

REPORT TO THE TWENTY-FIRST LEGISLATURE

REGULAR SESSION OF 2002

ON

PROGRESS REPORT ON EXPENDITURES AND EFFECTIVENESS
OF INVASIVE SPECIES PROGRAMS FOR THE PERIOD
JULY 1, 2001 TO OCTOBER 31, 2001



Prepared by

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

In response to Act 259, Section 18 of Session Laws of Hawaii 2001

Honolulu, Hawaii
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**PROGRESS REPORT ON EXPENDITURES AND
EFFECTIVENESS OF INVASIVE SPECIES PROGRAMS
FOR THE PERIOD JULY 1, 2001 - OCTOBER 31, 2001**

PURPOSE

Act 259, Section 18 of Session Laws of Hawaii 2001, provided that general fund appropriations for Forests and Wildlife resources (LNR 402) in the amount of \$180,000 for Fiscal year 2001-2002 and \$150,000 for Fiscal Year 2002-2003 were to be expended for the purposes of invasive species committees. This section also required that a progress report concerning the effectiveness of invasive species programs, amounts expended for the programs broken down by cost element, means of finance, and island, and justification for all expenditures on invasive species programs be submitted to the Legislature prior to the convening of the 2002 and 2003 Regular Session. This Progress Report fulfills the reporting requirement for the 2002 Regular Session and covers the invasive species program activities for the period July 1, 2001 to October 31, 2001.

FINDINGS

Expenditures

The following table contains expenditures and encumbrances during the initial four months of FY 2002 from four different sources: 1) new General Funds appropriated for FY 2001-2002 to be used by the Invasive Species Committees (See Other current expenses -A); 2) General Funds (A) from existing budget; 3) Federal Funds (N); and 4) new special funds (B) appropriated for FY 2001-2002:

Expenditure/Encumbrance	Statewide	Kauai	Oahu	Maui	Hawaii	Total
MOF - General Funds (A)						
A. Personnel Services						
Permanent Position (FTE)						
Temporary Positions (FTE)	1.00					1.00
Expenditures to date	6,250	3,680	850	8,230	3,200	22,210
Total Personnel Services	6,250	3,680	850	8,230	3,200	22,210
B. Other Current Expenses						
Total Other Current Expenses	960	450	20,000	60,000	0	81,410
C. Equipment						
M. Motor Vehicles						
(A) Total P	0.00	0.00	0.00	0.00	0.00	0.00
T	1.00	0.00	0.00	0.00	0.00	1.00
\$	\$7,210	\$4,130	\$20,850	\$68,230	\$3,200	\$103,620
MOF - Federal Funds (N)						
A. Personnel Services						
Permanent Position (FTE)						
Temporary Positions (FTE)						
Expenditures to date						
Total Personnel Services						

B. Other Current Expenses						
Total Other Current Expenses	\$0	60,365	51,622	81,011	152,289	345,287
C. Equipment						
M. Motor Vehicles						
(N) Total P	0.00	0.00	0.00	0.00	0.00	0.00
T	0.00	0.00	0.00	0.00	0.00	0.00
\$	\$0	\$60,365	\$51,622	\$81,011	\$152,289	\$345,287
MOF - Special Funds (B)						
A. Personnel Services						
Permanent Position (FTE)						
Temporary Positions (FTE)	0.00	1.00	1.00	1.00	1.00	4.00
Expenditures to date	\$0	\$0	\$0	\$0	\$0	\$0
Total Personnel Services	\$0	\$0	\$0	\$0	\$0	\$0
B. Other Current Expenses						
Total Other Current Expenses	\$0	\$0	\$0	\$0	\$0	\$0
C. Equipment	\$0	\$0	\$0	\$0	\$0	\$0
M. Motor Vehicles	\$0	\$0	\$0	\$0	\$0	\$0
(B) Total P	0.00	0.00	0.00	0.00	0.00	0.00
T	0.00	1.00	1.00	1.00	1.00	4.00
\$	\$0	\$0	\$0	\$0	\$0	\$0
All MOF P	0.00	0.00	0.00	0.00	0.00	0.00
T	1.00	1.00	1.00	1.00	1.00	5.00
\$	\$7,210	\$64,495	\$72,472	\$149,241	\$155,489	\$448,907

Expenditures from Special Fund B (S-02-314) for salaries of 4-authorized positions, 4-vehicles and operating supplies have not begun pending hiring completion of the recruitment and award and issuance of the contract for new vehicle purchase. These actions are in progress and expenditures will begin once staff is hired and vehicles purchased for field work. The personnel expenditures from the General Fund are also low because of a vacancy in the Invasive Species Coordinator Position. This position is also currently in recruitment and expenditures will increase once the position is filled.

Effectiveness Of Invasive Species Programs

Accomplishments for the Invasive Species Committees are as follows:

Big Island Invasive Species Committee (BIISC) FY2001 - A second 4-person crew and a BIISC Coordinator were hired in 2001, providing Hilo and Kona each with a full-time Miconia crew and allowing the former field team leader to convert to a full-time public relations/volunteer program Coordinator. A total of 8,920 acres were surveyed from the air. On the ground, all mature and near mature trees (172 plants) were destroyed and seed production stopped

on Kona sites, while 2,284 acres were surveyed and 7,389 plants were destroyed

on Hilo and Puna sites. A total of 661 acres in core areas were revisited, and a total of 19,438 immature plants and 635 trees were killed. Meanwhile, stewardship project volunteers killed 227 trees and 5,841 immature plants, and the Miconia Hotline received 132 calls, none for new areas.

Maui Invasive Species Committee (MISC) FY2001

Miconia calvescens:

- Increased helicopter operations (approximately doubled) yielded the most complete and accurate distribution and abundance data to-date. This expanded data, combined with updated cost estimates, resulted in a revised multi-faceted strategy for *Miconia*.
- The Hana Department of Land and Natural Resources crew treated 342 acres within the primary core through aerial and ground operations.
- 13 hours of aerial reconnaissance, covering 9,437 acres, were conducted to locate new trees/populations. Data points taken during aerial searches allowed the MISC crew to locate and control new sites on the ground, using a Geographic Positioning System (GPS).
- 21 hours of aerial spray operations in peripheral areas controlled 1,012 trees, 153 of which were flowering/seeding.
- The MISC field crew spent a total of 124 person days (1 person day = 8 hrs.) conducting on the ground *Miconia* surveys and transects and performing chemical and mechanical treatment in peripheral populations. Ground coverage over 1,820 acres resulted in the control of 10,040 plants including 88 that were seeding.
- Aerial and ground *Miconia* operations were conducted in partnership with the National Park Service (NPS) Exotic Plant Management Team resulting in an efficient, coordinated effort.
- *Miconia* management units, areas easily delineated and identified from the air by topographical features, were established as a tool for assessing results.

Pampas grass (*Cortaderia jubata*) and (*Cortaderia selloana*):

- 15 hours of aerial reconnaissance were conducted to locate new plants/populations in natural areas and watersheds. Aerial surveys covered 12,682 acres. The Island's most serious infestation in the East Maui Watershed continued to be a primary focus of aerial work. Systematic ground sweeps in natural areas covered close to 140 acres.
- 12 hours of helicopter spray operations were conducted, killing 495 plants (374 of which were seeding) in both East and West Maui.
- 83 person days of on-the-ground control work in natural and residential areas resulted in 1,603 plants killed including 71 that were flowering/seeding. The majority of plants found and controlled were in residential areas.
- All known populations in the wild were mapped and potential

habitat was systematically surveyed. GPS data taken during aerial searches allowed the MISC crew to find aerially spotted plants and new populations on the ground for control.

- Ongoing cooperation from large landowners (East Maui Irrigation and Haleakala Ranch) greatly assisted control work. Continued efforts to secure permission for control from residential landowners were successful.

Fountain grass (*Pennisetum setaceum*)

- Follow-up surveys continue to monitor possible persisting seed banks. Surveys up to one half-mile around known plants were completed again this year. The population on West Maui continues to be monitored and re-treated when necessary. Regeneration appears to be diminishing as time goes on.
- 15 person days were spent on survey and control work with thorough coverage of 237 acres. A total of 237 plants were killed including 76 plants that were flowering or seeding.
- A second comprehensive aerial reconnaissance mission is in planning for the Kanaio National Guard Training Area and is scheduled to be completed in the next 2 months.

Ivy gourd (*Coccinia grandis*):

- A total of 32 person days were spent on survey and control work with 1,977 plants killed.
- 3 known large infestations (Kapalua, Honokahua, and Kihei) were treated and revisited/re-treated every 1-3 months after initial treatment. These sites are under continual monitoring with follow-up as needed.
- 2 new large infestations and several smaller patches were mapped and are currently being controlled.
- The field crew conducted numerous surveys in susceptible habitat (including door-to-door in residential areas).

Giant reed (*Arundo donax*):

- 37 person days of control work resulted in control of 951 plants over a 10 acre area.
- Field trials using methods obtained from the California Exotic Plant Pest Council, combined with data from site revisits, resulted in modification of field methodology.

Rubber vine (*Cryptostegia grandiflora*):

- 98 plants were controlled of which 13 were flowering/fruitleting. A total of 4 person days of control work were completed.

Molokai Invasive Species Committee (MoMISC) FY2001

Pampas grass was identified in Maunaloa and all plants were removed.

MoMISC surveyed the area and established an agreement with the landowner for follow-up surveys. The second known population of New Zealand flax was surveyed and GPS mapped in Molokai`i Forest

Preserve, and MoMISC coordinated with Maui DLNR to eradicate this population. One Caribbean frog was captured, and MoMISC investigated 1 population of giant reed for eradication. MoMISC also created and distributed a variety of information/outreach materials.

Oahu Invasive Species Committee (OISC)

OISC hired a field tech in late 2000, who reported the following progress:

- Miconia - 10 sites surveyed or treated, 76 days, ~140 plants killed;
- Fountain grass - 4 sites treated, 23 days, >500 clumps treated;
- Hiptage - 3 sites treated, 14 days, >40 plants removed.

Kauai Invasive Species Committee (KISC)

The Island of Kaua`i will likely have formed the Kaua`i Invasive Species Committee (KISC) by the end of the year. Funding is already available through the State of Hawai`i, Coordinating Group of Alien Plant Species (CGAPS), and the U.S. Forest Service for 3 field technicians to carry out survey and weed control work, primarily on Miconia. KISC will need to sustain this beginning and build additional capacity in the future, including acquiring a Coordinator to oversee budgeting, field operations, outreach activities, and to raise funds.

Recommendations

The silent invasion of Hawaii by insects, disease organisms, snakes, weeds, and other pests is the single greatest threat to Hawaii's economy and natural environment and the health and lifestyle of Hawaii's people. Invasive pests already cause millions of dollars of crop losses, the extinction of native species, the destruction of native forests, and the spread of disease. But many more harmful pests now threaten to invade Hawaii and wreak further damage. Even one new pest - like the brown tree snake or the red imported fire ant (see attached) - could change the character of our islands. Stopping the influx of new pests and containing their spread is essential to Hawaii's future well-being.

One of the most cost-effective solutions to this problem is to find and eradicate these species before they proliferate beyond control.

This avoids the damage costs created by the pests themselves as well as the costs of perpetual pest control and mitigation. The State currently lacks an adequate rapid response capability but has been involved in multi-agency efforts to fill this gap using multi-partner Invasive Species Committees (ISC's), which have been formed on Oahu, Maui, and Hawaii islands. Continued support of these committees is critical as they represent innovative and cost-effective models of governmental partnerships. Continued support for a minimal rapid response capacity and staff support within DLNR are also needed. The conversion of a temporary Alien Species Coordinator position to a permanent status would help in this regard.

Another critical need is directed leadership and coordinated actions among all state agencies. An integrated management plan that involves State, federal, county and industry sources is needed to provide meaningful progress in developing a sustainable invasive species protection and control program. Furthermore, authorities for preventing and controlling invasive aliens are spread across numerous State and federal agencies, making close coordination of activities among these agencies imperative.

Policy/authority changes can also help Hawaii meet invasive species challenges. Although inadequate funding is a major impediment to effective invasive species prevention and control, State laws also do not address the problem in a comprehensive and coordinated fashion. Consequently, gaps in authority and lack of clear policy direction hinder efforts to prevent and eliminate alien species invasions. Relatively small investments in outreach and education can also leverage greater public understanding and voluntary compliance.