

## O'AHU INVASIVE SPECIES COMMITTEE

### 2004 STRATEGY WORKSHOP

Final Meeting Minutes

Wednesday, September 29th, 2004

9 am – 3 pm

HDOA Plant Quarantine

#### **I. Call to Order/Welcome & Introductions (Leila Gibson; OISC Chair)**

Leila Gibson (US FWS) the 2003-2004 chairperson has completed her year long rotation. Rob Hauff (DOFAW) has stepped up into the role of OISC chairperson for 2004-2005. Leila will still remain an active part of OISC as the Emeritus chairperson. OISC is now looking for a Deputy chairperson. If anyone is interested please contact either Ryan or Rob. For a list of meeting participants please refer to the end of this document.

#### **II. Updates - Announcements**

A.) Pat raised an issue of concern that the ISCs need to expand their targets, specifically citing the recent West Nile Virus (WNV) event on Maui. He stressed that the ISCs need to stay focused on what the Invasive Species Program is all about and its role in maintaining the State's economy, public health, and environmental integrity. He is proposing that targets be expanded to include WNV since it's on HISC's listing of detrimental invasive species. All of the OISC partners need to be part of the early detection/rapid response organizational structure. He also urged that administrative and operational protocols be developed to avoid confusion when invasive species emergencies occur. He cited the recent snake response on Maui to illustrate a few of his labor-management concerns, e.g. what authority used to obligate resources, which funding to use, who's in charge (organizational structure?), do workers get overtime pay, what are the hazards involved and how to mitigate those hazards, what are food and lodging arrangements, where to report, who to report to, what clothing/PPE needed, are the workers trained/certified/qualified to respond/ etc. Regarding the WNV agreement between DOH and DLNR, Oahu Branch-DOFAW will be participating in the monitoring phase, i.e. pick-up/delivery of bird specimens. However, he appealed to other OISC partners to "kokua" as Branch resources already tied up with their day-to-day obligations, i.e. their time is already charged to other cost share projects which are "tight" in terms of attaining program objectives. This "teaming" approach is less burdensome and can bond the alliance in its service to the State. He urged inviting someone from the health and economic components to the ISC meetings for coordination purposes.

B.) Mangrove Buster Announcement: Diane Drigot announced start up of a "mangrove busters" coalition catalyzed by the Marine Corps but involving any and all stakeholders around Kane'ohe Bay willing to work together rather than separately toward a joint goal of eradicating invasive mangrove from Kaneohe Bay. Not only does it improve the natural ecosystem, but (in response to Pat Costale's point re the mosquito/West Nile virus carrier issue), mangrove removal helps reduce this threat by reducing stagnant stream mouth waters that could harbor mosquito breeding. DOD recently committed \$10,000 to join other federal and partner agencies in a new Hawaii-Pacific Islands Cooperative Ecosystem Studies Unit (CESU) hosted at UH-Manoa (Dr. Dave Duffy, PI). The CESU provides a mechanism for cooperative stakeholder pooling of resources

in such an effort. For more about the national CESU network go to their website at <http://www.cesu.org/cesu> Diane is the DoD technical rep to this CESU. Each CESU partner has a tech rep as listed on the website.

**C.) Fountain Grass Project Announcement (K. Langley/D. Drigot):**

Kim Langley announced a CGAPS application for Dept of Defense Legacy Funds (a special acct supporting interagency ecosystem-based efforts that benefit military lands as one of partners) to facilitate already on-going state-wide efforts to control invasive fountain grass. This grant program requires a military sponsor and Marine Corps Base Hawaii agreed to be that sponsor with Navy, Army, and HIARNG land managers also potential beneficiaries/partners, along with other potential state/federal partners (such as the ISCs). If funded, the project would: complete a comprehensive survey of fountain grass in Hawaii; prioritize populations for appropriate control actions, test apply controls at selected locations, and public education/outreach to include military operators. The multi-year, multi-phased project if funded as proposed is over two million with a timeline of three years, would work through the Hawaii-Pacific Islands CESU to accomplish the work.

**III. Background OISC Information:**

**A. History:**

1995 Miconia control initiated by a group of volunteers led by Pat Conant

1997 Fountain grass working group (FGWG) founded to combat fountain grass as well as miconia.

2000 OISC staff hired

**B. Summary of Funding and staffing:**

Year	Funding	Staffing
FY01	99,355	2 field techs supervised by DOFAW
FY02	181,000	2 field techs 1st Coordinator
FY03	256,000	4 field techs 1 Coordinator
FY04	302,000	3 Field techs, 1 Data/Admin, 1 Coord., 1 UH-HIP intern, 1 temp GIS hire,

**IV. FY '05 Outlook:**

5-6 field staff (includes 2 interns), 1 Admin/PR , 1 Field Ops Supervisor, 1 Data/GIS/Admin, 1 Coordinator. Overall staff of 9 to 10. Below is the projected budget for FY'05.

USFWS	\$50,000
Forest Service Co-op	\$59,000
HBWS	\$125,000
Supplement budget	\$40,000
State Pass-ISC	\$33,000
State HISC	\$220,000

<b>Total</b>	<b>\$527,000</b>
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## **V. Overall Emphasis:**

The purpose of this meeting is to evaluate current progress and to set goals for the upcoming year. The attached Chart (Appendix A) illustrates the percentage of time that OISC spent for each of the target species. Ryan handed out data summary sheets (Appendix B) outlining OISC's work to date. He noted that members should keep in mind when examining OISC statistics that OISC data prior to 2003 was not as stringently kept as it is presently. Also noted was that volunteer hours, partner agencies and sierra club trips, are separated in database, but were combined for this summary.

## **VI. Target Species Evaluations:**

### **Aquatic Invasive Species**

#### **Objective: Evaluation of OISC role**

At the last prioritization OISC had dedicated a finite amount of time and resourced toward an aquatic invasive species project. OISC has been collaborating with Bruce Casler of TNC to set up a water hyacinth in Kawai Nui. OISC's role was to refine a control mechanism and assist in setting up a management project that would be fueled by volunteer efforts and housed under the Aquatic Invasive Species Coordinator. OISC would just pioneer removal techniques and volunteer group would take over. This project is still in development. Volunteer groups have been contacted for support, but OISC is still trying to locate containment booms. To date no field time has been put towards aquatic invasive species. This project is expected to take place within the next month

#### **Discussion:**

Diane Drigot – It is necessary to look at a comprehensive approach. The marsh was the cause of flooding in coconut grove. Currently mangrove is re-encroaching and may cause another flood.

Penny Levin – The benefit of doing this project is also that you develop a process that you can pass to volunteer group. You could do this with other species.

Tony Montgomery – The aquatic rapid response team will be up and running by the end of the calendar year and the participation level with OISC is open, as little or as much as possible.

### OISC TARGET #1

**Common Name:** Miconia, Velvet tree

**Scientific Name:** *Miconia calvescens*

#### **1. Known Locations:**

1. Manoa: Source = Lyon Arboretum
2. Tantalus/Makiki: Source = Brash Estate
3. Nuuanu: Source = Marx Estate
4. Kalihi: Source = Abandoned Kalihi nursery
5. Maunawili: 3 immature off of trail

Source = UNKNOWN. Closest mature tree is in Waimanalo (1.5 miles).

6. Waimanalo: 3 mature trees in back of valley

Source = UNKNOWN. Perhaps from an abandoned nursery in Waimanalo?

7. Kaalaea: Original plant at Art Gallery residence, mature tree in back of valley.

8. Kahaluu: Several mature trees found in back of valley

Source= UNKNOWN. Closest known miconia is Kaalaea (2 miles)

9. Wahiawa: Wahiawa Botanical Garden

**2. Control Method:** Apply Garlon 3A or 4 at 20% to cut stumps immediately after cutting. Pull seedlings and hang in trees for roots to dry. For mature trees, remove all panicles with fruit; bag and either autoclave or incinerate fruit/seeds of plant material.

**3. Threat:** Currently in lower disturbed rainforest. Potential to decimate both native and weedy areas.

**4. Notes:** Aerial surveys seem to be very effective method for surveying more remote areas and determining population boundaries. Vast increase in resources dedicated towards Miconia necessary for FY05.

**5. Noxious Weed (y/n):** Yes

**6. FY 05 Management Strategy:**

**Objective:** Complete initial survey areas, define population boundary, and revisit all surveys done 3 years ago to eradicate all known sites. (See Appendix C)

1. Complete 500 m ground survey around all plants. 1,477 acres initial survey acres remaining. Increase field effort to 40-50% of field time.
2. Complete 44 aerially survey hours. It will take 88 hours of flight time to complete aerially surveys. Aerial survey area is determined by drawing a 1 mile buffer around all plants (Initially set at 1 mile buffer, would like to consider increasing to 2 miles in future).
3. Resurvey all previously surveyed areas at least every 3 years. (Approx. 857 acres for FY'05 – This has been corrected since the meeting)
4. Evaluate all unknown source populations
  - a. Look for old nurseries
  - b. Survey in neighborhoods
5. Expand PR, canvassing neighborhoods, posters
  - a. Complete systematic searched of private properties of infested valleys

**Discussion:** There was a discussion of survey projection estimates for the next year (See Appendix C). Currently there is 1500 acres left to survey to complete initial survey areas within a 500m buffer of all miconia plants. There is 857 acres that need to be revisited. Areas should be revisited every three years to catch seedlings. A one mile buffer was drawn around all miconia plants to approximate the amount of aerial surveys left to complete. One aerial survey hour roughly covers 150 acres. Therefore there is approximately 84 survey hours left. Cost is approx. \$1000 an hour and needs four staff. This does not include periodic re-visits.

Diane Drigot- Has anyone tried to get some in-kind contribution from helicopter companies? Ryan - No, but will look into it. Some of the pilots have found new populations while working with us and while doing flights for other groups.

There was a discussion of looking outside buffer zones. People discussed possible ways to prioritize these areas. Talbert (DOFAW) brought up the idea to create randomized searches. A randomized search would alleviate bias issues.. There was also mention of reaching out to user groups, hikers, hunters (giving out education/identification cards) and also outreach to neighborhood councils.

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## OISC TARGET # 2

**Common Name:** Coqui frog

**Scientific Name:** *Eleutherodactylus coqui*

### 1. Known Locations:

1. Home Depot/Iwilei: Population controlled
2. Wahiawa/Schofield East Range: Only population in natural areas  
Area ~ 9 acres, population size > 200
1. Waimanalo nurseries: Multiple nurseries had frogs all populations seem to be contained or controlled. However 1 nursery has a population that is not yet contained
2. North Shore nursery: 1 nursery where it seems to be contained.
3. Kahaluu nursery: No frogs confirmed since 5/3/01 FGWG
4. Other: There have been several single calling males around the island, mainly in town. All have been responded to by either DOA or DOFAW

### 2. Control Method: Citric acid mixed in water at 16% - spray

Wahiawa/Schofield E. Range: Cleared under story, cut transects for large spray ops

Waimanalo nursery: Working with nursery owners. Wildlife Services provided assistance. Doing large spray ops / dipping plants / spot area sprays

North Shore nursery: Working with owners for spray operations and control.

Kahaluu nursery: Continue monitoring.

### 3. Threat: Public nuisance / disturbance w/ economic impact. High concentration of populations can disrupt ecosystem.

### 4. Notes: Frog calling season approximately from May – September

**5. Noxious Weed (y/n):** No: trying to declare as an official “pest” possibly with new Hawaii State Invasive Species Council

### 6. Progress Report:

#### OISC Progress to Date:

1. Home Depot population extirpated
2. Frog radio PR campaign launched in August 04 (w/CGAPS)
3. OISC: centralized database on all confirmed field coqui work
4. Multi-agency, and nursery partnership and collaboration of control work
5. Containment of Wahiawa:
  - a. Equipment /access and collaboration of agencies secured
  - b. understanding of scope of work needed

## 7. FY04 -05 Management Strategy:

**Objective:** Complete survey and define population boundary, control/eradicate all known sites. Improve detection and rapid response of new populations

1. Hold coqui strategy meetings with partner agencies to address all naturalized populations.
2. Dedicate consistent resources during calling season
  - a. Control: Systematic treatment of all infested areas
  - b. Monitor: Systematic reconnaissance to determine treatment efficacy and map /monitor populations.
3. Waimanalo / N Shore: Continue to work in collaboration with nursery owners to accomplish #2. OISC, DOFAW, HDOA, USDA take role of monitoring and quality control.
4. Ensure spray cycles are timed to prevent maturation of coqui.
5. Hire temporary staff for summer months or look for additional funds for coqui sprays.
6. Test / consider other control mechanisms: Hydrated lime, fogger, etc..
7. Detection:
  - a. Reconnaissance of previous coqui areas and high probability areas with the goal of increasing detection.
  - b. Media campaign for coqui frogs
    - i. increase radio PSA
    - ii. Create a TV PSA
    - iii. Create a web site to accompany PSAs
    - iv. Solicit gardens / greenhouses / nursery associations

**Discussion:** The coqui frog is the only animal pest OISC currently deals with. It is a collaborative effort with DLNR, HDOA, FWS. OISC is housing all coqui control efforts by any of these agencies in their database. Scott Williamson (DOFAW) is the lead on coqui efforts. OISC provides manpower for control efforts. Wahiawa is the only known naturalized site on the island. It was sprayed last summer with spot spraying and one blanket spaying. This summer there were multiple blanket sprays, spaced a few weeks apart. Unfortunately there was a shortage of citric acid supplies on the island, which disrupted scheduled spray operations in the beginning of the summer. Currently we have two sprayers available. For control efforts OISC needs the ability to totally soak the area several nights in a row, and then monitor in the following nights. This creates a strain on staff and the amount of time we can spend on other species during the calling season. One idea is to do frog work as a seasonal emphasis. Do it frequently in the summer and move plant species efforts to other months. Another solution would be to hire staff dedicated to work at night, possibly temporary hires for summer months?

Someone questioned whether OISC could contribute more time than 7% of their field time towards coqui frog control.

Meghan (OISC) - Figures are for fiscal year, which ends June 30. It does not include July and August of this year.

Scott Williamson - OISC has stepped up and made it a priority.

Jane Beachy (Army Environmental) - Hydrated lime? Why not use that instead.

Ryan (OISC) - Hydrated lime is not yet approved as a pesticide. It could possibly be approved in next six months.

Brent (DOFAW) –OISC should look at HISC funding or FWS to go towards some big spraying crews next season. If you look at the statewide level, Maui, Big Island, the only possibility is for control. It can still be eliminated on Oahu and Kauai with a serious effort. Scott- There is a lack of coordination across islands, no one seems to be coordinating efforts.

Domingo Cravalho (DOA) - The only legal chemical available for use is citric acid.

Jim (Wildlife Services) - I was contracted by DOFAW to assist with control in nurseries. They developed a dip which was very effective for the potted plants, but labor intensive.

Ryan- We cannot depend on community for control. At this level of risk the frogs need to be controlled in a professional manner. We need to monitor so that frogs are not naturalizing and moving beyond known areas. Ryan would like to go ahead with a coqui frog meeting at the end of this season, to go over strategies, The bottom line is that OSIC will increase efforts an increase in the next season.

There was a discussion that CCC funds were denied, coqui frog is not considered a pest because it is only economic problem, does not effect health or agriculture. NRCS is being pressured to declare coqui a pest. Money from them goes to private land owners and nursery owners that would apply for funds.

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### OISC TARGET #3

**Common Name:** Himalayan blackberry

**Scientific Name:** *Rubus discolor*

#### 1. Known Locations:

1. Palolo Valley near BWS tank area: (½ acre)
2. Palolo Valley River area: <½day every 3 months for eradication (½ acre)
3. Mau'umae : Population boundary not yet defined (16 acres) (Found increase in population boundary)

2. **Control Method:** 2.5% foliar application with Roundup Pro using hand squirt bottles.

3. **Threat:** Threatens natural areas by forming dense impenetrable thickets that exclude other native plant species.

4. **Notes:** Questioning whether the herbicide is killing all of the roots. Are seedlings that we find sprouting from seeds or leftover roots.

5. **Noxious Weed List:** No, although several other Rubus species are.

#### 6. Progress Report:

##### OISC Progress to Date:

1. Recent systematic control of Palolo valley has been highly effective.
2. Incorporate control/survey work into volunteer efforts
3. Difficult to find effective treatment method

#### 8. FY04- 05 Management Strategy:

**Objective:** Complete initial surveys and define population boundary. Control all known sites to achieve eradication.

1. Buffer existing populations by 500m for ground survey (eventually 1000m). Survey area within boundary.

2. Mau'umae: Finish comprehensive survey and mapping of population boundary.
3. Test new control mechanism of G3/RU cocktail.
4. Complete systematic re-treatment of known areas every quarter.
5. PR: Canvass nearby neighborhood.

**Discussion:** There is one population on the Ma'umae ridgeline. The boundary has expanded as OISC is finding recruitment beyond known area. OISC is unsure if herbicide method is effective. OISC is not certain if herbicide is killing the plant, or just killing the above ground vegetation. We know that Roundup kills above ground vegetation, but we question if recruitment comes from nodes. OISC will create test plots and test out a cocktail of Roundup and Garlon. Control of this species relies a lot on volunteers. OISC leads Sierra Club trips to treat populations. Although OISC has manpower it still continues to sprout. There was a suggestion that OISC complete a comprehensive survey (Talbert). Can OISC use a restricted pesticide? It is in forest reserve. Have tried snip and drip with Garlon but was ineffective. There was a suggestion of mechanical removal. It is difficult to dig them up and can be very labor intensive.

#### OISC TARGET #4

**Common Name:** Bush Beardgrass

**Scientific Name** *Schizachyrium condensatum*

**1. Known Locations:**

1. Halawa valley: Along H3 DOT access road and H3 road cuts.  
~ 16.5 acres. Time ~ 2 days w/ 4 people every 8 weeks.
2. Ahuimanu / Temple Valley neighborhood ( Kahalu'u):  
~ 100 residential properties within the neighborhood  
Time ~ 1 day with a crew of 3-4 people every 8 weeks

**2. Control Method:** Foliar application of Round-up 2% in water. Remove inflorescences.

**3. Threat:** It is currently on road cuts of H3 and in residential areas of Temple valley. It is a fire promoting grass and could spread and establish on other parts of the island.

**4. Notes:** OISC is finding new sites that were previously undetected.

**5. Noxious Weed (y/n):** No

**6. Progress Report:**

OISC Progress to Date:

1. Systematic control of both populations every 6-8 weeks
2. Temple Valley
  - a. reconnaissance of valley and neighborhood
  - b. Full compliance with neighborhood
  - c. Marked reduction in population indicating minor seed bank establishment

**7. FY04 – 05 Management Strategy:**

**Objective:** Complete survey and definition of population boundary, control to eradicate all known sites, ensure 'beating' life cycle of grass.

1. Continue systematic treatment of all known populations.
2. Annual recon survey around perimeter of populations
3. H3:

- a. Increase time / staff for each treatment to ensure that we have entire boundary covered . (2 days w/ 4 people / every 8 weeks)
  - b. Timing is essential: May consider manual control in some areas to prevent lapse in re-visitations due to weather.
4. Temple Valley
- a. Continue systematic survey 1 day 3-4 people / every 8 weeks
  - b. Media Campaign: poster in public places
    - i. Canvass / mailer to neighborhood
    - ii. Community board meeting

**Discussion:** Found in two distinct management sites. One is in Temple valley, which is a residential area. OISC has good cooperation with community, they have manicured lawns making it easy to find. The other site is in Halawa valley. The grass there seems to be responding to environmental changes. Apparently due to DOT weed whacking it is maturing faster. There was a question if OISC needs to visit more frequently or use a different pesticide. Currently OISC re-visits on six to eight week basis. There was a suggestion to do a test plot where OISC would visit every three weeks for three months. DOT has landscape architect that is willing to put in native plants that need no weed-whacking. Occasionally OISC has been removing manually, as it is difficult to get a window to spray herbicide.

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## OISC TARGET #5

**Common Name:** Smoke bush / Butterfly Bush

**Scientific Name:** *Buddleia madagascariensis*

### 1. A.)Known Locations

- 1. Makiki – Tantalus Drive (small group of plants)
- 2. Schofield East Range (small clump of plants)
- 3. Wahiawa: 1 plant

### B) Unverified Sites:

Manoa – 1 record Bishop museum

**2. Control Method:** Basal bark stems <3 inches diameter with 20% Garlon 4. // Foliar Spray cocktail of G3 3% and RU @ 2%. Frill cut larger stems.

**3. Threat:** Threatens native forest by smothering native plants. Buddleia has naturalized in Kokee State Park, Kauai.

**4. Notes:** Rapidly re-sprouts from cut branches

**5. Noxious Weed (y/n):** Yes

### 6. Progress Report:

#### OISC Progress to Date:

- 1. Previously a rapid response candidate (discovered on a survey)
- 2. Full treatment of all known sites
- 3. Initial reconnaissance of known sites

### 7. FY04 – 05 Proposed Management Strategy:

**Objective:** Complete survey and definition of population boundary, control to eradicate all known sites.

1. Buffer and survey all known populations by 500m
2. Investigate Woodlawn rd. population. Manoa valley site.
3. Revisit all known populations 3x year
4. PR Media campaign
  - a. Easy target to detect : increase awareness
  - b. Mailing / canvass campaign of residences surrounding known sites

**Discussion:** The two more established populations were initially ornamental plantings (Makiki and Schofield). OISC will create 500m buffers around known locations and complete surveys within that buffer. An additional plant found beyond Schofield area, (among the coqui frog infestation) It could be attributed to bird dispersal. There is a need to increase public awareness, as it could be brought in as ornamental. Want the public to be informing OISC if it is spotted. Check “in gardens” project to see if exists outside of bishop records.

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## OISC TARGET #6

**Common Name:** Manuka

**Scientific Name:** *Leptospermum scoparium*

### 1. Known Locations:

#### Koolau Range

1. Kahuku Training Area: Several sites. Many plants, time unknown (DPW)
2. Kawaioloa Training Area: Several sites. Many plants, time unknown (DPW)
  - Puukainapuaa : Originally thousands of trees, currently revisited on semiannual basis
  - Poamoho Ridge: Originally thousands of trees, currently revisit on semiannual basis
3. Kipapa trail: Many plants (largest naturalized population on island?) (Fish and Wildlife Service) time unknown.
4. Waimano trail: Many plants
5. Manana trail: Many plants lower
6. Kapalama trail: Many plants (both *L. polygalifolium* and *L.scoparium*)
7. Manoa: Konahuanui, originally thousands – currently some recruitment.

#### Waianae Range

- Waianae Kai / Mt Kaala: Many plants time/ size unknown.

**2. Control Method:** Cut stump / hand pull (no herbicide needed).

**3. Threat:** Manuka is proven to be an aggressive invader throughout the more native areas of Oahu. Unchecked populations pose serious threat to native environments.

**4. Notes:** OISC has taken more of a site based vs. weed based management

**5. Noxious Weed (y/n):** No

**6. Progress Report:**

### OISC Progress to Date:

1. Assists DPW with control trips to Konahuanui, Puukainapuaa and Poamoho Ridge : populations seen marked success and dramatic reduction in population size
2. Began work on Waimano ridge population in conjunction with other agencies (DPW/OISC/DOFAW)

### **7. Management strategy:**

**Objective:** Understanding of Manuka island-wide, working towards control of Waimano, 'eradication' of Manoa and mapping of Waianae population.

1. Aerially map Waimano, Manoa and Waianae populations
  - a. Assess acreage and OISC best use of resources
2. Continue quarterly trips to Waimano for control
3. Organize inter-agency strategy meeting to identify, map and assess all known populations on O'ahu.
4. PR campaign: assist with efforts to discourage / bar sale of Manuka in stores

**Discussion:** There have been attempts to wipe out localized populations. Previously OISC assisted partner organizations with control of this species. Not an insipient target. Manuka is not targeted for island wide eradication. However because it directly threatens the native environment and it is not too difficult to remove OISC has spent time removing it. The effort has been on localized areas. OISC has discussed the possibility of mapping the only known population in the Waianaes with assistance from Army Environmental. Ryan would like to have a strategy and look at Manuka island-wide and discuss possible strategies. What is criteria for selecting sites for localized eradication? The areas the OISC works are sites that pre-dated OISC staff. We don't know what the process was for choosing these sites. They were handed to OISC. A comprehensive survey would be useful. Someone suggested that OISC may want to key in on new populations, such as if it turns up on summits.

Jason- Perhaps this is not an appropriate species for OISC? Is it useful to spend time controlling it when you don't know why you are working on current populations. The effort may be more effective to look at a comprehensive survey, and re-evaluate if this is an appropriate inherited species.

Jason- They are looking at site based management.

Discussion of committee leans on OISC to no longer directly controlling Manuka but work with watersheds and other partners in assessing population and assisting those efforts. This species needs more evaluation.

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### OISC TARGET # 7

**Common Name:** fountain grass

**Scientific Name:** Pennisetum setaceum

#### **1. Known Locations:**

##### **A. Koolau Range**

1. Diamond Head: (~200acres)
2. Palolo: Chaminade (18 acres), side ridges

3. Lanikai: Containment only: (~150acres)
4. BWS Sierra Drive (~<1acre)
5. Pali Highway: 2 small populations difficult access (<1 acre)
6. Airport area: Lagoon Drive, Nimitz etc: (1 day w/ 4 people)
7. Waimanalo HWY: 2 small populations (<1 acre).
8. He'eia: eradicated
9. Bellows AFB: cursory survey of area: some small pukas to be surveyed
10. Kahuku Military: DPW .
11. Dillingham Military: DPW

## **B. Waianae Range**

1. Makaha: Few plants, more recon. needed
2. Kaala Learning Center: Few plants, more recon. needed
3. Koolina HWY/ Waimanalo Dump: Annual revisit

## **C. Unverified Sites:**

Makua- Lower unconfirmed sighting (DPW)

**2. Control Method:** Roundup Pro at 2% concentration in water for green plants. Velpar at a 5% concentration in water (MISC found effective)

**3. Threat:** Threatens all dry forest areas, pasture lands. It is a fire promoting grass.

**4. Notes:** regionally established in the Koolau range beyond chemical control

**5. Noxious Weed List:** yes

## **6. Progress Report:**

### OISC Progress to Date:

1. Initiated a systematic control of all satellite populations – re-evaluated at FGWG meeting
2. Several pushes on established populations
3. Full survey of Bellows(Air force/Marines/National Guard lands)
4. Began systematic surveys of Waianae high priority areas
5. Coordinated interagency effort to address FG island wide
6. Treatment of high traffic areas of Lanikai
7. DH trail buffer: initiated semiannual treatment with HIARNG

## **7. FY04-05 Management Strategy: (Taken from FGWG meeting on 7-7-04)**

**Objective:** Waianae: Eradication Koolau: Focus on high risk areas (vector, fire), work towards plan of eradicating satellite populations.

1. Waianae Mountains (Eradicate)
  - a. Identify all areas that need survey work in the Waianae mountains
  - b. 15- 20 days of recon and helicopter surveys in Waianae mountains.
  - c. Collaborate with Army Environmental to conduct surveys in Waianae.
2. Satellite Populations
  - a. Thorough survey of all sites
  - b. Control high traffic / vector areas
  - c. Empower landowners (Chaminade/residences) to self control

- d. Involve community groups etc.
  - e. HDOA: manage airport areas / HBWS: manage its lands
3. Main populations
    - a. Focus on high traffic / vector areas
    - b. Diamond head: work with HIARNG: 2 days /year treat trail
    - c. Lanikai: treat trail 1-2x year
    - d. Bellows: annual large survey: w/HIARNG / USMC doing maintenance and survey around known populations
  4. Test other herbicides /control methods

**Discussion:** On Oahu this species has gone beyond incipient status. There was a meeting in July specifically re-examining the strategy for fountain grass. OISC's top priority is eradication of populations in the Waianae mountains, with assistance from Army Environmental. At the fountain grass meeting OISC decided that it was getting spread thin and would have to drop some of the town satellite populations. Instead OISC will assist others in control efforts. A Community group in Palolo valley is interested in assisting with control of high traffic areas.

Penny Levin – She is attempting to create an invasive species SWAT team within the community. She would encourage teens to be part of team. Some ideas were talking with the YCC to provide training and summer internships. She was thinking that KCC may allow kids to take natural resources courses and get credit for it. It would take until end of year to set up, but may begin as early as next year as semester based project. Her group is interested in finding out if fountain grass has reached the crater. They know it has reached the back of the valley.

Army Nat. Guard- They are not controlling along the trail much as they are currently short-staffed. HIARNG is undergoing transition. When treating along the trail they try to hit plants close to trail.

Kim Langley – Gave a short explanation of a fountain grass proposal she is submitting with CGAPS as the lead organization. It is written in a manner to allow maximum flexibility of labor dollars and to leverage maximum partnership participation.

Army Environmental - They have not found populations in Dillingham. They are still finding some plants in Kahuku in a small confined area. They survey the area quarterly. They survey roads with high traffic. They believe that the fountain grass seems to be traveling on military vehicles from the training area in the Big Island.

There was a question about whether BIISC controls on fountain grass. BIISC did not work on fountain grass due to the immensity of the population and the staff limitations.

There was a discussion of military procedures around washing vehicles. Someone questioned what the protocol for decontaminating equipment and vehicles and what the reality is. Army Environmental will look into this and look into the possibility of other vectors.

## OISC TARGET # 8

**Common Name:** Fire/Faya tree

**Scientific Name:** *Morella faya* (formerly *Myrica faya*)

### 1. A. Known Locations:

### **Koolau Range**

1. Hauula- Waipilopilo Ridge: 1 large tree and several smaller trees found
2. Wa'ahila Ridge: lone tree killed in '99 may have been *Morella cerifera* as noted from Forestry plantings
3. Lanipo Ridge: lone tree, monitoring phenology

### **Waianae Range**

1. Numerous sites throughout the s. range / large population w/in TNC preserve

### **B) Unverified Sites**

1. Kipapa: lone tree, monitoring phenology  
Forestry Planting records / Bishop records
2. Pupukea: Harumi on pineapple farm: OISC checked but none found
3. Waiahole: 45 planted in '27 with no specific site described; this F.R. also spans a long distance
4. Kuliouou F.R.
5. *Morella cerifera* was also planted in Honolulu FR at Kolowalu (50 seedlings)

**2. Control Method:** Basal frill cut and herbicide with Garlon 4 (50% crop oil). Hand pull seedlings.

**3. Threat:** Forms dense single species stands / displaces natives changes soil composition

**4. Notes:** Many of the fire tree plantings have little information associated with them making comprehensive surveys difficult and time consuming. OISC is monitoring the tree on Maumae trail to see if it produces fruit to help determine if other trees in area as the tree is dioecious

**5. Noxious Weed (y/n):** Yes

### **6. Progress Report:**

#### OISC Progress to Date:

1. Found individual on Mau'umae trail (Bishop record).
2. Assisted TNC with fire tree control
4. Survey Hauula (Bishop records / CY) found and killed 3 plants
6. Several reconnaissance trips to s. Koolaus revisiting treated plants and searching from Bishop records.

### **7. Management Strategy:**

**Objective:** [Koolau only]: Complete survey and definition of population boundary, control to eradicate all known sites.

1. Prioritize and follow up on Bishop records and Forest reserve plantings
  - a. Kuliouou F.R.
2. Follow-up on Kipapa tree
3. Follow up monitor all known sites in the Ko'olau range on annual basis

Fire tree is very established in the Waianae mountains. It is still incipient in the Koolau mountains and eradication seems possible. There are only two known populations. There is only one tree left, on Maumae ridge. OISC is monitoring the tree to see if it fruits as fire tree is dioecious. There is plan to follow up with Forestry & Bishop museum records to locate plantings. OISC is working on trying to educate other agency staff to look for trees when in forests.

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## OISC TARGET # 9

**Common Name:** Indian Melastoma, Indian Rhododendron

**Scientific Name** *Melastoma candidum /septemnerium*

### 1. Known Locations:

#### Koolau Range

1. Waihee Valley: population remains undefined (~20+ acres), spread to Temple valley
2. Maunawili (BWS, Castle, Falls Park): Believe main population is about 3-5 acres. More reconnaissance needed
3. Hawaii memorial: Sporadic plants found
4. Kalihi: Old nursery (~1 acre)
5. Tantalus: Resident (~1 acre) / naturalizing in Pauoa valley
6. Haiku valley: Near base of Haiku stairs

2. **Control Method:** Cut stump Garlon 4 at 100% in crop oil. A concentration of 20% may be used but herbicide must be applied within seconds of cutting. In satellite populations fruiting berries are also removed and incinerated.
3. **Threat:** Melastoma grows into thick bushy trees that will crowd out other native vegetation. Seems to establish in mesic to wet exposed areas.
4. **Notes:** Appears to like open areas, and has been found mostly in open disturbed areas such as road cuts, old pastures, ridges. Difficult to kill; often re-sprouts.
5. **Noxious Weed List:** yes
6. **Progress Report:**

#### OISC Progress to Date:

1. Initial surveys and treatments of all known sites
2. Treatment of some areas

### 7. FY04 -05 Management Strategy:

**Objective:** Defining population boundary, assessing feasibility of control

1. Reconsider as target species
2. Move towards full mapping / reconnaissance and re-evaluate OISC control

**Discussion:** This is historical target and we keep finding more. OISC has stopped control work and is just doing survey work. In Maunawili there are several hundred plants. It is naturalizing on Tantalus. What should OISC's role be? It is not yet completely mapped. Ryan does not feel that OISC is doing much to actually curb the spread. OISC is not currently spending additional time mapping this species, but instead mapping it when they are surveying for other species and run across it. Staff tend to find it on exposed ridges. The committee recommends that they keep it as a target for comprehensive mapping, because no other group is and a baseline would be useful for the future.

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## TARGET SPECIES TO MONITOR (TSM)

**Common Name:** Glory Bush

**Scientific Name** *Tibouchina urvilleana*

### 1. Known Locations:

#### **Koolau Range**

1. Kahaluu resident : Single plant
2. Whitmore Village: On Navy lands, DPW is taking the lead: Must revisit quarterly and control a few seedlings each time
3. Mililani Mauka: Planted in new housing project. 2 plants possibly remain
4. Tantalus: Single ornamental plant.

**2. Control Method:** Foliar application/ cut stump using 2% Garlon 4.

**3. Threat:** Potential to spread mauka into more native areas of the Koolaus. Currently limited to disturbed lowland area.

**4. Notes:** Unsure of how it was allowed as a nursery planting as it is a noxious weed.

**5. Noxious Weed (y/n):** YES

### 6. Progress Report:

#### OISC Progress to Date:

1. Assisted DPW with control of Whitmore Village population
2. Reviewed Bishop M. records and conducted reconnaissance surveys in Nuuanu and Lyon Arboretum. (none found)
3. Removed all plants and survey around Mililani Mauka (HDOA lead)

### 7. Management strategy:

**Objective:** Functional eradication

1. Systematic revisit (1-2x annually) of all historical sites
2. Increase PR efforts:
  - i. Landscape / nursery
  - ii. Private residences

**Discussion:** *Tibouchina urvilleana* is only known to produce asexually. At one time Army Environmental thought they were finding new seedlings at the Whitmore site, but now looks like the seedlings were sprouting from roots and not seeds. Other populations around the island are ornamental plantings and everything has been removed. HDOA took the lead. Currently the effort is focused on outreach. Army no longer needs assist with Whitmore site.

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## TAXA OF CONCERN (TAC)

**Common Name:** Pampas Grass

**Scientific Name:** *Cortaderia* spp.

1. A) **Known Locations:**

1. Nuuanu valley residence
2. Aiea (2 sites) private residence and state park
3. Waimea private residence
4. Wilhelmina Rise private residence

**B) Unverified sites**

1. Schofield golf course (KK sighting)
2. Koolina (DS sighting)

2. **Control Method:** Foliar application of Round-up 2% in water

3. **Threat:** Once established it can crowd out native plants, damage grazing lands, and create a fire hazard.

4. **Notes:** Taxonomy difficult to discern the species. Only *C.jubata* on the noxious weed list.

5. **Noxious Weed (y/n):** *C. Selloana* is not, but *C. jubata* is

6. **Progress Report:**

OISC Progress to Date:

1. Recorded and GPS of town sites
2. Initial communication w/ Aiea state park for control of grass
3. Trying to collaborate w/ DOA about treating other sites

7. **Management strategy:**

**Objective:** Rapid response of all known sites island eradication, prevention from import

1. Investigate unverified sites
2. Write letter to landowners for voluntary compliance
3. Buffer areas and ensure no spread
4. PR campaign to get compliance to remove existing plants and prevent new ones

**Discussion:** OISC has done no control on this species. It is a rapid response concern. It will require voluntary compliance and a good public relations effort. It is used as an ornamental.

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TAXA OF CONCERN (TAC)

**Common Name:** Kahili Ginger

**Scientific Name:** *Hedychium gardenarium*

1. **Known Locations:**

**A. Koolau Range**

Unknown: Presumably regionally established incipient in summit areas  
~ Tantalus, Nuuanu, Kalihi

**B. Waianae Range**

Mt. Kaala: size unknown

2. **Control Method:** Escort 1.5g/L Cut the growing stems and then spray mixture with a hand sprayer.

**3. Threat:** Although widespread in many areas OISC is mainly concerned with it spreading and crowding out natives and rare species in Mt. Kaala bog.

**4. Notes:** Concern of control effort in area would be potential further spread of weeds incipient to area ex sphagnum moss. It is thought that the only the 1<sup>st</sup> 400meters of bog to contain ginger.

**5. Noxious Weed (y/n):** No

**6. Progress Report:**

OISC Progress to Date:

1. Assisted DPW with Mt. Kaala bog search and control for Kahili ginger on Army lands
2. Assisted DLNR / DPW with control of ginger on state land in Mt. Ka'ala

**7. FY04 – 05 Management Strategy:**

**Objective:** Control of ginger from sensitive area, eventual eradication from Ka'ala

1. Continue to assist with DLNR / DPW eradication efforts from the bog (1 -2 x annual) when asked.
2. Aerial survey Mt Ka'ala to map ginger and Manuka (in conjunction with DPW)

**Discussion:** Currently, Army Environmental does not do control for Kahili ginger on state side. They are finding ginger spreading farther from core population. Army Environmental would like to complete aerial surveys to map the spread in Kaala bog. OISC could help with survey. State side has been surveyed. Army Environmental is interested in any information on how often they should retreat an area. It was decided that OISC will no longer target this species and will drop it from the list. However, they will still assist Army Environmental when asked. It seems to be similar to the importance of removing Manuka as there is significant value in eradicating it from sensitive areas.

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TAXA OF CONCERN (TAC)

**Common Name:** Fireweed

**Scientific Name:** *Senecio madagascariensis*

**1. A) Known Locations:**

1. Schofield Barracks South Range (1 acre)
2. Manana trail : Cluster found (< 1 acre)

Presumably with contaminated Koa seedlings from DLNR nursery on BI

**B) Unverified Sites:**

1. Other Integrated Training Areas may be infested due to tainted seed mix, transport.
2. HDOA mention of historic sites : Pali Hwy, Kunia

**2. Control Method:** Initial control of seed bank with a granular pre-emergent herbicide called Snapshot . Plants will be treated with Roundup Pro at 2.5% concentration in 2-3 week intervals. Scheduled treatments of *Senecio m.* will be coordinated with Army environmental, the Hawaii Department of Agriculture (HDOA), and the Army's Integrated Training Management Program (ITAM) on a rotational basis.

**3. Threat:** *Senecio m.* is an agricultural threat as it is toxic to cattle and horses, less so to sheep and goats. Large infestations have ruined pasturelands on the Big Island.

**4. Notes:** *Senecio m.* goes from seed to flower in two weeks. *Senecio m.* seeds persist in the soil for a long time. OISC staff members must be escorted by an Army employee to access the South Range.

**5. Noxious Weed (y/n):** Yes

**6. Progress Report:**

OISC Progress to Date:

1. OISC has done initial treatments in cooperation with Army Environmental.

**7. FY04 -05 Management Strategy:**

1. Collaborate with other agencies to develop island wide map and history
2. Take an secondary role to ITAM / HDOA in control

**Discussion:** Fireweed might be a contamination issue with forestry nursery plants on the Big Island. Fireweed seedlings were discovered near Koa seedlings that were propagated on the Big Island and then sent to other islands for outplanting projects. One of those projects was at the Manana restoration site. OISC has surveyed this site and will continue to survey the area and all other areas where those koa seedlings were planted.

Control for the Schofield site is a cooperative effort. Army Environmental has an agreement with the Integrated Training Areas Management (ITAM) who checks up on it once a month. Army Environmental and OISC have sprayed the site a few times for initial control efforts. ITAM staff have followed up with hand pulling. Unfortunately the population remains constant, and may increased control efforts to fully eradicate. Christy reported pulling mature plants at a trailhead of the Nature Conservancy. It was decided that fireweed be moved to an active mapping list.

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TAXA OF CONCERN (TAC)

**Common Name:** Hiptage

**Scientific Name:** *Hiptage benghalensis*

**1. A. Known Locations:**

**Koolau Range**

1. Manoa: Several sites (New infestation, parking lot, Kahuna, Acupon)
  - pop. undefined
2. Kalihi: abandon Nursery site (Charlotte Y. is contact)
  - Only one site identified
3. Nuuanu: Pali Hwy site by temple, / Marx Estate
  - no known naturalized sites
4. Makiki: Pauoa: 40' x 40'
  - Kaneohe: Just below Waialele Bridge
5. Lanikai: 1123 Kooahoo Pl (Fred Krauss)
6. Waikane: 45-4966 Kamehameha Hwy, cultivated "Hakipu" Waikane
7. Kailua: below Ulumawao peak (see below): Steve Manning found:

**Waianae Range**

1. Kealia: Talbert T. killed about six years ago, should revisit.

**B) Unverified Sites**

**Unverified Sites (From Bishop Museum records)**

1. Liliha St. (1)
2. Lanikai (1)
3. Waikane (1)
4. Pali Hwy Overlook (1)

**2. Control Method:**

Cut stump with Garlon 4. Currently monitoring test plots where OISC staff members used chainsaws to make initial trails into thick areas with 2-3 people following with herbicide.

**3. Threat:** In the short-term Hiptage will continue to threaten low elevation weedy areas, but in the long-term it and may travel farther mauka. Hiptage can climb up to 3500ft elevation. It appears to be spreading in many weedy areas, making them completely impenetrable. Known problem on other Hawaiian islands

**4. Notes:** Population size unknown and estimated time for control unknown. Need results from experimental plots to determine feasibility of control. May be too late.

**5. Noxious Weed (y/n):** Yes

**6. Progress Report:**

OISC Progress to Date:

1. Sporadic mapping and some test treatments

**7. Management Strategy:**

**Objective:** Waianae: eradication, Koolau: evaluation of OISC role

1. Treat Kealia in Waianae (1 day)
  - Buffer population
2. Should OISC dedicate time /resources to controlling it?
  - OISC should continue to map populations, before controlling species.

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**VII. Other:**

A. Additional Discussion:

1. Wayne Johnson asked to comment. He is against coqui frog eradication. He feels the creature is revered in other areas, such as Puerto Rico and does not deserve the death penalty.

2. Christy Martin asked to move Rubber Vine to the target species list. It is a top weed in Australia. It is toxic when eaten by animals additionally it is a skin irritant. Rubber vine has Wind/water dispersed seeds and is becoming a problem in Molokai. It is planted in several areas. Ryan replied that OISC will look into it by making a call for info, checking Bishop museum records, etc.. to get a sense of what the extent of the problem is on Oahu

B. Detection:

OISC is compiling a taxa of concern list which includes species being targeted on other islands. Currently OISC is still gathering information and trying to determine if it is incipient. OISC is looking at models used on other islands, such as roadside surveys. Ryan is working on determining the cost and feasibility of different detection strategies.

Jason Sumiye asked if it was possible to use GIS technology for detection in the future. Can OISC find out what it would cost, how it could be funded. Ryan said he would look into it. Currently the resolution is not high enough to detect single plants, but it may be a useful tool in mapping Manuka populations on the island.

### **VIII. Conclusion:**

Some items (i.e. time allotted to each species, order of target species list...) were not decided at this meeting due to lack of complete knowledge. OISC will look at the meeting minutes, examine available resources, and complete additional strategy tasks (i.e. buffering species) to make preliminary decisions for the OISC Annual Strategy Plan. The Strategy Plan will be finished by December. This draft will then be e-mailed out to participants for review. There was discussion of adapting Annual Strategy Plan for a longer period and then adding a yearly addendum.

~PAU~

**Attendees:** Jason Sumiye (Koolau Mountain Watershed Partnership - KMWP), Joshua Fisher (Oahu Invasive Species Committee - OISC), Penny Levin (Ekupaku ka aina), Seth Cato (Army Environmental – DPW), Meghan Halabisky (OISC), Scott Lynch (OISC), Harrison Sumide (Hawaii Army National Guard, Environmental – HIARNG-ENV), Stacy Prosser (HIARNG-ENV), Larry Abbott (Independent contractor), Aaron Nadig (US Fish and Wildlife Service – USFWS, Oahu NWR), Rob Hauff (Division of Land and Natural Resources/ Department of Forestry and Wildlife – DLNR/DOFAW), Tony Montgomery (DLNR/ Department of Aquatic Resources – DAR), Mark Fox (The Nature Conservancy – TNC), Leila Gibson (USFWS), Katie Swift (USFWS), Scott Williamson (DLNR/DOFAW), Bruce Casler (TNC), Christy Martin (Coordinating Group on Alien Pest Species – CGAPS), Pat Costales (DLNR/DOFAW), Jim Murphy (USDA- APHIS, Wildlife Services), Jane Beachy (Army Environmental – DPW), Talbert K. Takahama (DOFAW/Natural Area Reserves – NARS), Julia Gustine (Army Environmental – DPW), Shari Lyons (Marine Corps Base Hawaii – MCBH, Environmental Department), Diane Drigot (MCBH), Domingo Cravalho (Hawaii Department of Agriculture – HDOA/PQB), Brent Liesemeyer (DLNR/DOFAW), Mindy Wilkinson (DLNR/DOFAW), Amy Tsuneyoshi (Board of Water Supply), Ryan Smith (OISC), Micah Ryder (KMWP)