

KAUAI INVASIVE SPECIES COMMITTEE (KISC)

Addendum to 2003 Action Plan (Result of October 22, 2002 KISC Strategic Planning Meeting)

TABLE OF CONTENTS

Strategic Planning Meeting summary of target species.....	3
1. Miconia (<i>Miconia calvescens</i>)	3
2. Thorny Kiawe (<i>Prosopis juliflora</i>)	3
3. Fireweed (<i>Senecio madagascariensis</i>)	3
4. Fountain grass (<i>Pennisetum setaceum</i>)	3
5. Pampas grass (<i>Cortaderia jubata</i> and <i>C. selloana</i>)	4
6. Ivy Gourd (<i>Coccinea grandis</i>)	4
7. False Kava (<i>Piper auritum</i>)	4
8. Cattail (<i>Typha latifolia</i>)	4
9. Frogs (<i>Eleutherodactylus coqui</i> and <i>E. planirostris</i>).....	4
10. Little Fire Ant (<i>Wasmannia auropunctata</i>).....	4
11. Fire thorn (<i>Pyracantha angustifolia</i>)	4
Addition of Target Species.....	5
Action List.....	5
1. Giant reed (<i>Arundo donax</i>).....	5
Monitor/ Map/ Trials.....	5
1. Hiptage (<i>Hiptage benghalensis</i>)	5
2. Kahili ginger (<i>Hedychium gardnerianum</i>).....	5
3. Fiddlewood (<i>Citharexylum spinosum</i> or <i>caudatum</i>)	6
4. Mangrove (<i>Rhizophora mangle</i>)	6
Education and Further Study	6
1. Kudzu (<i>Pueraria lobata</i>)	6
2. Kokee Weed Project	6
3. Hapu'u Tree Fern shipping process	6
4. Jackson chameleon (<i>Chamaeleo jacksonii</i>).....	7
5. Brown anole (<i>Anolis sagrei</i>)	7
6. Day geckos (<i>Phelsuma standingi</i>)	7
7. Grey cheeked parakeet (<i>Brotogeris pyrrhopterus</i>).....	7
8. Ringed neck parakeet (<i>Psittacula krameri</i>) and Bulbuls (<i>Pycnonotus cafer</i> and <i>P. jocosus</i>).....	7
9. Clerodendron (<i>Clerodendrum quadriloculare</i>)	7
10. Australian Tree Fern (<i>Cyathea cooperi</i>)	7

Strategic Planning Meeting Summary (October 22, 2002)

A review of KISC's original Priority List from KISC's 2003 Action Plan was presented to those who attended the Strategic Planning Meeting. A summary of each species follows:

- 1. Miconia:** In homesteads and Wailua River State Park (WRSP). We are about halfway through homestead private property searches. Have found around 18 (one flowering). We are just about done with second sweep search of park. We have been advised to extend the one mile buffer to two mile buffer from last known plant. Meghan suggested keeping a one mile buffer to be extensively searched and then doing recon. for the two mile buffer area. Are surveys done in GMA? Yes, whenever DoFaW has money a helicopter survey is done. It has been about a year since the last helicopter survey. Is it a useful way to survey? Will not see the plants easily from the air. The Albezia gets in the way and unless the Miconia are flowering, they are difficult to spot. In WRSP Bryon suggests that we go back to areas of known infestations rather than do full sweeps. Leland suggests putting up posters along roadways and trails. Recommend: keeping Miconia as number one priority.
- 2. Thorny Kiawe:** KISC has mapped over 46 miles of coastal areas: the core infestation, satellite populations, and hybrids. What is the attitude of landowners? Do they want to contribute equipment etc.? Need to develop partnerships with the landowners. Have we surveyed inland where other Kiawe is growing? No, we have mostly monitored coastal area, because of the suggested habitat of 200m from shore. We sampled the outside to where it most likely would be found if it existed inland. Adam Asquith suggests we leave it high on the priority list, as funds are available to support our efforts through Fish and Wildlife. Are mechanical means of removal feasible? We haven't actively pursued this at the base. If spike would prevent germination of native plants, since much of the infestation site is now deemed part of the critical habitat, this might not prove to be a good method for removal. Guy suggested that spike would not prevent germination due to the porous nature of the ground. Another method suggested was to bulldoze paths through the Kiawe to more accurately disperse spike. Thorny Kiawe is not only found on Kauai, Oahu, and Niihau, but also rumored to be on Molokai with the status unknown on other islands.
- 3. Fireweed (Senecio madagascariensis):** Found only at Halfway Bridge. We started out by finding out 1000 plants /mo. We are now down to about 25 plants /mo. Total infestation area is about 10 to 15 acres. Window of opportunity for control is very small now. It spreads rapidly. Recommended that we go after it with intense effort. Suggestions included enlisting the help of the cattlemen industry and 4H. Lelan recommends another sign in that area. Possible government interactions with cost-share programs are available.
- 4. Fountain Grass:** KISC has yet to move on this. Population is found mainly on A&B land with small satellite populations on Robinson land. When it was pointed out that this population seems to be spreading slowly, Mark White contributed

that it spread slowly on the Big Island then the population exploded and is now out of hand. Guy's theory is that since it thrives in dry land it is not very happy where it is now because of the high rainfall in this area. If it moves to the west, to the drier side of the island, it will explode. If we do nothing the whole west side, including the canyon and the Na pali, will be covered with Fountain grass. Is it grazed by goats? No. This weed is a great fire hazard.

5. **Pampas Grass**: Only one known population. So far, untreated. Can it spread in the wild? Yes, it has spread on West Maui and the Big Island and is found in both wet and dry areas. Suggested action: put through Weed Risk Assessment.
6. **Ivy gourd**: Currently treating. We have discovered people are harvesting this plant for culinary purposes. We are trying to contact property owners to get the names and phone numbers of the harvesters to educate them. We have purposely left a small population for these people so as not to risk them planting it elsewhere. We can monitor this population more easily. KISC has treated all outlying populations. Because the population is limited we do have the opportunity to eliminate it. This is a major pest on other islands. Education is primary. Perhaps showing the harvesters pictures of what it can do will discourage their use of it.
7. **False Kava**: There is one known population at Kahili Mountain School. We have treated it but must continue to monitor it. We need to do a wider transect of area to confirm containment.
8. **Cattail**: We are still mapping populations. Have treated one 1-1/2 acre population at Mahaulepu. Niualu has a large population that is denser but confined to about an acre. This weed can move quickly to fill wetlands. It forms a dense rhizome mat. Adam Asquith said that within a year, a small population in Niualu grew to a much larger, denser and more spread out population. We need to work on educating the public. John Plews suggested that it could be confused with native rushes. Guy suggested that it is sometimes good to get false calls to go talk story with the general public. F&W have focused funds toward eradication and there may be more.
9. **Frogs**: Planirostris has established populations (Hyatt and Sheraton in Poipu and possibly in Wailua Homesteads). Coqui no established populations. Planirostris is not too far-gone for eradication. We will be receiving help from USDA on eradication on Kauai. \$250K for this year is dedicated for frog control through USDA/Wildlife Services. Two Coqui have been recently caught in Lawai and one in Puhi.
10. **Little Red Fire Ant**: We have been monitoring two sites on the North Shore. Results showed negative. KISC will monitor every six months. There have been no new sightings.
11. **Pyracantha**: Katie's group (KRCP) has eliminated all known populations in Kokee. It is in a monitoring phase now.

ADDITION OF TARGET SPECIES

ACTION LIST:

1. **Giant reed (*Arundo donax*)**: Giant reed is a large, cane-like grass native to India. It is a major weed in the southern United States where it crowds out native plants, restricts beach access, and clogs rivers and flood control drainages. It is spread by rhizome, not seeds and has been used as a landscaping plant. It has a wide range of habitat and can live in wet or dry environments. The variegated variety is used in haku leis.

Objective: On Kauai, eight populations have already been mapped. KISC will continue to survey and map populations and work to secure landowner permission to remove this plant from ornamental situations.

Methods: Chemical treatment of *Arundo* with Velpar, Roundup Pro and Aquamaster herbicide or mechanical removal will be employed. Control methods will continue to be modified as field trials are conducted by the KISC crew.

MONITOR/ MAP/ TRIALS:

1. **Hiptage (*Hiptage benghalensis*)**: This climbing liana smothers and kills vegetation on which it grows and forms dense thickets. The Division of Forestry and Wildlife of the Hawaii Department of Land and Natural Resources has designated Hiptage as one of Hawaii's Most Invasive Horticultural Plants. Its winged fruits (samaras) are wind dispersed. Hiptage threatens dry and moist areas from sea level to the 3500 ft. elevation. Hiptage, a member of the Malpighiaceae family, is native to India and Malaysia and was introduced to Hawaii as an ornamental plant. Its current known distribution on Kauai is on the edge of Huleia valley. Although the acreage is unknown, it is estimated to be at least 500 acres.

Objective: Map, begin trials for control and monitor results.

Methods: Involve land owners/leasers in identifying and mapping infestation. Possibly use aerial surveying due to the ease of spotting it from the air. Oahu Invasive Species Committee (OISC) has begun control efforts using Garlon on cut stumps. Conduct trials for control methods and possibly treat outlying populations.

2. **Kahili ginger (*Hedychium gardnerianum*)**: This species of ginger has leafy shoots 1-2 meters tall and can spread both by rhizome and bird-dispersed seeds. It is native to the Himalayas and adjacent regions and can be found in dense populations in Koke'e.

Objective: Map, formulate a strategic plan and treat to control satellite populations to help protect the integrity of the Alakai Wilderness Preserve.

Methods: In partnership with Kokee Resource Conservation Program, the Watershed Alliance and the Division of Forestry and Wildlife, conduct aerial and ground surveys to map the extent of the infestation. Using GIS mapping and GPS technology, create up-to-date records that will aid in the creation of an action plan outlining defensible infestation lines with control schedules and methods.

- 3. Fiddlewood (Citharexylum spinosum or caudatum):** This large shrub or small tree is of a genus of over 70 species from Bermuda, the West Indies, and southern United States through Mexico to South America. A number of species are commonly cultivated as ornamentals and can be found lining streets of Lahina, Maui. Seeds are easily bird-dispersed.

Objective: Identify the species. *C. spinosum* has already been put through the Hawaii Weed Risk Assessment and evaluated as a Major Pest. KISC should map the infestation on Kauai and present the finding for possibly adding it as an Action Item.

Methods: Using GIS and GPS ascertain the area of infestation of Fiddlewood. It is believed to only be in the Anahola area, but there are unconfirmed reports of it also being in Wailua Homestead.

- 4. Mangrove (Rhizophora mangle):** This alien tree has a rounded crown, a dense branching system, and aerial or stilt roots. The unusual fruits of the mangrove germinate while they are still attached to the parent plant. Eventually each germinated fruit, up to a foot in length, drops into the surrounding mud or surf. Mangrove forests form dense groves and because their aerial roots trap sediments, they are presently choking the traditional Hawaiian fishponds and destroying habitat for endangered Hawaiian stilts in wetland areas.

Objective: Map extent of infestation and look for partnerships for possible control. Investigate control methods.

Methods: Using GIS and GPS ascertain the area of infestation of Mangrove. Contact land owners/leasers and possibly DLNR and other agencies wanting to protect the Fishponds.

EDUCATION AND FURTHER STUDY:

- 1. Kudzu (Pueraria lobata):** Possible populations in Hanalei as well as in Kokee. It was probably introduced to Hawaii by the Chinese and was cultivated originally for the edible root tubers.
- 2. Kokee Weed Project:** When the State Park cabin leases expire (approximately 100 of them) in 2004, 2005, this would be an ideal time to eradicate potential invasives on these properties. KISC will offer to assist State Parks in taking inventory and surveying weeds around the cabins. KISC can also concentrate the next few years on gaining funds for the project of invasive weed eradication around State Park cabins.
- 3. Hapu'u Tree Fern shipping process:** This is a Prevention Project. We could establish some kind of monitoring of incoming logs and certifying them free of invasives. It was estimated that 1000/year come into this island. Both the

private sector and nurseries bring in logs. KISC needs to find out what other islands are doing for preventative measures.

4. **Jackson chameleon (*Chamaeleo jacksonii*)**: Find out the extent of concern regarding this pest.
5. **Brown anole (*Anolis sagrei*)**: Seems to already be established here. It occurs in high density. Find out the extent of concern regarding this pest.
6. **Day geckos (*Phelsuma standingi*)**: Find out the extent of concern regarding this pest.
7. **Grey cheeked parakeet (*Brotogeris pyrrhopterus*)**: There have been reports of 4 individuals. Follow up on whether anything has been done with these reports. Involve the Farm Bureau.
8. **Ringed neck parakeet (*Psittacula krameri*) and Bulbuls (*Pycnonotus cafer* and *P. jocosus*)**: Seed companies have contracted Wildlife Services to eradicate. These birds will go after any seed or fruit producing plant.
9. **Clerodendron (*Clerodendrum quadriloculare*)**: Species has been identified from a sample brought to Tim Flynn. This species has already been evaluated by the Hawaii Weed Risk Assessment and determined to be a pest. KISC should educate nurseries as to the hazards of selling this particular species.
10. **Australian Tree Fern (*Cyathea cooperi*)**: This species is a major threat in the back of Lumahai Valley. KRCP is treating in Kokee State Park. Many nurseries are still selling this plant. Needs more study and discussion.