 52% of the funds.

• PUBLIC OUTREACH

The goal of this program is to educate the public and private sector about invasive species to positively affect perception, action and funding for control and prevention. Staff and a small grant program have supported the use and adoption of key messages. These projects include:



1. Establishment of the www.gotdeadbird.org website to facilitate the detection of avian diseases.
2. Establishment of a new website www.hawaiiinvasivespecies.org

3. Interaction with Superferry staff to encourage voluntary measures to avoid introducing invasive species inter-island.
4. Small grants less than \$10,000 were given to nine community based invasive species projects.

INTERIM STRATEGIC PLAN

HISC working groups were also active in FY 2007. They propose new actions for FY 2008.

1. Agreed that staff should undertake a review the interim strategy in 2007-2008.
2. Reviewed working group reports and spending related to the implementation of the *Interim State of Hawaii Strategic Plan for Invasive Species Prevention, Control, Research and Public Outreach*.

ADVICE TO THE GOVERNOR/LEGISLATURE ABOUT INVASIVE SPECIES

In January 2006, HISC approved a resolution in support of the invasive species recommendations of the Governor's Economic Momentum Commission Report. HISC confirmed that the recommendations were in line with several of its goals and tasks as outlined in the interim strategy and legal mandates.

Two bills heard before the Legislature in 2007 addressed issues in their respective commission report.

Senate Bill 1066, Relating to Invasive Species, passed into law as Act 9, SLH 2007, Special Session One, established a service fee of \$1 per sea container to go toward inspections and the prevention of invasive species introduction. More inspections of all incoming goods could allow us to avoid or postpone the ingress of new pests. Evaluating this fee to determine if inspection costs are adequately recovered and providing the authority for the Board of Agriculture to set the service fee rate based on services provided will improve capacity.

This bill was in line with the Governor's Economic Momentum Commission recommendations to review user fees from importers/shippers to ensure these fees are adequate to properly fund the needed prevention and quarantine programs.

Senate Bill (SB) 639, Relating to Invasive Species addressed several gaps in the authority to manage invasive plants in Hawai'i. DOA is still reviewing the rules governing invasive plants and closing key gaps in the authorities that would assist in the development of more meaningful rules. The purpose of SB 639 is to improve efforts to control and eradicate noxious weeds. HISC did not take a specific position but member agencies testified in support of:

1. Requiring DOA on an annual basis to review and update the list of restricted plants requiring permits for entry into the state as necessary;
2. Requiring rather than allowing DOA to adopt rules to carry out the provisions of the Noxious Weed Control law;
3. Prohibiting the sale of noxious weeds within the state;
4. Requiring instead of allowing DOA to designate certain plant species as noxious weeds and requiring DOA to, on an annual basis, review and update the list of noxious weeds as necessary.

SB 639 passed the Senate as SB 639 SD2, and was approved in that form in the House Agriculture Committee, but was not heard by the House Finance Committee.

WHERE TO NEXT?

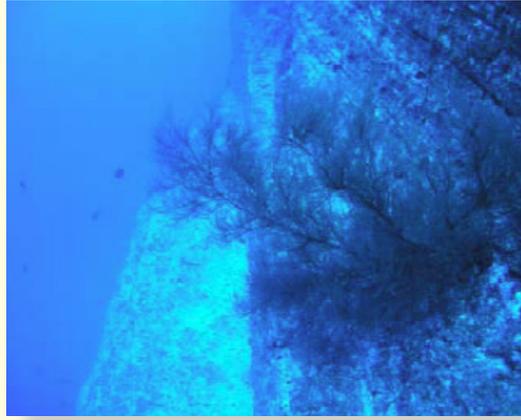
Supporting the HDOA initiative to increase the State's capacity to carry out biological control research by building facilities space will help reduce the damage caused by invasive plants and insects that have become widely established in Hawai'i.

Many of the forest pests cannot be controlled mechanically and continue to spread and push out native species. The introduction of very specific, well studied insects and diseases to suppress the worst forest weeds, such as miconia, strawberry guava, and albizia, is needed to prevent further loss of native forests.

BUDGET APPROVAL FY 2007-2008

Approved a budget addresses the interrelated plan components: Prevention, Response and Control, Research and Technology, Public Outreach, HISC Support (includes central services fee and contingency fund).

HISC Budget Summary Approved for 2007-2008		
	%	
	budget	Proposed
Prevention		
DOH - WNV	9.4%	\$375,000
DLNR - WRA	2.8%	\$111,400
PILN prevention	0.8%	\$30,000
Hawaii Ant Projects Coordinator	1.3%	\$50,000
WNV & Emergent Disease	1.9%	\$75,000
Hull Fouling & Ballast Water Projects	2.4%	\$95,000
Total Prevention	18.6%	\$736,400
Response and Control		
BIISC	7.4%	\$295,000
MISC	9.3%	\$370,000
OISC	10.6%	\$424,500
KISC	6.8%	\$270,000
AIS	9.9%	\$395,000
Total Response and Control	44.0%	\$1,754,500
Research and Technology		
RFPs coqui and general	17.5%	\$700,000
Total R & T		\$700,000
Outreach		
Staff	4.7%	\$189,000
Materials	1.5%	\$60,000
RFPs	1.3%	\$50,000
Americorp Stipends	0.3%	\$13,000
Total Outreach	7.8%	\$312,000
HISC Support		
DOFAW overhead 2%	1.5%	\$60,400
Central Services Fee fixed 7% of \$3m	5.3%	\$210,000
Support Staff	3.7%	\$146,700
Contingency fund 2%	2.0%	\$80,000
Total HISC Support	12.5%	\$497,100
Total Allocated		\$4,000,000



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Prepared by

THE STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE

In response to §194-2, Hawaii Revised Statutes
and
Section 28 of Act 213, Session Laws of Hawaii, 2007