

FY2002 MoMISC ACTION PLAN

September 2001

Project Need

The Molokai subcommittee of the Maui Invasive Species Committee (MoMISC) formed as a voluntary partnership of local Molokai agency representatives in October 2000 as a response to MISC efforts for Maui County. MISC provides guidance and funding for MoMISC activities and decisions. MoMISC focuses on controlling incipient invasive species on Molokai and preventing the entry of new invasive species. Under the present conditions, pest introductions are unavoidable because goods and people transported between islands are not screened for harmful invasive species. However, Molokai is in the favorable position to prevent the establishment of species that are already known to be problematic to Hawaii's environment.

MoMISC is currently in its initial phases of identifying priority invasive species and developing control and prevention programs. MoMISC's primary concern for the first year is to create a partnership that will identify problem species on Molokai and implement effective control strategies. Paid positions devoted to coordination and implementation of island-wide invasive species issues would be necessary for maximum program development.

MoMISC partners realize that a unified effort is needed to effectively address the problem. MoMISC partners include the Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Kalaupapa National Historical Park, Molokai-Lanai Soil and Water Conservation District, The Nature Conservancy of Hawaii, U.S. Department of Agriculture - Natural Resources Conservation Service, University of Hawaii College of Tropical Agriculture and Human Resources Cooperative Extension Service.

Objectives and Methods

1. Pampas grass, *Cortaderia jubata*

Objective: Eradicate all populations of *Cortaderia jubata* on Molokai and prevent their reestablishment. Educate the public about the threats and identification of this species.

Methods: Schedule dates to re-survey known locations and survey surrounding areas. Coordinate with landowner to regularly scout the area for at least 6 years following removal. Focus on irrigated areas where grass establishment is likely to occur. Contact landowner for land access three to four weeks prior to scheduled date.

Investigate the report of Pampas grass in a second location on Molokai. Contact landowner by telephone and request permission to obtain a plant sample of the leaf and flower for verification of the species. If verified as *C. jubata*, request removal with assistance of MoMISC partners. Control method will be determined by the extent of the population. *C. jubata* clumps can be removed mechanically using picks and pulaskis after flowering heads are bagged. Methods of chemical control using glyphosate (Roundup) and fluazifop (Fusilade DX) have been effectively tested and used by other island organizations. Distribute MoMISC brochure that contains a descriptive paragraph on this species.

2. Cat's Claw, *Caesalpinia decapetala*

Objective: Develop and implement a strategy for containing two known *Caesalpinia decapetala* populations on Molokai. Investigate new reports of cat's claw and confirm species identity. Educate the public about the threats and identification of this species.

Methods: Evaluate the feasibility of controlling the west Kalae population of cat's claw based on population extent, ease of accessing the terrain, personnel time, and method required. Conduct an aerial survey of the cat's claw population during the flowering season (winter months) so that the trees are more visible. Collect geographical positioning system (GPS) points to map all population locations. Contact all other landowners that have cat's claw reported on their land to obtain access permission for survey. Evaluate the entire population boundaries and the terrain to determine whether the population is containable. Also consider whether MoMISC has sufficient personnel time and funding to effectively control this species.

Conduct control of the east Kalae population to prevent the spread east of Kalae Highway. Application of triclopyr with the drizzle method has been tested by the Hawaii Department of Agriculture as an effective method of control.

Investigate a report of a second population in Waialua valley and confirm species identity. Obtain a plant sample to verify the species. Continue to take and investigate public reports. Distribute MoMISC brochure that contains a descriptive paragraph on this species.

3. New Zealand Flax, *Phormium tenax*

Objective: Eradicate all populations of *Phormium tenax* on Molokai and prevent their reestablishment. Educate the public about the threats and identification of this species.

Methods:

Support TNC Molokai program in controlling known population at Puu Kolekole, Kamakou Preserve. Scout the Puu Kauwa population (Molokai Forest Reserve) with DOFAW staff to determine the feasibility of control. Develop a control strategy for the New Zealand flax population on Molokai Forest Reserve with Bob Hobdy, Maui DOFAW District Manager. Collect GPS points of the population border.

4. Fountain Grass, *Pennisetum setaceum*

Objective: Prevent the establishment of *Pennisetum setaceum*. Educate the public about the threats and identification of this species.

Methods: Coordinate with Hawaii Department of Agriculture, Maui County, to conduct follow-up surveys at known location where this grass was removed in the 1990's. Continue surveys for up to 4 more years until FY2005. Collect GPS points of the former population. Distribute MoMISC brochure that contains a descriptive paragraph on this species.

5. Agency/organization education by MoMISC

Objective: Educate community leaders and organization leaders that deal with invasive species import/export about ecological and economic problems caused by incipient invasive species and methods for identifying and reporting sightings so that they can disseminate information to a larger audience.

Methods: Coordinate and conduct educational discussions, field days, or workshops. Topics will include invasive species issues in Hawaii, MoMISC target species identification and threats, and reporting protocol. Follow-up with leaders at a later period if necessary. Create a classroom discussion utilizing a slide show, hand-outs, and specimens.

6. Public relations and education

Objective: Educate a broad audience about invasive species identification and threats. Create a public relations strategy that engages public assistance with species sightings.

Methods: Distribute educational material (brochure, factsheet) in public areas. Prepare and display target species exhibits (eg. airport kiosk). Present information at field days (eg. UH-CES and USDA PMC) and other local events (eg. Earth Day). Highlight preventable species that have not yet arrived on Molokai [*Miconia* (*Miconia calvescens*), Asiatic clam (*Corbicula fluminea*), Caribbean frog (*Eleutherodactylus coqui*), greenhouse frog (*E. planirostris*), Red imported fire ant (*Solenopsis invicta*), Brown Tree Snake (*Boiga irregularis*)]. Promote MoMISC successes in TNCH Nature's Newsflash and local newspaper articles to promote a positive image.

Evaluation

MoMISC has 1.5 hr meetings roughly once a month. At these meetings, partners discuss statewide and local invasive species issues, and provide direction for response and outreach strategies. Over the past 8 months, four field outings were conducted to survey target species populations. Outreach material was distributed and an informational display was manned at one public event this past spring.

All activities are done on a voluntary basis by partner agency representatives. The Nature Conservancy (TNC) office serves as the control center where reports are taken, outreach material is distributed, and field data is housed. The UH Cooperative Extension Service and Natural Resources Conservation Service partners serve as the leaders of outreach activities. Kalaupapa National Historic Park and TNC representatives serve as the leaders of response activities. MISC has purchased a GPS unit for surveying invasive species locations on Molokai.

Results to Date

Pampas grass *Cortaderia jubata**

- Pampas grass was reported in Maunaloa late in the year 2000. During a January site visit a plant sample was collected with the landowner's permission and taken to Bishop Museum for identification and was verified as *C. jubata*.
- The landowner was notified and immediately took action to remove all plantings of *C. Jubata* in Maunaloa. In April 2001, MoMISC partners surveyed the area and established an agreement with the landowner for follow-up surveys on this land.
- Investigated a report of pampas grass at a Kaunakakai residence and identified the plant as *Arundo donax*, giant reed.

Cat's Claw, *Caesalpinia decapetala*

- Initial ground surveys have been made to determine the population extent and assess for control activities.

New Zealand Flax, *Phormium tenax*

- The second known population has been surveyed and GPS mapped. (The other population is currently in the TNC Kamakou preserve and controlled by TNC).

Public awareness

- Created a brochure that describes MoMISC's goal, actions, species identification and threats and hotline number.
- Created a factsheet that describes MoMISC's goal, actions, and hotline number.
- Coordinated with TNC to find high school group (Molokai Earth Preservation Organization) volunteer assistance in making a Caribbean frog display and manning it at the 2001 Earth Day celebration. Also coordinated with TNC to create an invasive species I.D. card for the Caribbean frog.
- Outreach material was distributed at the 2001 Earth Day celebration. Created a MoMISC information board for display at the event and for display in the airport kiosk.
- Printed articles in The Nature Conservancy's Nature's NewsFlash.

Project Support

Invasive species are known to cause economic and ecological problems around the world. Molokai does not have many of the invasive species that are already known to cause problems on other islands. Molokai has a contiguous area of intact native forest on the east Molokai mountains that is relatively remote from population centers and serves as the primary watershed for the island. The island is home to 65 federally listed and candidate endangered plant species. The human population and tourist industry on Molokai is small, which minimizes interisland traffic. Therefore, Molokai has a very good chance of eradicating existing incipient populations of invasive species; preventing the establishment of additional invasive species; and preserving intact areas of native Hawaiian ecosystems.

APPENDIX

Target species for eradication or containment

(*Species listed on the Dec. 2000 Hawaii State Noxious Weed List)

ERADICATION

Cat's Claw, *Caesalpinia decapetala*
Pampas Grass, *Cortaderia jubata**
Fountain Grass, *Pennisetum setaceum**
New Zealand Flax, *Phormium tenax*
Gorse, *Ulex europaeus*

PREVENTION

Plants

Miconia, *Miconia calvescens** and other Melastome spp.*

Other organisms

Asiatic clam, *Corbicula fluminea*
Caribbean frog-coqui, *Eleutherodactylus coqui*; greenhouse frog, *E. planirostris*
Red imported fire ant, *Solenopsis invicta*
Brown tree snake, *Boiga irregularis*