Prioritizing *Miconia calvescens* survey areas on O‘ahu

Cal-IPC Symposium
Friday, October 30th, 2015

Julia Parish

*Plant Conservation Manager*

Catalina Island Conservancy
County Based Invasive Species Committees

- Grassroots, island-based partnerships that work to protect each island
- Rapid response teams that target incipient, invasive species that are most threatening and most feasible to control
- Control, containment or eradication
- Support efforts of mandated Federal and State agencies
- Public outreach and education
A voluntary partnership of private, government and non-profit organizations and individuals united to:

- Detect invasive species new to the island
- Prevent new invasive species infestations
- Eradicate incipient invasive species
Goals

- Early Detection & Rapid Response (EDRR)
- Watershed protection
- Conservation careers
- Pro-active public education about invasive species

Strategies

- Prevention
- Control
- Eradication
- Outreach
- Host monthly volunteer events
Oahu Invasive Species Committee

OISC Plant Target Species
1. Chromolaena odorata
2. Cortaderia selloana
3. Delairea odorata
4. Miconia calvescens
5. Pennisetum setaceum
6. Rubus discolor
7. Senecio madagascariensis
8. Tibouchina herbacea
9. Tibouchina urvilleleana

Pest Target Species
10. Eleutherodactylus coqui
11. Oryctes rhinoceros*
12. Wasmannia auropunctata

Early Detection Species
13. Buddleia madagascariensis
14. Imperata cylindrica
15. Klambothrips myopori
16. Morella faya*

Outreach & Volunteer Trip Target Species
17. Ardisia virens
18. Melinus nerviglumis
19. Nassella tenuissima
20. Pennisetum villosum
21. Piper aduncum
22. Stromanthe tonckat
Miconia calvescens
Miconia calvescens

J.B. Friday  R. Smith
Ground Surveys

Aerial Surveys

Control

Ground Surveys
Scenario: No future Miconia control
Scenario:
No future miconia control
Year 5
10 years or so out

Scenario:
No future miconia control
Year 10
Manoa Valley at Present
No Miconia Control: 10 yrs
General survey decision process

- No plants found in 200m = Survey good habitat
- Plants found in 200m or 600m good habitat survey = Scour
Miconia location in Mānoa Valley
Ground 800m survey buffer

---800m---
Aerial 800m survey buffer

---800m---
Miconia locations and survey buffers
Miconia survey buffers
Steep areas
Streams
Miconia controlled and survey areas

- Plants controlled
- Surveys
- Ground buffer
- Aerial buffer

O'AHU INVASIVE SPECIES COMMITTEE

OISC O'H 2012 JVF
• 100% of immature plants fall within 1600 m of nearest mature plant
• 99% fall within 400 m of nearest mature plant
• Greatest distance between an immature plant and the nearest mature was 1587 meters.
Reprioritization Results

Mature miconia treated

<table>
<thead>
<tr>
<th></th>
<th>Mean number of plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>2</td>
</tr>
<tr>
<td>800m buffer</td>
<td>(2009-2011)</td>
</tr>
<tr>
<td>Prioritization</td>
<td>3</td>
</tr>
<tr>
<td>450m buffer</td>
<td>(2012-2013)</td>
</tr>
</tbody>
</table>

Miconia ground survey area expansion

<table>
<thead>
<tr>
<th></th>
<th>Mean acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>150</td>
</tr>
<tr>
<td>800m buffer</td>
<td>(2009-2011)</td>
</tr>
<tr>
<td>Prioritization</td>
<td>250</td>
</tr>
<tr>
<td>450m buffer</td>
<td>(2012-2013)</td>
</tr>
</tbody>
</table>
Treatment Trends Over Survey Cycles

Mature Miconia Controlled on Oahu
Lessons Learned

• Rapid delimitation
• Collect good data – analyze mature & immature plants
• Consistent funding
• Reprioritization adequate short term management
Mahalo nui loa

- Jean Fujikawa, Rachel Neville and all OISC staff, past and present
- ISC Managers: Teya, Springer, Lori, Keren and Bill
- Dr. David Duffy – Pacific Cooperative Studies Unit