

**Title:** Detection and Control of Invasive Species on the Island of Kaua'i  
**Organization:** Kaua'i Invasive Species Committee  
**Award:** \$211,857



In FY 2012, KISC continued working on goals outlined by the HISC Established Pest Working Group Strategic Plan. Priority was given to island-wide early detection, rapid response, and control of various plants, vertebrates, and insect targets.

KISC's HISC award leveraged funding from the US Forest Service, US Fish and Wildlife Service, Naval Facilities Engineering Command, and Kaua'i County totaling an additional \$215,000. High profile targets included ongoing miconia control, little fire ant surveys, eradication of Kaua'i's one known population of coqui frogs, and capturing the first mongoose on Kaua'i.

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### **Achievements in FY12**

#### **Number of species detected and evaluated for feasibility of eradication:**

Early detection of incipient invasive species included roadside surveys, private property surveys, as well as surveys at nurseries, ports, green-waste areas and resorts.

- 19 species were surveyed for feasibility of eradication with over 270 acres surveyed.
- One species, *Clerodendrum macrostegium* (glory bower), was deemed a feasible target and 182 plants were controlled.
- Little fire ant surveys were conducted covering 34 acres with no new introductions found.



*Glory bower with velvet leaves*

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

Control and eradication efforts centered on 7 priority plant species and two vertebrate species, coqui frog and mongoose.

- Survey and control of Miconia was focused on three primary areas of the Wailua District; Wailua River State Park (WRSP), Wailua Homesteads, and the Game Management Area (GMA) in the Halele'a Forest Reserve. 173 acres were ground surveyed with 1 mature plant and 82 immature plants treated. Eradication strategies dictate the importance of removing plants before reaching maturity; current data suggests that these strategies are working. Aerial surveys were also conducted in the GMA utilizing Herbicide Ballistic Technology. One mature and 24 immature plants were discovered and treated from the air.
- During this reporting period, 551 acres were aerial-surveyed for cattails.
- Other priority plant targets included Arundo, ivy gourd, false kava, long thorn kiawe, and other miscellaneous species. Over 6,288 acres were surveyed and over 8,944 individual plants were treated.
- KISC was successful, during this period, in eradicating Kaua'i's one population of coqui frogs and continues to be the primary responder for new introductions.
- In May and June of 2012, KISC was credited with capturing Kaua'i's first and second mongoose ever. Over 1,433 hours were expended on this target including partnership hours.

**Prioritization processes identified and in place:**

Each year, KISC conducts annual prioritization meetings with the committee as a whole. Target activities are reviewed and new species are evaluated for feasibility of control. There are many factors that dictate prioritization of KISC targets including: acres of infestation, the [Hawai'i-Pacific Weed Risk Assessment](#) (HP-WRA) ranking, difficulty of control, number of property owners, and estimated cost of control.

**Overall effort expended**

Table 1 reflects overall effort expended on all target species.

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

- Target species are chosen for the threat that they pose to Kaua'i County's high-value natural areas or to agricultural production. According to US Fish and Wildlife Service, Kaua'i's high rate of endemic plants (224; the highest in the Hawaiian archipelago and quite possibly in the world) make it a biodiversity hotspot of global magnitude. Kaua'i has over 116 endemic species listed as endangered or threatened.
- Priority is given to high-value native ecosystems; such as the Halele'a Forest Reserve where miconia operations take place.
- KISC also works closely with the agriculture community; keeping them informed as to threats to their commodities and what to watch for; such as the stinging nettle caterpillar, and little fire ant.



*Mature male mongoose captured on Kaua'i*

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**Other Activities in FY12:**

**Capacity development:** One additional field worker was hired with support from the USFWS, joining a team focused on early detection of invasive invertebrates. Overall staff capacity was enhanced by participating in the following training events: CPR & 1<sup>st</sup> Aid classes and certification, Basic Aviation Safety Training, IACUC Training and Certification, and Trimble training.

**Partner collaboration:** KISC continued to work closely during FY2012 with the Pacific Missile Range Facility, UH-CTAHR, DLNR-DOFAW, The Nature Conservancy, Hawai'i Department of Agriculture, US Department of Agriculture, and US Fish and Wildlife Service.

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**Contact Information**

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Table 1 – KISC Target Species Activity FY2012

Species Name	Acres Surveyed	Mature Controlled	Immature Controlled	KISC Work Hours
<i>Alstonia macrophylla</i>	2	0	0	10
<i>Angiopteris evecta</i>	0	1	0	4
<i>Arundo donax</i>	96	174	0	211
<i>Bischofia javanica</i>	8	0	0	8
<i>Calotropis gigantean</i>	2	0	101	24
<i>Coccinia grandis</i>	238	157	1,066	473
<i>Cissus nodosa</i>	23	0	77	41
<i>Cissus verticillata</i>	114	50	0	105
<i>Clerodendrum macrostegium</i>	25	137	45	131
<i>Cryptostegia madagascariensis</i>	42	0	0	77
<i>Dellenia suffruticosa</i>	10	1	0	40
<i>Eleutherodactylus coqui</i>	1,209	2	0	477
<i>Herpestes auropunctatus</i>	n/a	1	1	930
<i>Ligustrum sinense</i>	5	0	0	6
<i>Macaranga mappia</i>	1	1	0	14
<i>Miconia calvescens</i>	1,022	2	106	387
<i>Miscellaneous species</i>	2,460	0	0	272
<i>Morella cerifera</i>	4	0	1	52
<i>Paraderris elliptica</i>	1	0	0	4
<i>Pennisetum setaceum</i>	4	4	50	25
<i>Pennisetum villosum</i>	3	0	0	10
<i>Pereskia aculeata</i>	4	0	20	25
<i>Piper auritum</i>	28	4,057	0	595
<i>Prosopis juliflora</i>	161	15	1,254	330
<i>Rubus sieboldii</i>	10	0	0	18
<i>Senecio madagascariensis</i>	2	0	0	8
<i>Tamarix aphylla</i>	13	4	3	83
<i>Typha latifolia</i>	753	364	0	247
<i>Wasmannia auropunctata</i>	34	n/a	n/a	275
<b>Totals</b>	<b>6,274</b>	<b>4,970</b>	<b>2,724</b>	<b>4,882</b>