



O`ahu Invasive Species Committee (OISC): Highlights

OISC surveyed public and private lands across the Island to locate and remove high-threat invasive plants. OISC worked cooperatively with partners and private landowners to prevent coqui frogs from establishing on the Island and to increase public awareness of the threat as part of an ongoing outreach program. Outreach continues to pay dividends as residents report pests and the Committee follows up, sharing information and tasks with HDOA, as needed. Partners and volunteers contributed valuable field time, allowing more acreage to be surveyed. OISC's Early Detection Team continued its surveys and risk assessments of introduced plants to reduce future impacts of highly invasive species. The Team also traveled to Kauai in a cooperative effort with KISC. OISC continued to develop its data collection and analysis capabilities to make the most of every field hour, and to share results with others. State funds provided the needed match for successful fundraising from other sources. As a result, no staff had to be let go, although budget cuts did force a reduction in staff through attrition.

HISC Response and Control: Measures of Effectiveness

Number of species detected and evaluated for feasibility of eradication:

The O`ahu Early Detection (OED) Program, a joint effort between OISC and the Bishop Museum, is finishing up an island-wide survey of all publicly accessible roads. Support from HDOT is funding surveys on state-managed roads. During the reporting period the team found 33 plant species not on record at the Bishop Museum's Herbarium Pacificum. These include submissions by OISC partner agencies that OED identified and confirmed.

Six hundred and eighty-two species have undergone preliminary assessment. Full assessment has been completed on 14 species. Removal of some of these has already begun. *Melinis nerviglumis* and *Pennisetum villosum*, two ornamental grass species new to O`ahu, were removed by the owners of the property where they were found. Honolulu Botanical Gardens de-accessioned *Rauvolfia vomitoria* and *Parkinsonia aculeata*, two species of invasive trees not on record as being on O`ahu.

OISC and KISC collaborated to send the OED Team to Kaua`i to do early detection there. This gave the OED Team a chance to test their methods on another island. Results of the surveys can be found in the KISC section of the report.

OISC also worked together with the O`ahu Army Natural Resources Program (OANRP) and the Natural Area Reserve System (NARS) to coordinate eradication efforts of cane ti (*Tibouchina herbacea*). This plant is a serious forest pest on the Islands of Maui and Hawai`i, but is known from only one location—the summit of Poamoho Trail—on O`ahu.

Number and area of priority invasive species eradicated and/or controlled:

In FY10, the OISC field crew conducted surveys and control work for 24 priority species. These included plants found during the early detection surveys, coqui frog (*Eleutherodactylus coqui*),

and West Nile Virus, for which dead birds are retrieved for testing.

- Fifty-six percent of the field crew's time was spent surveying for and controlling miconia (*Miconia calvescens*). Miconia remains OISC's top priority because it could so easily take over the forests of the Ko'olau Watershed, which would increase runoff and erosion and decrease the island's water supply. OISC surveyed 5,035 acres of the southern Ko'olau Range for miconia. Helicopters were used to cover 1,764 of those acres because the terrain was too steep for ground surveys. The crew removed 3,724 immature miconia trees. No mature trees were found during the reporting period. OISC's strategy is to survey 800 m around historical mature tree locations and another 800 m by helicopter to look for outlier trees. These parameters are based on the dispersal capabilities of bulbuls, which on O'ahu are the most likely dispersers of miconia seeds. Surveys must be repeated every 3 years until the seed bank is exhausted, to catch seedlings before they mature.
- The OISC Crew continued its efforts to eradicate Himalayan blackberry (*Rubus discolor*) in Pālolo Valley. During the reporting period, the crew treated 2,594 plants. The number of plants found during surveys is beginning to decline. However, the Pālolo Valley resident that introduced this species to the Valley has been seen with Himalayan blackberry in his possession and may be continuing to plant the species.
- The Crew removed several tons of pampas grass (*Cortaderia selloana*) from private property on O'ahu, including two golf courses. The Crew removed or treated 359 plants; the majority of these were from two private golf courses.
- Several species discovered by the OED Team were controlled during the reporting period. These include *Cissus repens*, *Delairea odorata*, and a second individual (in addition to the Honolulu Botanical Gardens specimen) of *Parkinsonia aculeata*.



*Surveying for
miconia*

Prioritization processes identified and in place:

The OED Team is using a prioritization process based on that used by the New Zealand Department of Conservation that balances the threat to ecosystems posed by a weed, the distribution of the weed, and the willingness of private property owners to cooperate in control. The “ideal” target weed has a population that can be removed in one day by the field crew, has not yet matured and is on property that can be accessed by the field crew. The species recommended for removal by the OED Team and mentioned above had high potential to become naturalized, but were very limited in distribution.

OISC also reviews its plan for the year and priority actions for its “legacy” species. Legacy species are those such as miconia and fountain grass (*Pennisetum setaceum*) that OISC has been working on since before the start of the early detection program. Last year, due to budget cuts and a resulting smaller staff, first priority was given to *Miconia calvescens*. However, OISC did not have enough available field hours to cover the number of acres that needed to be surveyed in 2010 in accordance with the OISC Strategy, so survey areas were prioritized with the approval of OISC.

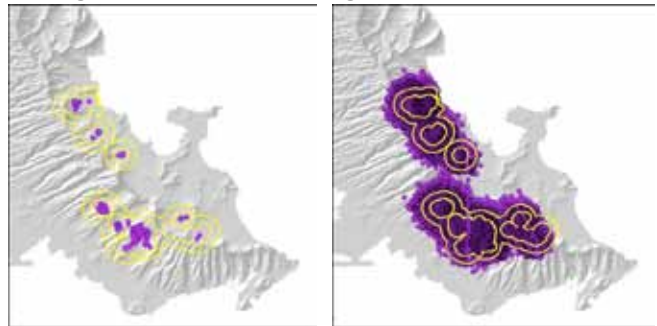
Implementation of priority response and control actions for coqui frog, West Nile virus, and avian influenza:

OISC participates in the Coqui Frog Working Group (CFWG) that also includes the Plant Quarantine and Plant Pest Control branches of HDOA, DOFAW, and Oahu Army Natural Reserve Program (OANRP). This group meets regularly to coordinate actions on coqui frog eradication on O`ahu. OISC personnel respond to reports from the public, monitor high-risk areas and conduct control operations when coqui are discovered.

- As part of the CFWG, OISC responded to a naturalized population of coqui frog in Hau`ula. The frogs were reported after a news report about another frog in Mānoa, highlighting the need for continued public outreach.
- OISC continued to work with infested nurseries to assist them in treating their coqui frog infestations. This work included monitoring and spraying infested areas with citric acid.
- OISC responded to reports of dead feral chickens and other dead birds and submitted them for testing for avian influenza and West Nile Virus.

Number and names of species, habitats, ecosystems, agricultural, and managed areas protected because of control efforts:

- The behavior of miconia, Himalayan blackberry, pampas grass and fountain grass in other areas invaded by these species indicates that they all have ecosystem-changing effects and can permanently change O`ahu's native forest ecosystems. The graphic at right shows the potential spread of *Miconia calvescens* through the Ko`olau Range if not controlled.
- Poamoho Trail, regarded as one of the finest trails on O`ahu, is being protected from the spread of cane ti by the collaborative efforts of OISC, OANRP and NARS.
- Neighborhoods and natural areas across the island are being protected from disturbance by coqui frog.



The map on the left shows where OISC has removed miconia in the past. At right, miconia density resulting from the current seed bank if no control takes place for 10 years. Predicted spread is based on known miconia biology. Miconia seeds can survive in the soil for 16 years or more, so without continued survey and control work, miconia can still take over the Ko`olau Range. Figures are based on a model developed by OISC GIS Analyst Jean Fujiikawa.

Other activities:

Additional activities also helped achieve HISC objectives.

Mentoring: OISC participated in the AmeriCorps Service Learning Program and provided experience and mentoring for students. OISC was also a host organization for the Hawaiian Internship Program (HIP) that aims to give kama`aina college-age students work experience with a conservation program. Both the AmeriCorps students and HIP interns had specific projects and were mentored by OISC staff.

Develop and share knowledge and expertise: OISC's GIS Analyst, Coordinator and Field Supervisor continued the ongoing development of in-house data management capabilities. In addition to exchanging information with other islands' Invasive Species Committees, OISC participated in various broader forums. These included presenting a poster at the Hawaii Conservation Conference, working with OANRP to prepare a report presented at the Island Invasives Eradication and Management Conference in Auckland, and sending the OISC GIS Analyst to the ESRI International User Conference in San Diego.