

EACP Committee

From: Adam Radford <aradford@hawaii.edu>
Sent: Tuesday, February 26, 2019 9:17 AM
To: EACP Committee
Subject: Presentation for today's EACP meeting
Attachments: MISC County Presentation 25Feb2019.ppt; MoMISC meeting.pptx

Aloha,

Please find attached MISC and MoMISC's presentations for this afternoon. Please let me know if you need anything more.

All the best,

Adam

Adam Radford, Manager
Maui Invasive Species Committee
P.O. Box 983
Makawao, HI 96768
phone: 808-573-6471
fax: 808-573-6475
web: www.mauisc.org



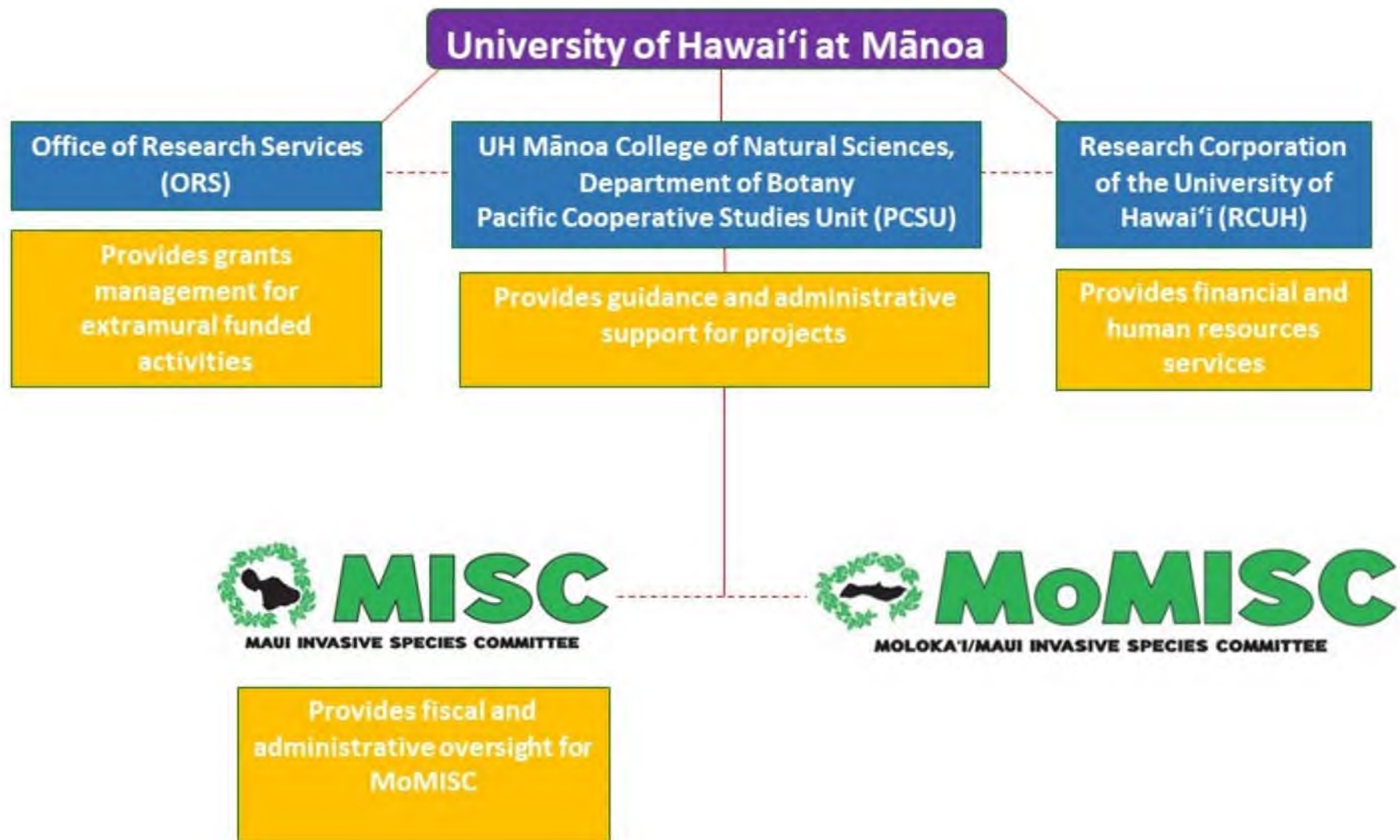
MoMISC

MOLOKA'I/MAUI INVASIVE SPECIES COMMITTEE



MISC

MAUI INVASIVE SPECIES COMMITTEE



Staff Structure

- Management/administrative staff to field staff
- All staff participate in field operations
- As the program has grown the focus has always been on adding field staff
- Over a time period of 18+ years, the combined MISC/MoMISC program has added the equivalent of 1 FTE (several part-time and/or intermittent positions) for management/administration, and approximately 19 FTE for field operations (includes additional .45 FTE for outreach & education)



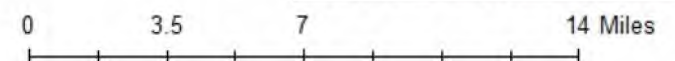
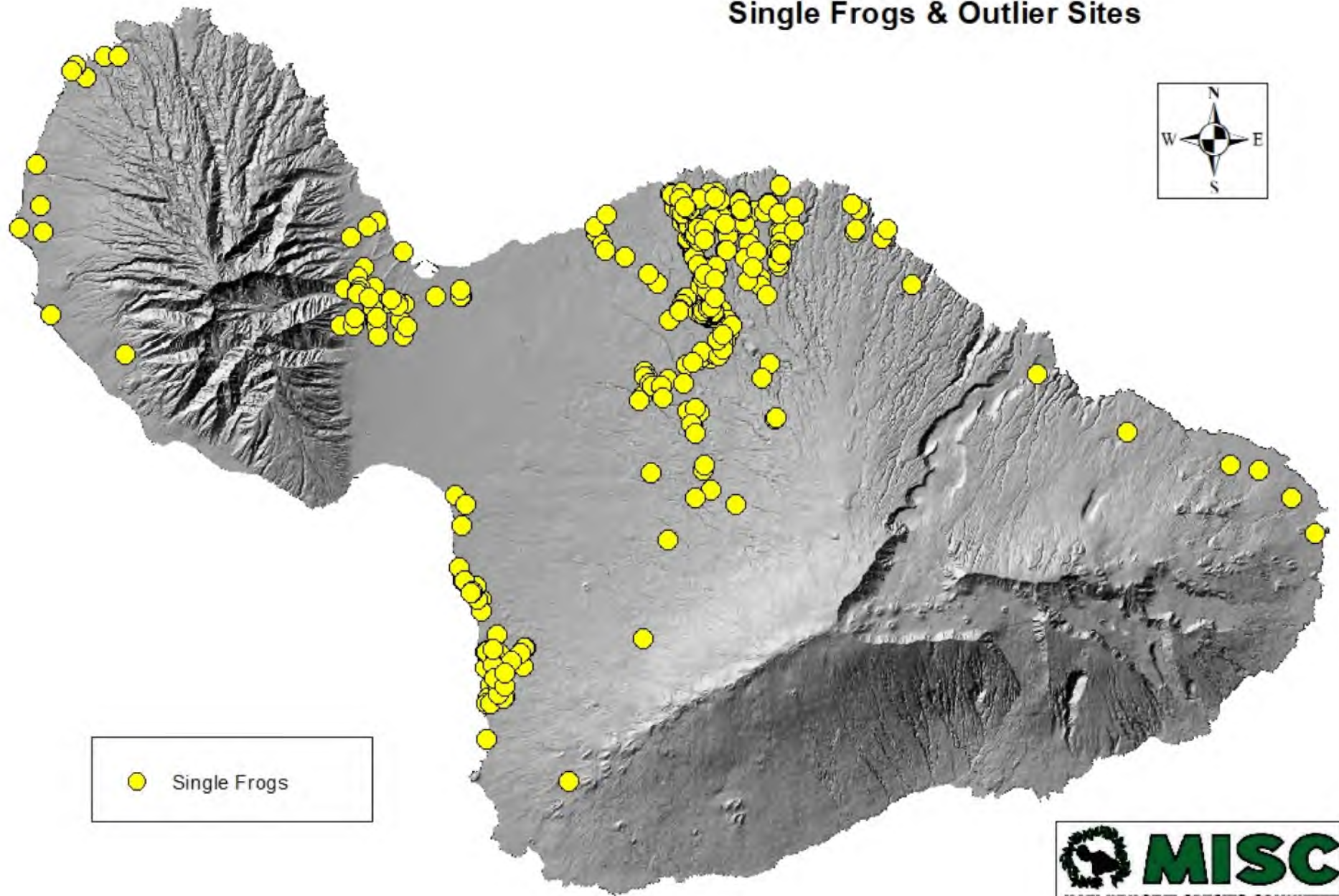


Coqui frogs



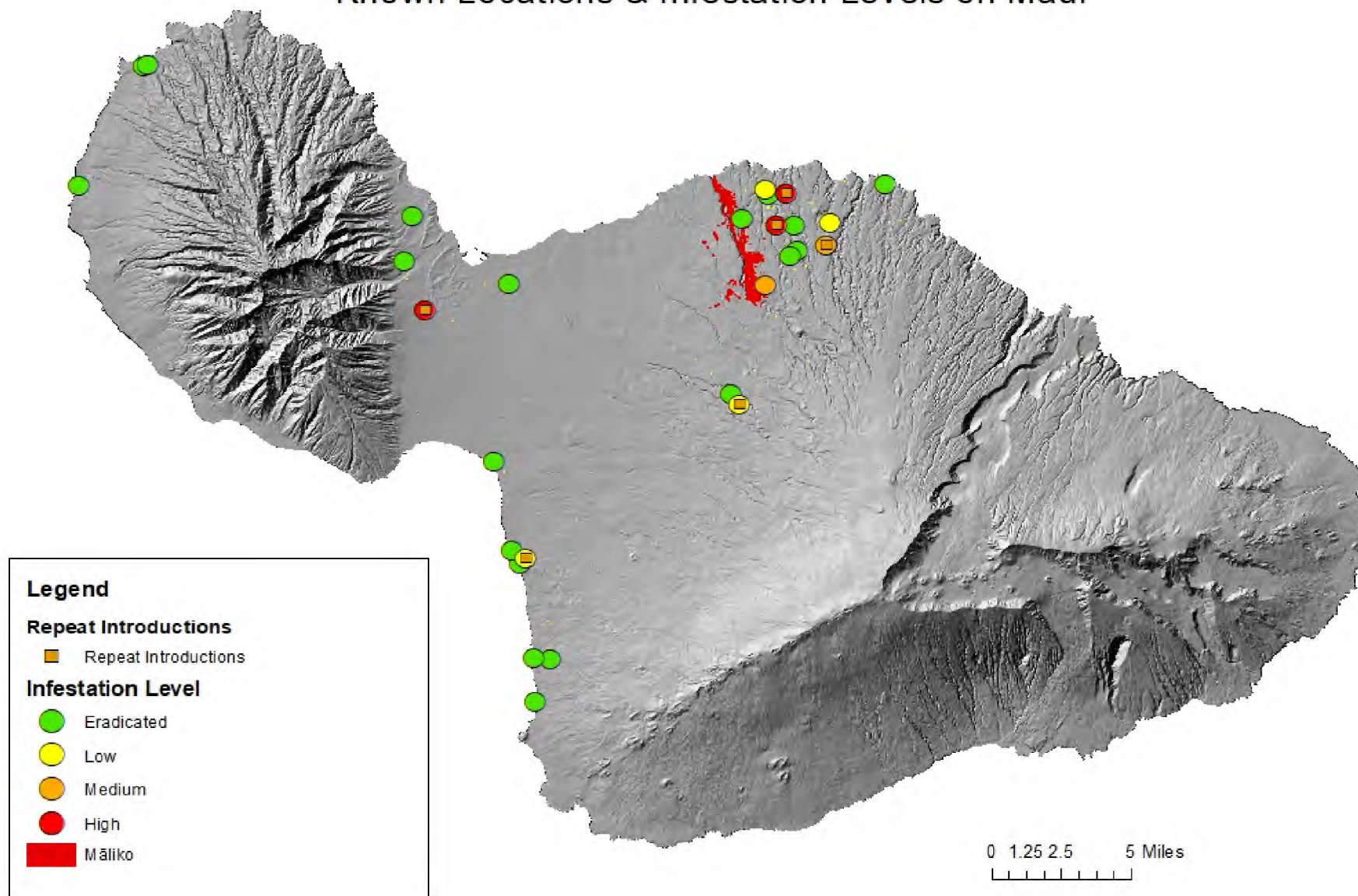
Māliko Gulch: Coqui frog heaven

Coqui Control Single Frogs & Outlier Sites

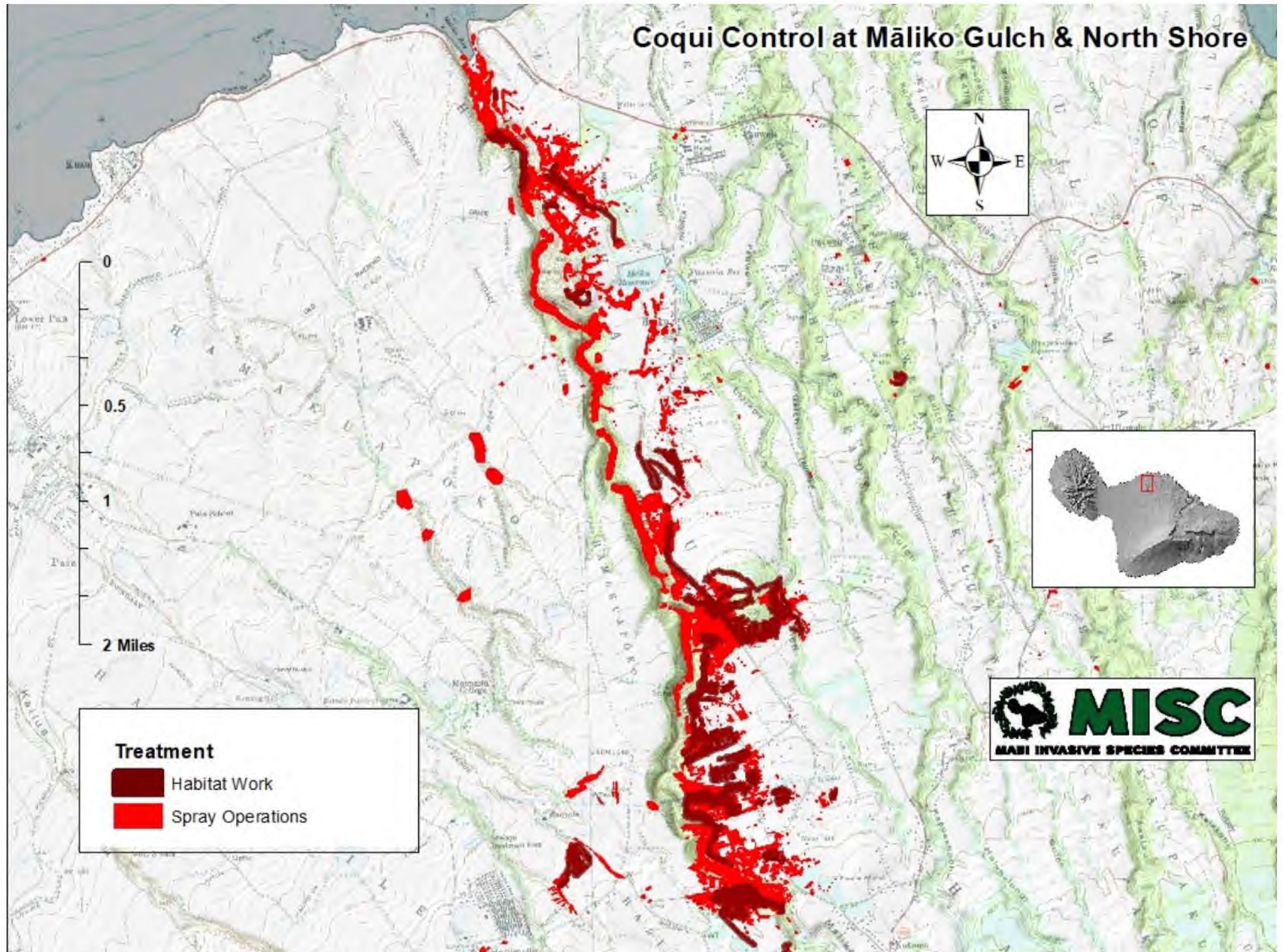




Coqui Frog Populations Known Locations & Infestation Levels on Maui



Coqui Control at Māliko Gulch & North Shore



Coqui Management Units in Māliko Gulch

★ **2018/2019
Priority Areas**

PROPOSED MANAGEMENT STRATEGY FOR COQUI FROGS
MĀLIKO GULCH, MAUI



Maui Invasive Species Committee
Pacific Cooperative Studies Unit, University of Hawai'i



Team Structure

- Team One: Moves through management units on a fixed schedule
- Team Two: Responds to new reports, puts out fires as needed, and mops up behind Team One
- Team Three: Removes frog-friendly habitat, maintains areas where work has already occurred, and keeps equipment running



Strategy Summary

- *For next year* : Expand control efforts in and around Māliko, develop necessary infrastructure, support community-based efforts, and reduce infestation levels.
- *Next 5+ years*: Maintain expanded level of effort in and around Māliko, ultimately ensuring a coqui-free Maui. Eradicate coqui from all other known sites. Reduce the frequency of coqui introductions to Maui.



Little fire ants

Overview

- 5 active sites
- 7 sites in monitoring phase

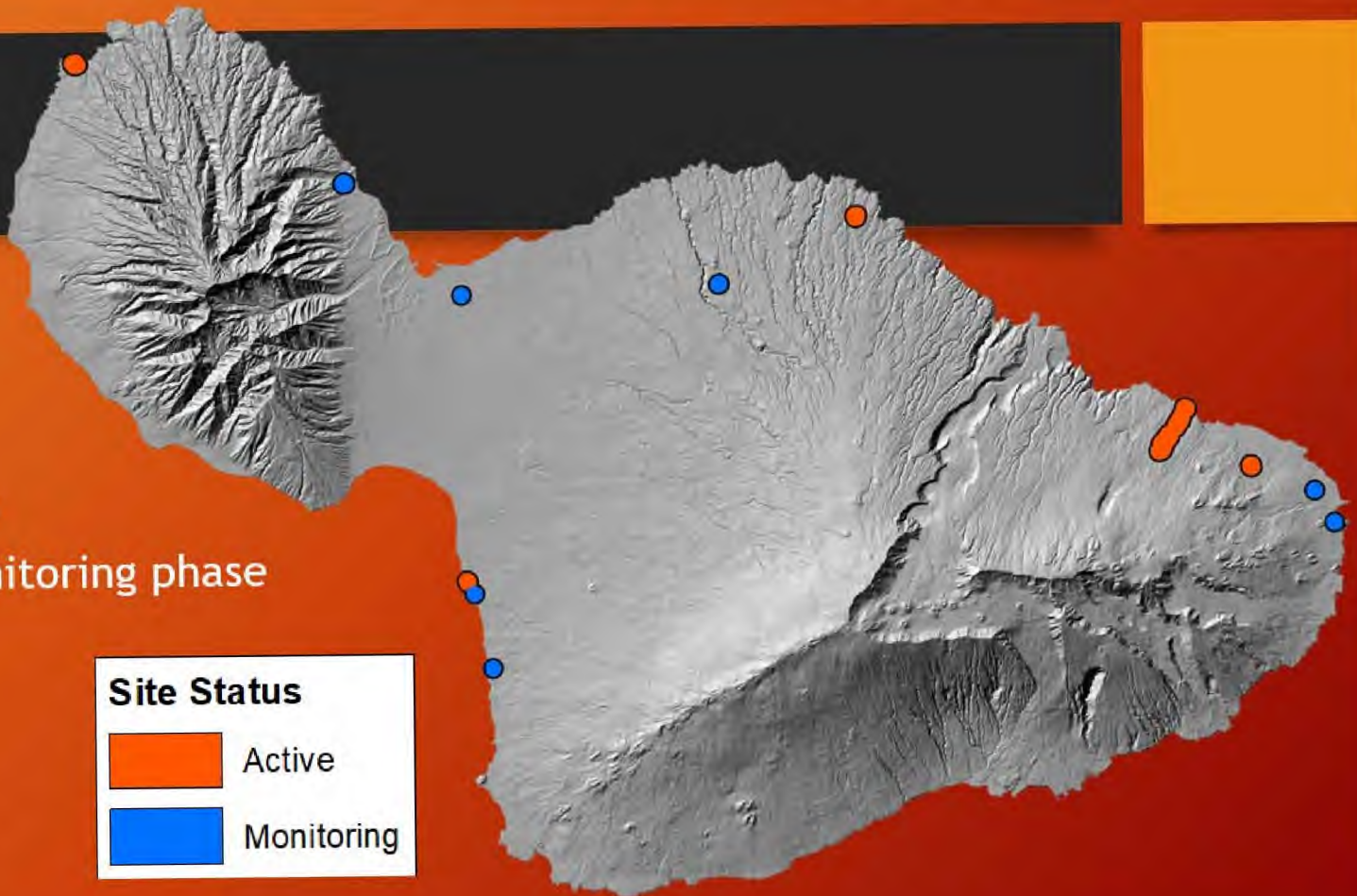
Site Status



Active



Monitoring





Miconia

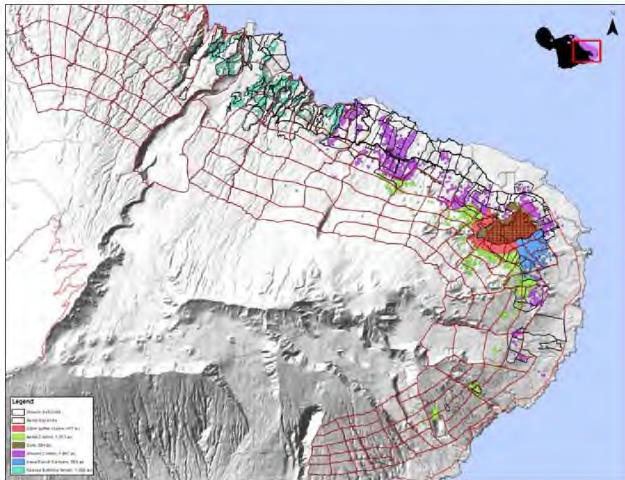
From 2012-2016

\$682K was invested in 100 miconia helicopter operations

- Removing 20,363 incipient plants
- Protecting 45,309 acres of precious watershed
- Avoiding \$384.2M in future management costs

MICONIA CALVESCENS: MANAGEMENT STRATEGY ON MAUI

The *miconia* management program focuses on mitigating imminent threats to the East Maui Watershed and preventing its re-establishment in the West Maui Watershed. Historically work in East Maui was guided by a management unit approach, which broke the entire area of potential habitat into grids. Current effort is more targeted and relies on going back to places where plants have been found. The following shows historic management units (red and black lines) and targeted areas by color.



0 5 10 12.5 Miles

Early Detection & Working with the Public

- Early detection surveys
- Workshops & schools
- Informative guides
- mauiisc.org/momisc.org



If you see a snake:
SAFELY kill it,
SAFELY contain it,
or **SAFELY** stay near it until help arrives.

Report all Snake Sightings!!!

Snake Sightings & Reports on Maui call:

HDOA office:

873-3962 from 7:45am to 4:30pm

872-3848 from 4:30pm to 10:00pm

After 10pm, on holidays, weekends, & furlough days:

Maui Police Department *

244-6400 (non-emergency)

****MPD will contact the Snake Response Team***

**MISC & MoMISC are projects of the
Pacific Cooperative Studies Unit – University of Hawai‘i**



Mahalo nui loa!





MoMISC

MOLOKA'I/MAUI INVASIVE SPECIES COMMITTEE

How We Doing?





MoMISC Mission Statement

To prevent and control introduced invasive pests from becoming established or widespread on Molokai.

What We Supposed Do...

- ◆ Respond Rapidly to Pest Reports
- ◆ Work to Eradicate Target Species
 - ◆ Survey for New Pests
 - ◆ Invasive Species Education
 - ◆ Community Outreach
 - ◆ Conduct Workshops



MoMISC Priority Species



Top Row (L to R): Long Thorn Kiawe, Bo Tree, Tree Daisy, Albizia, Banana Bunchy Top Virus

Second Row (L to R): New Zealand Flax, Quail Bush, Barbados Gooseberry, Tumbleweed

Third Row: Rubber Vine

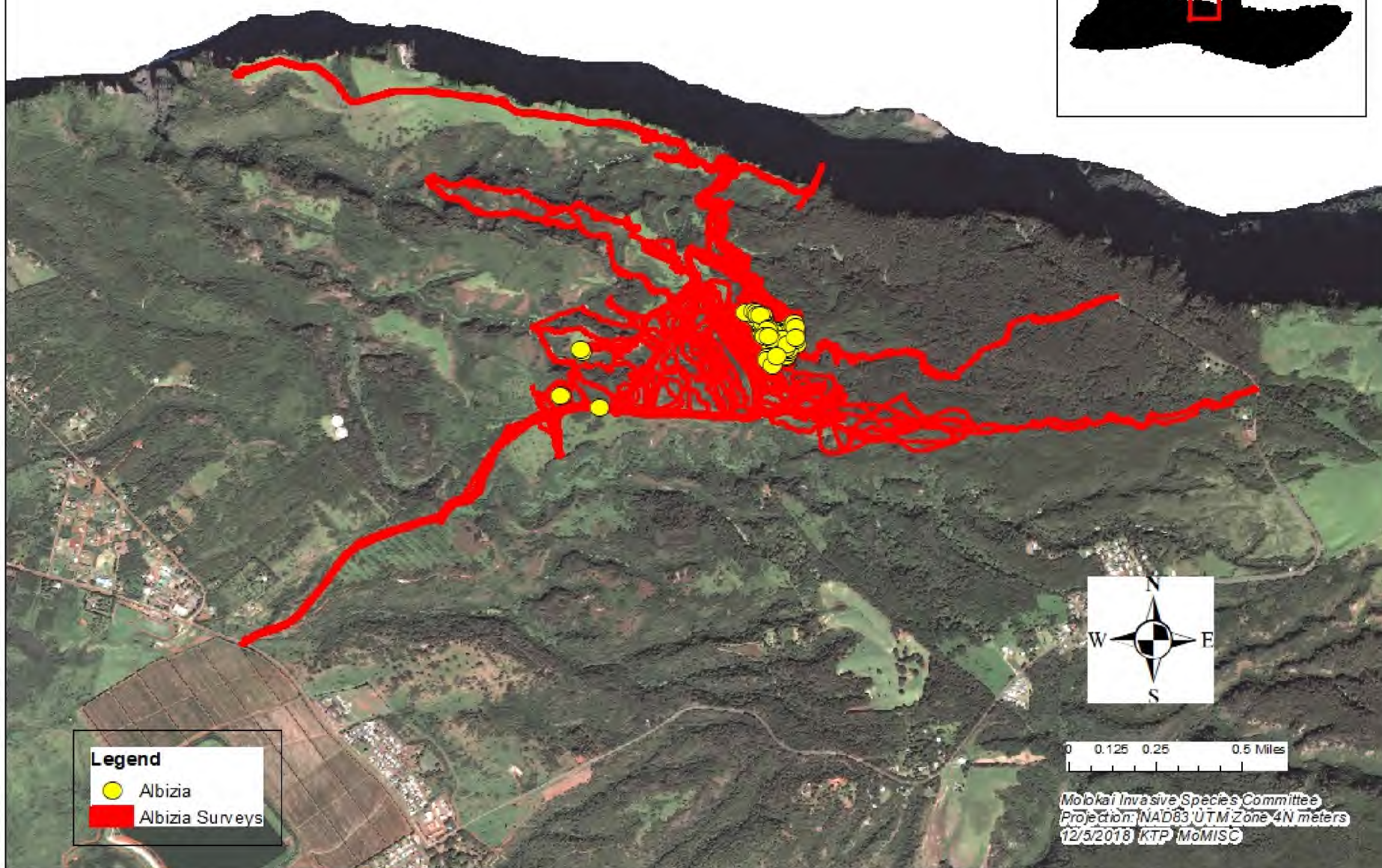
Priority Species Meeting Goals?

- Albizia
- Bo Tree
- Gooseberry
- Long Thorn Kiawe
- New Zealand Flax
- Quailbush
- Rubber Vine
- Tree Daisy
- Coqui


Albizia Surveys and Control

2008 - 2016

Island of Molokai



Legend

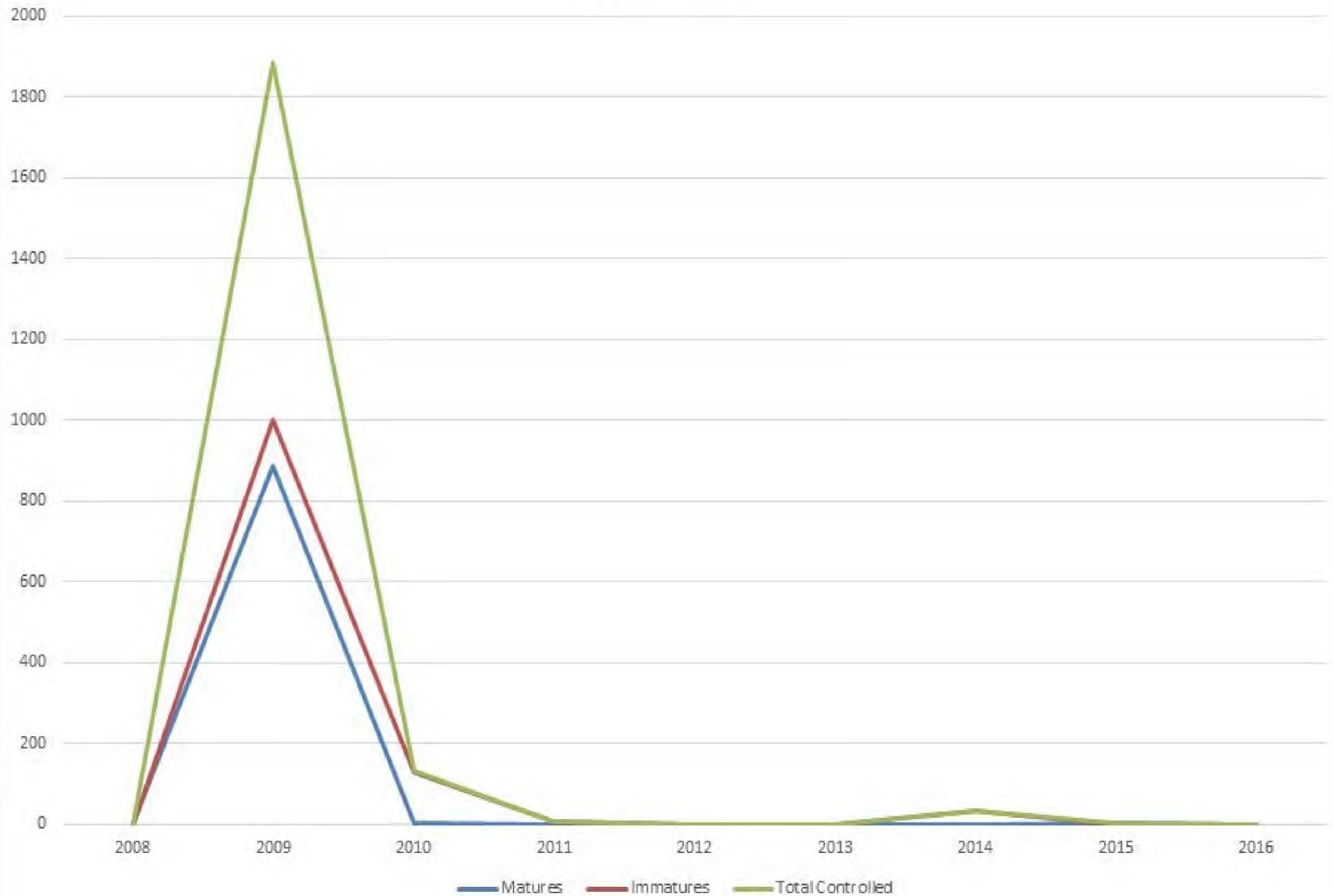
-  Albizia
-  Albizia Surveys



0 0.125 0.25 0.5 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

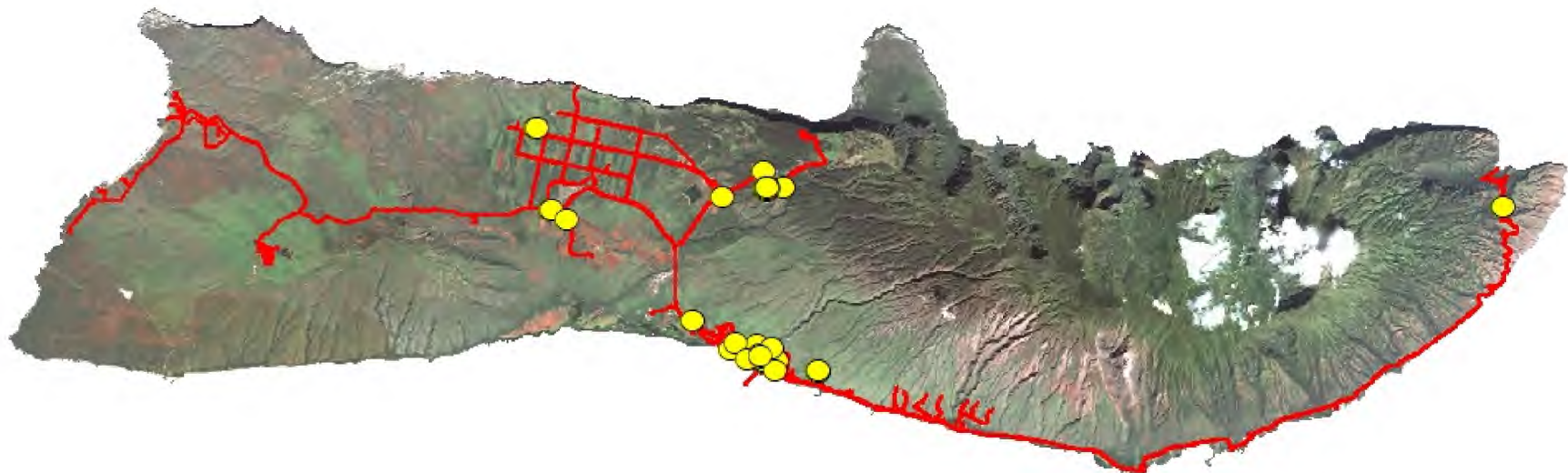
Albizia 2008 - 2016



Bo Tree Surveys and Control

2008 - 2018

Island of Molokai



Legend

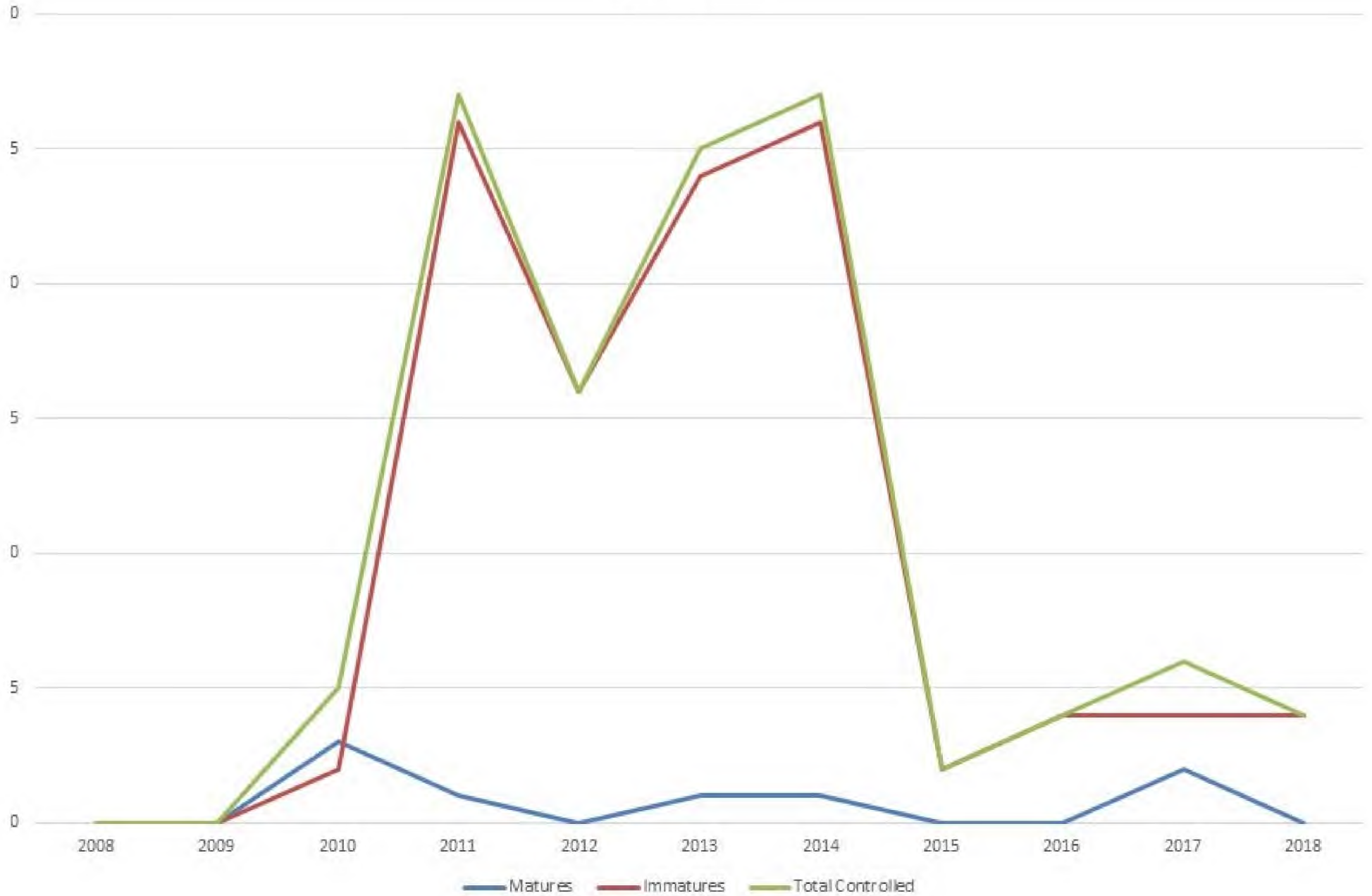
- Bo Tree
- Bo Tree Surveys



0 1.25 2.5 5 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

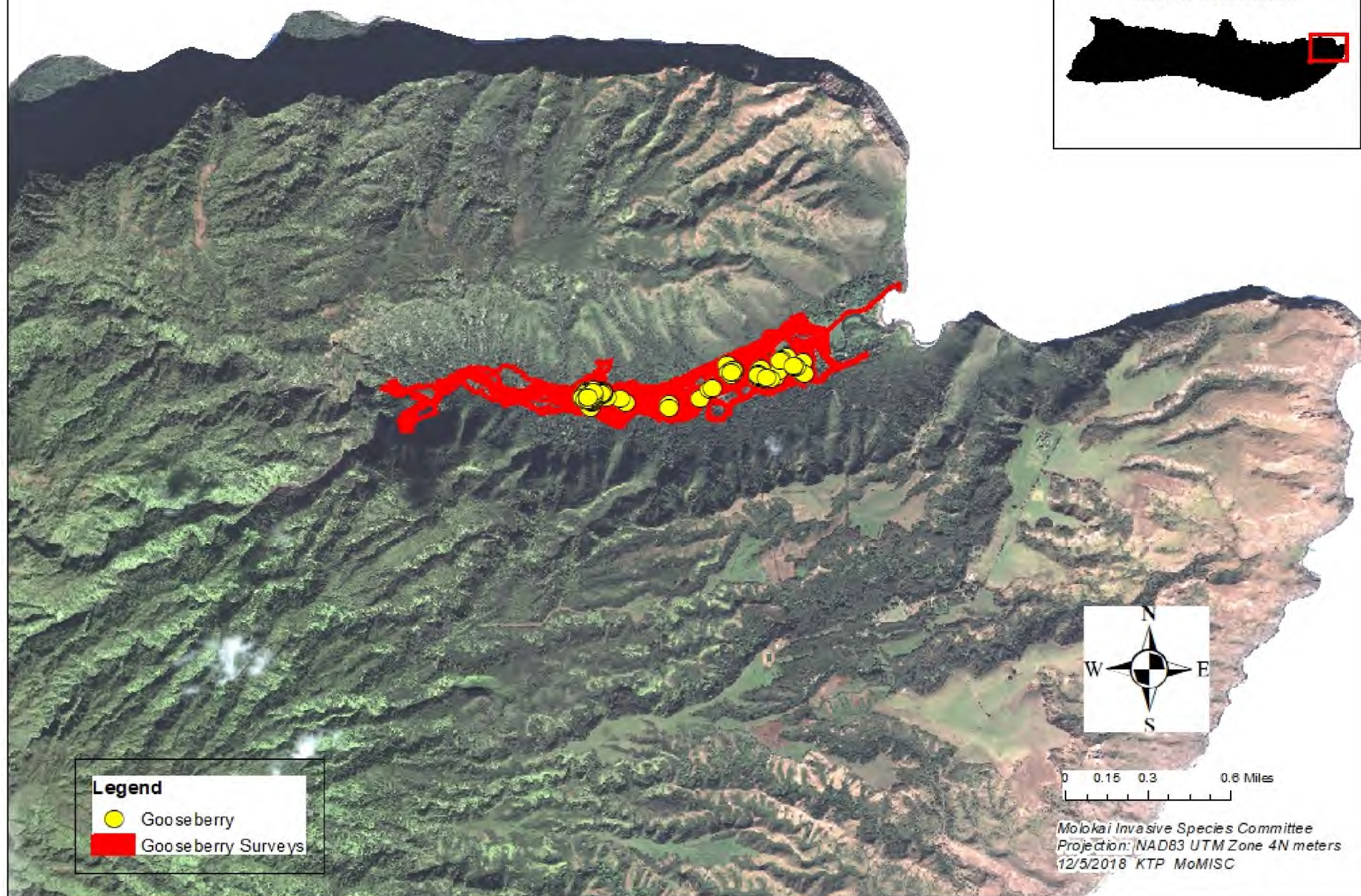
Bo Tree 2008 - 2018



Gooseberry Surveys and Control

2001 - 2018

Island of Molokai



Legend

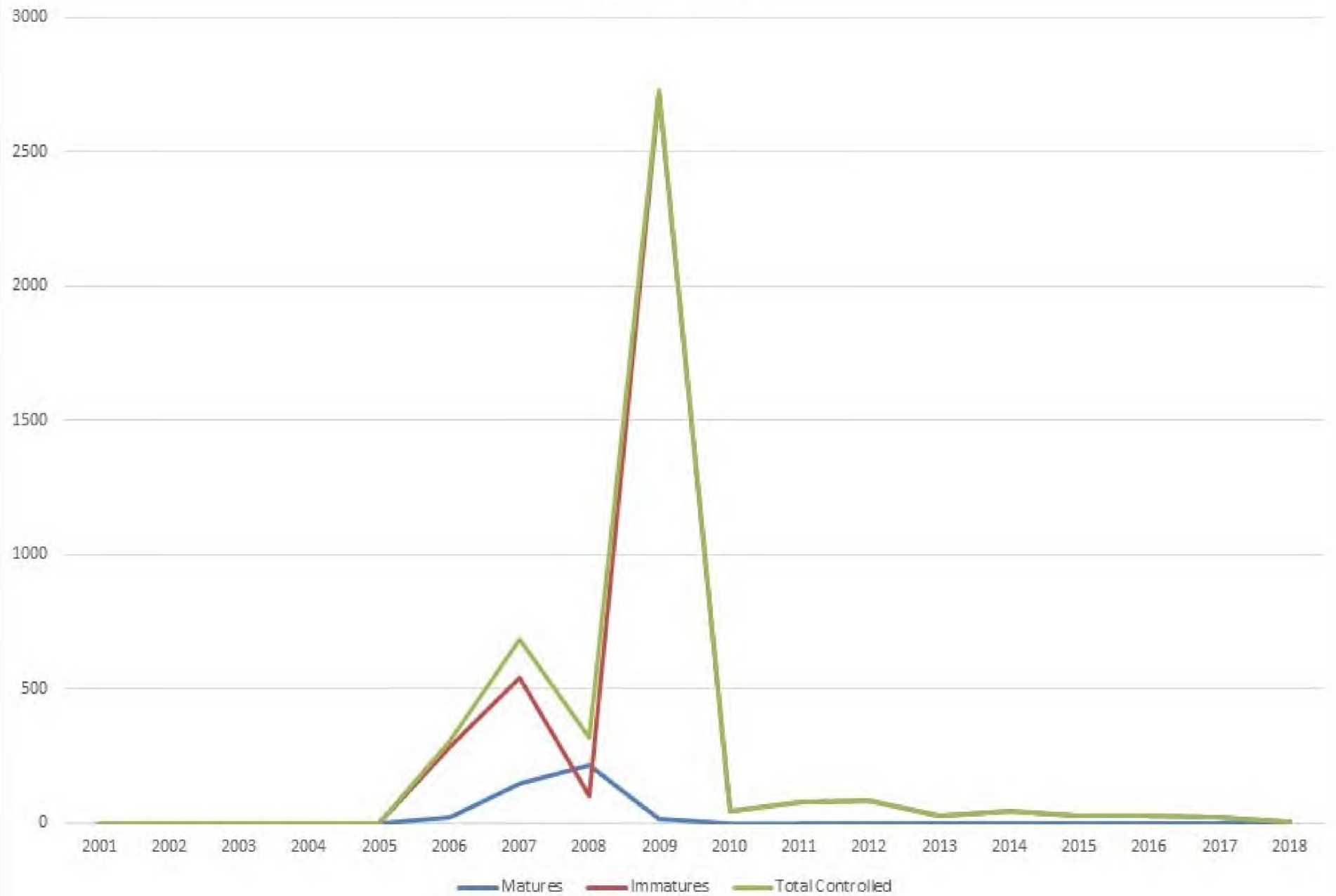
- Yellow circle: Gooseberry
- Red line: Gooseberry Surveys



0 0.15 0.3 0.6 Miles

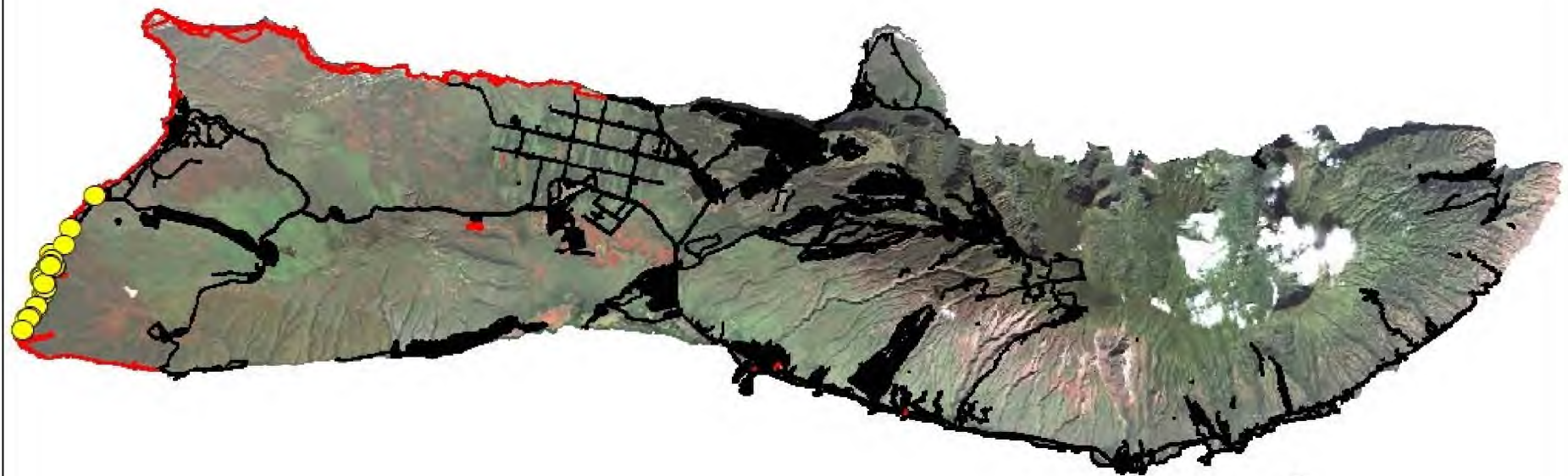
Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Gooseberry 2001 - 2018



Long-thorn Kiawe Surveys and Control

2007 - 2018



Legend

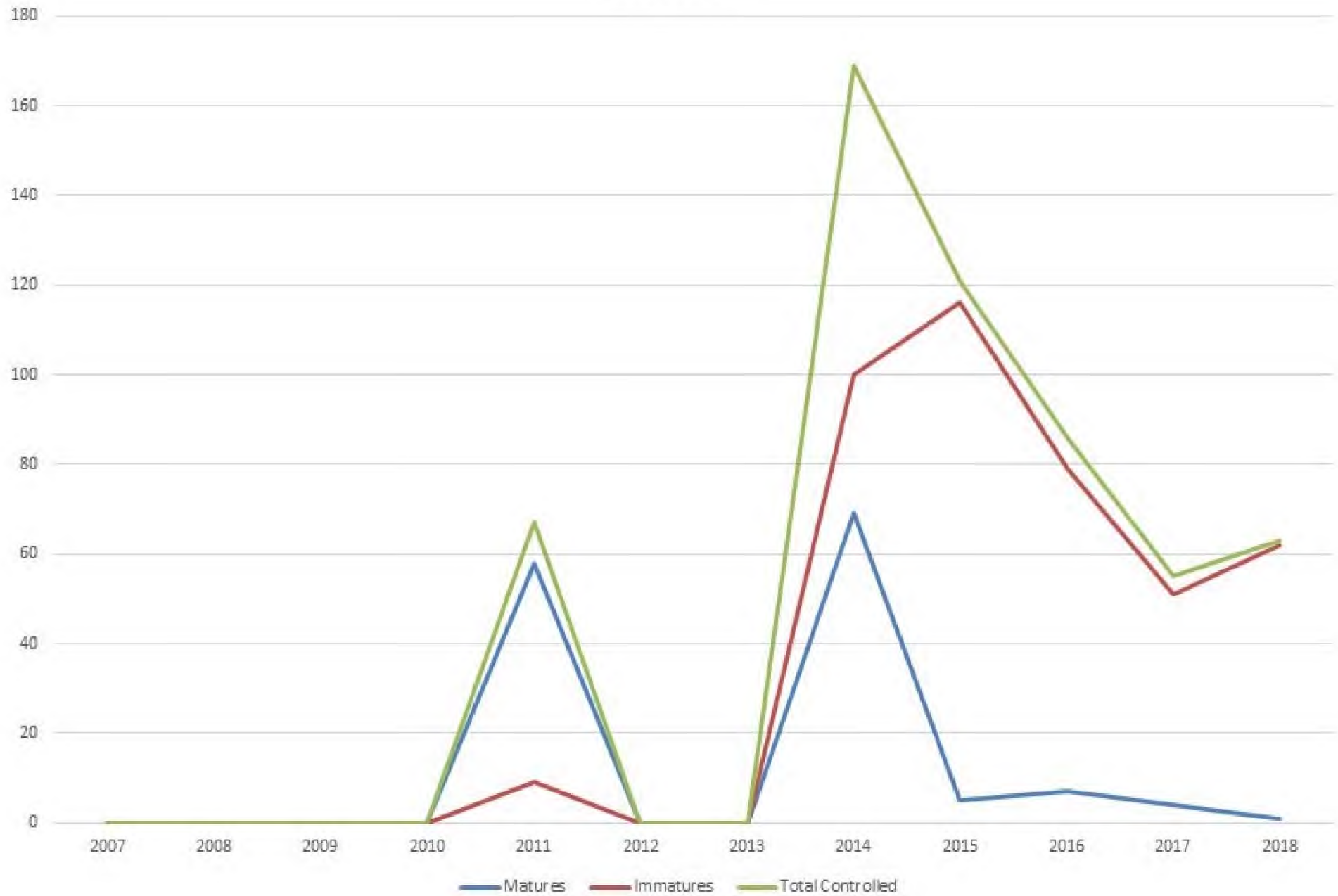
- Long-thorn Kiawe
- Long-thorn Ground Surveys
- All Ground Surveys



0 1.25 2.5 5 Miles

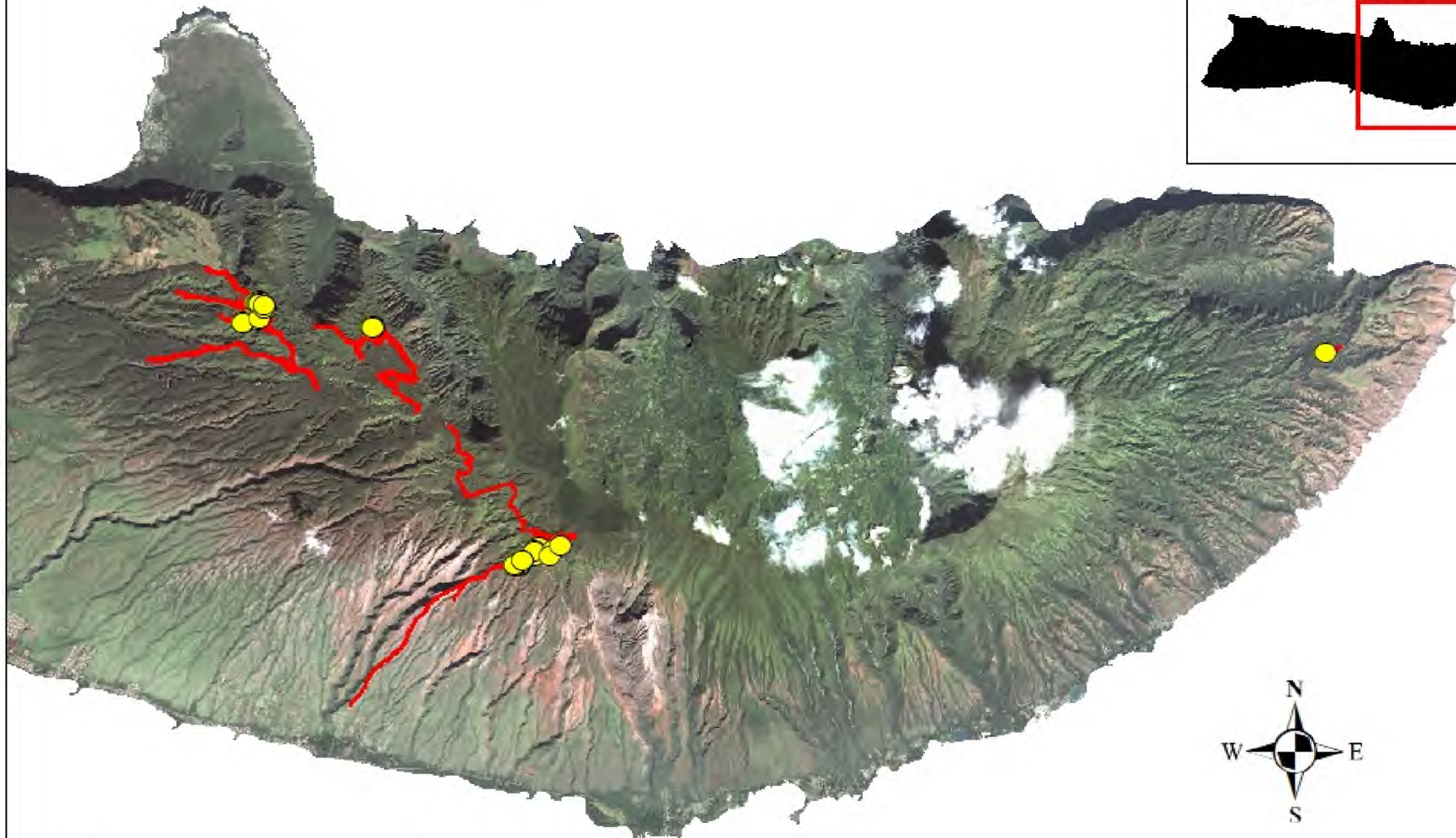
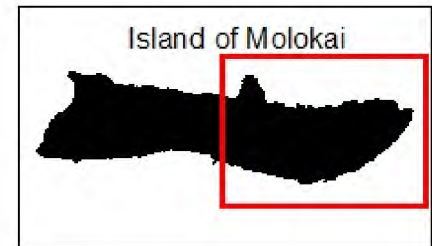
Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Long-thorn Kiawe 2007 - 2018





New Zealand Flax Surveys and Control

2001 - 2018




Legend

-  New Zealand Flax
-  New Zealand Flax Surveys

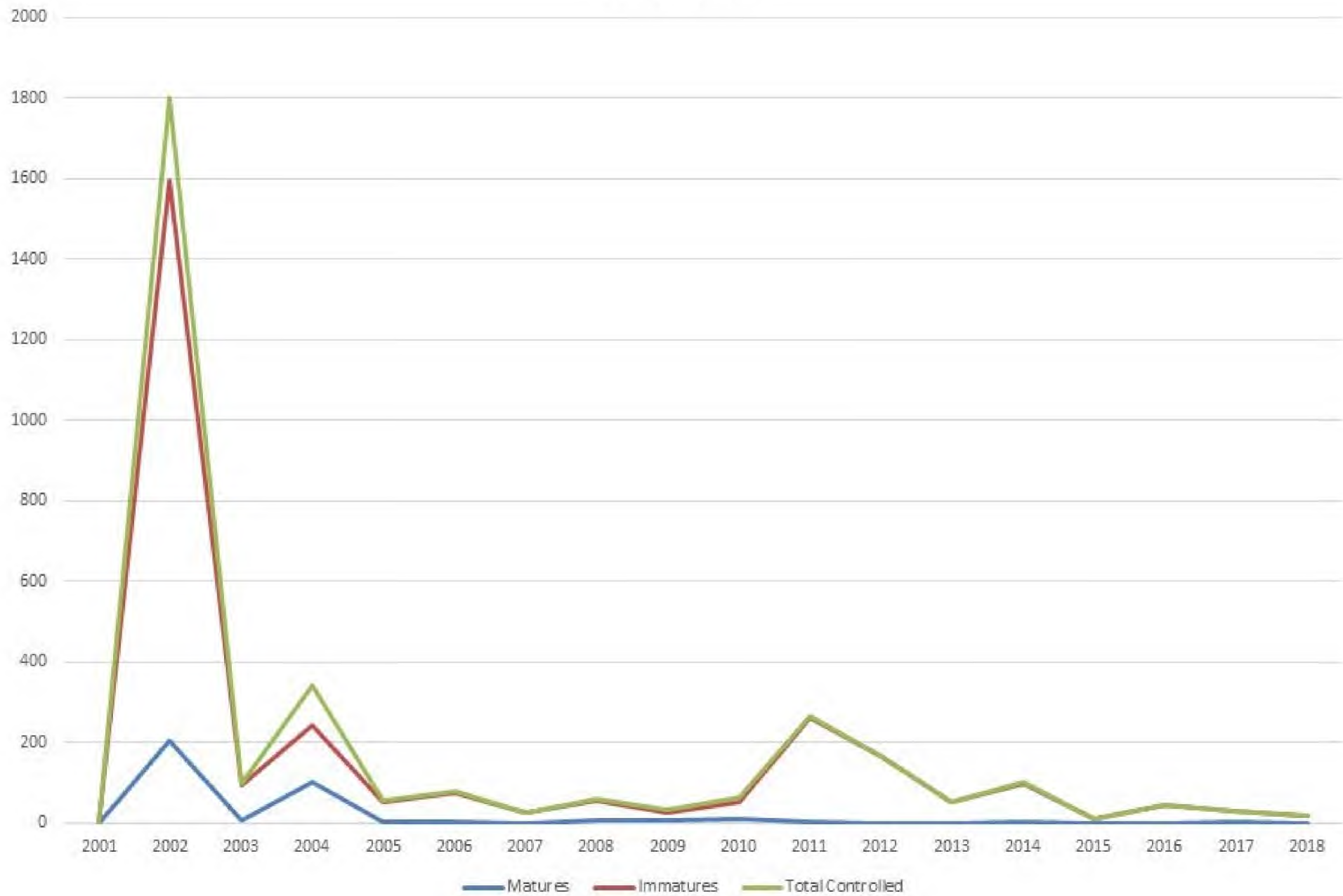


0 0.5 1 2 Miles



Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

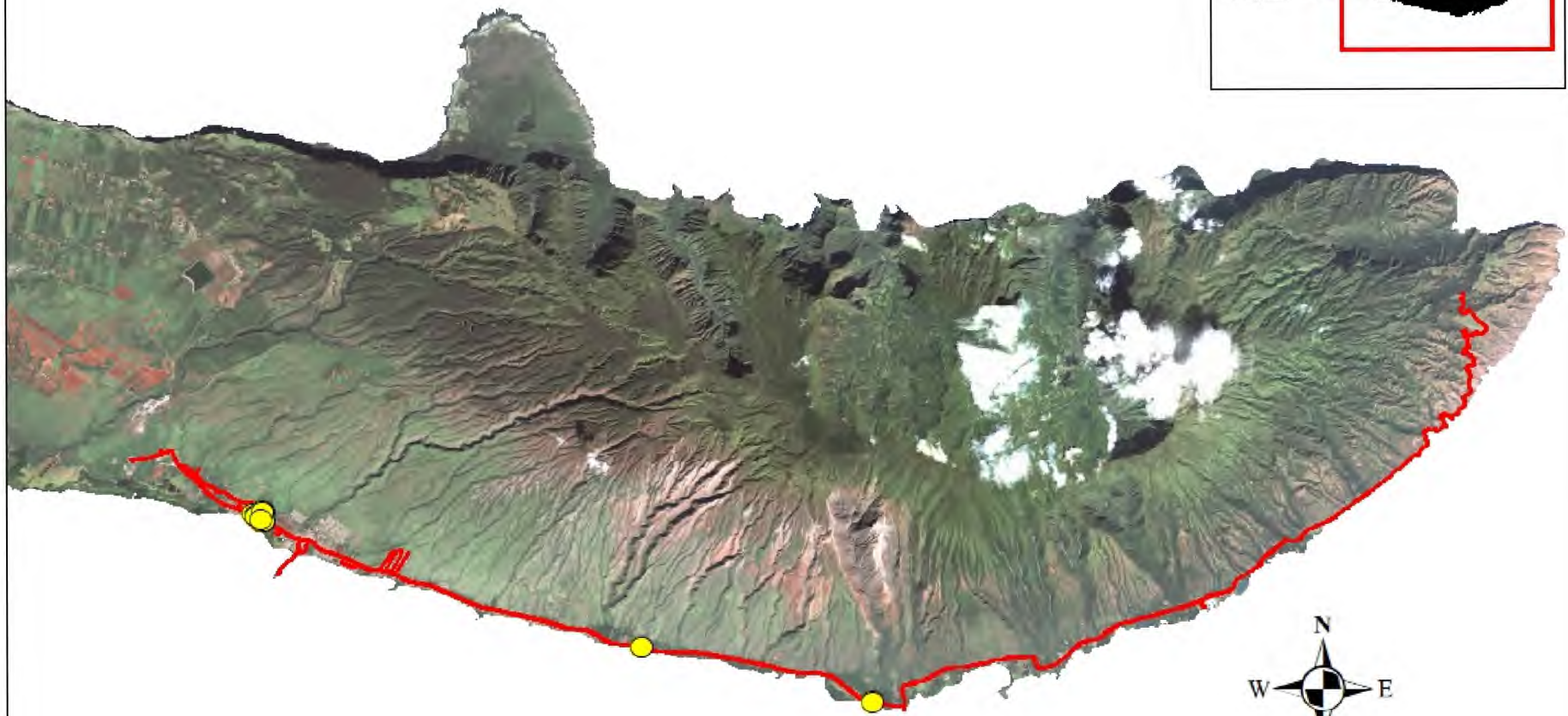
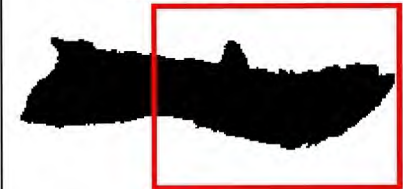
New Zealand Flax 2001 - 2018





Quailbush Surveys and Control

2014 - 2018

Island of Molokai



Legend

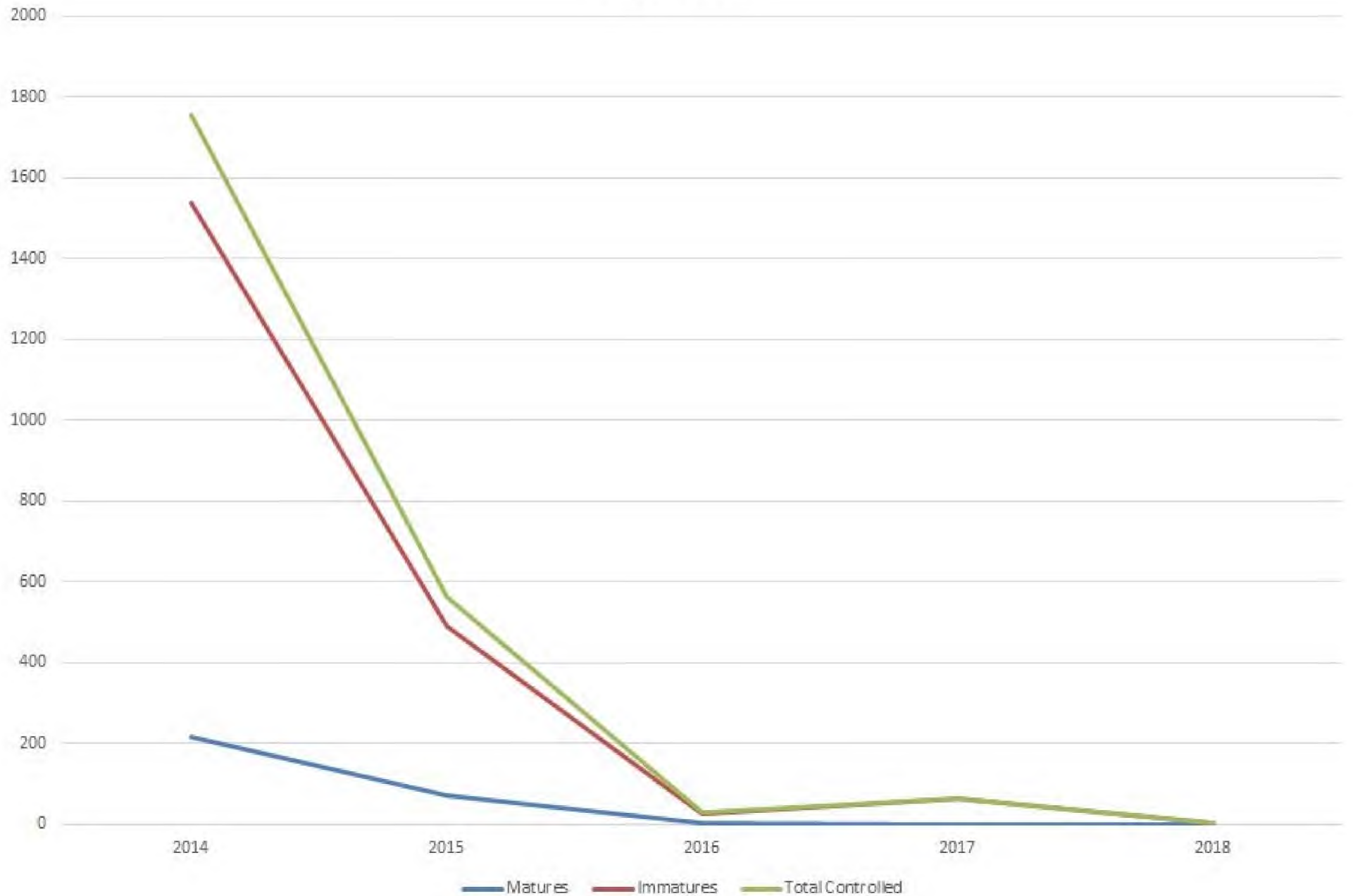
-  Quailbush
-  Quailbush Surveys



0 0.75 1.5 3 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

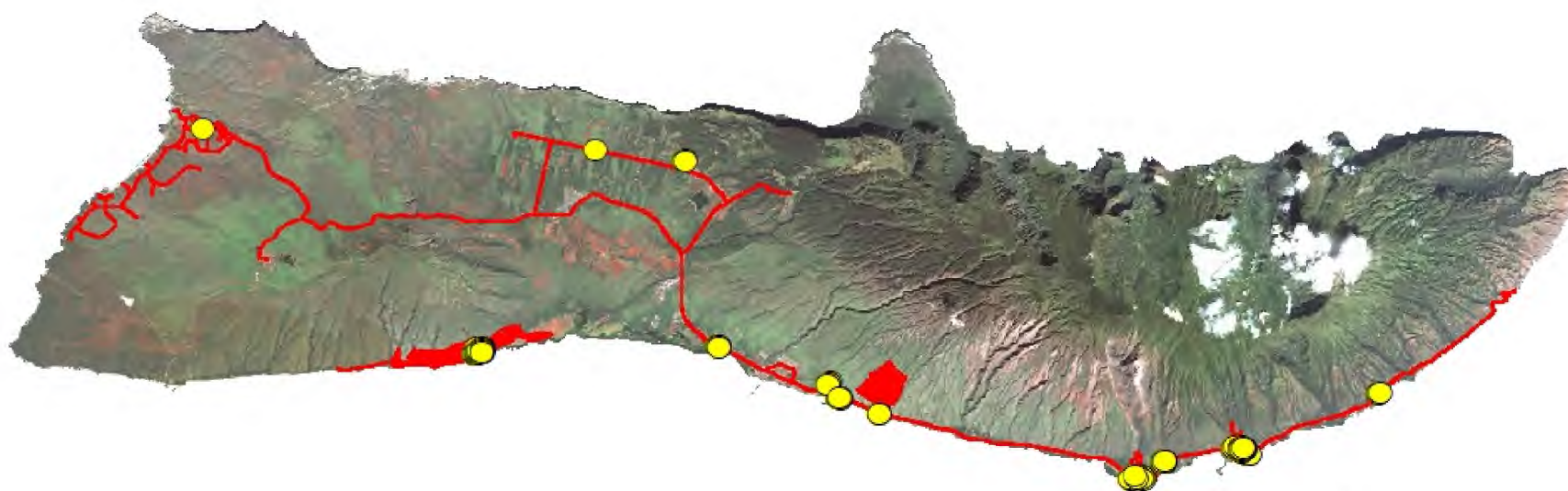
Quailbush 2014 - 2018





Rubbervine Surveys and Control

2004 - 2018

Island of Molokai



Legend

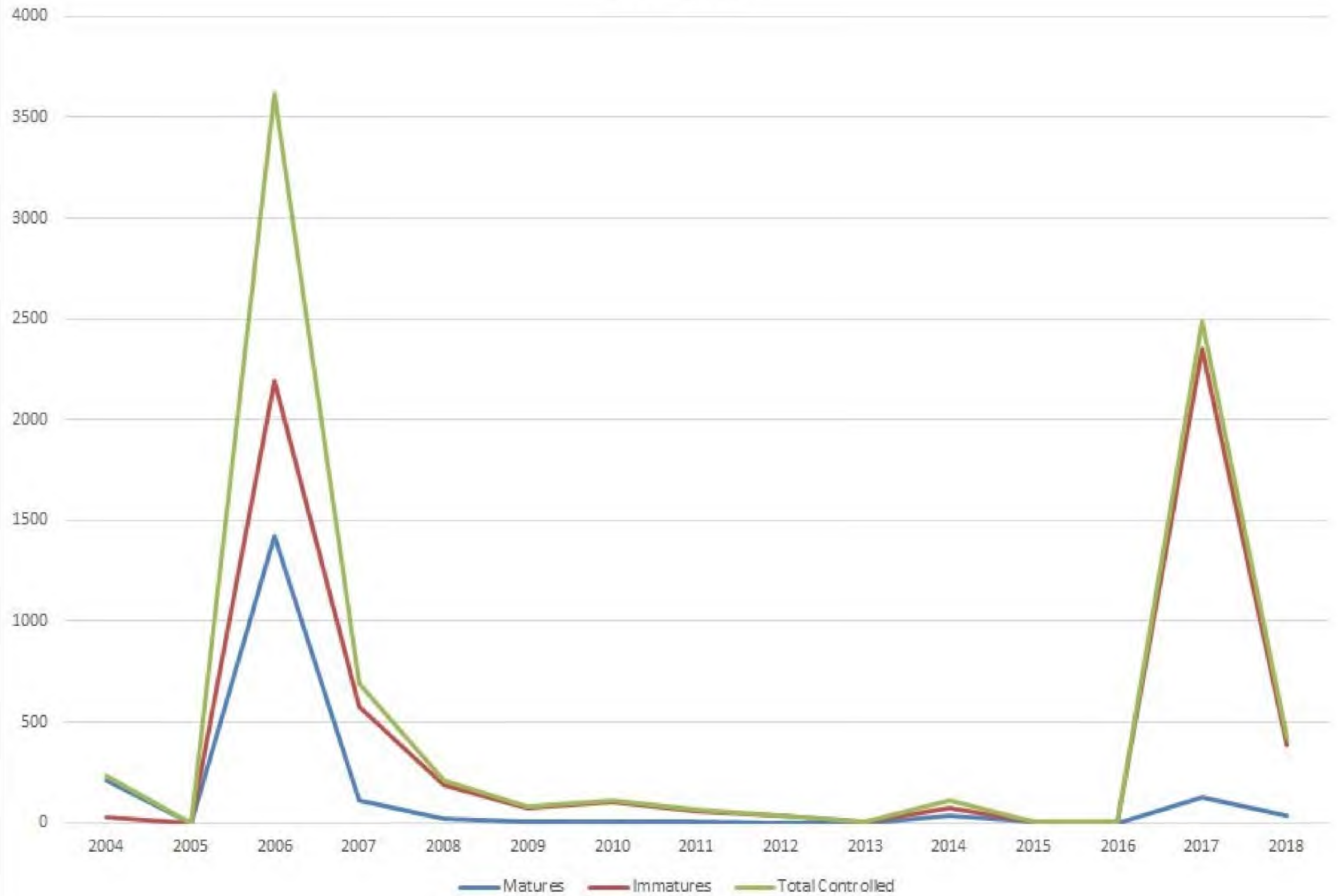
-  Rubbervine
-  Rubbervine Surveys



0 1.25 2.5 5 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Rubbervine 2004 - 2018



Tree Daisy Surveys and Control

2006 - 2018

Hawaiian Islands



Legend

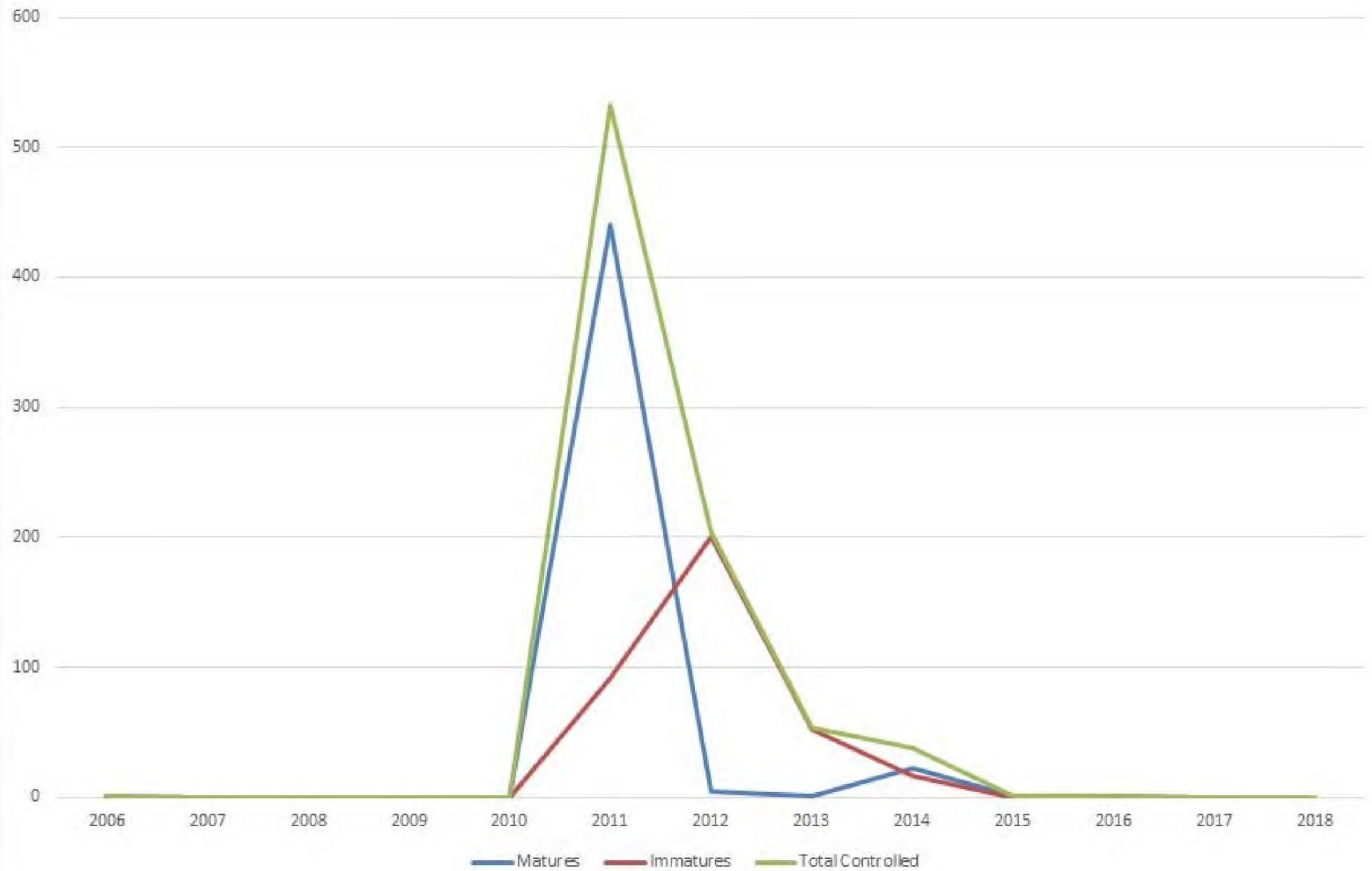
- Tree Daisy
- Tree Daisy Surveys



0 0.05 0.1 0.2 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

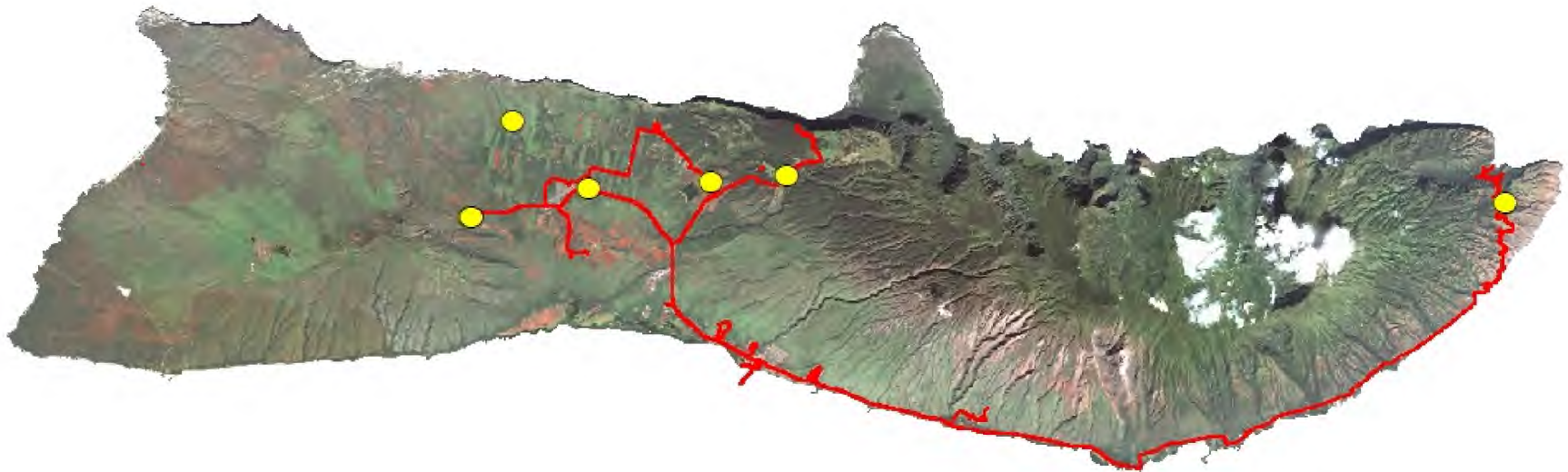
Tree Daisy 2006 - 2018





Coqui Surveys and Control

2008 - 2018

Island of Molokai



Legend

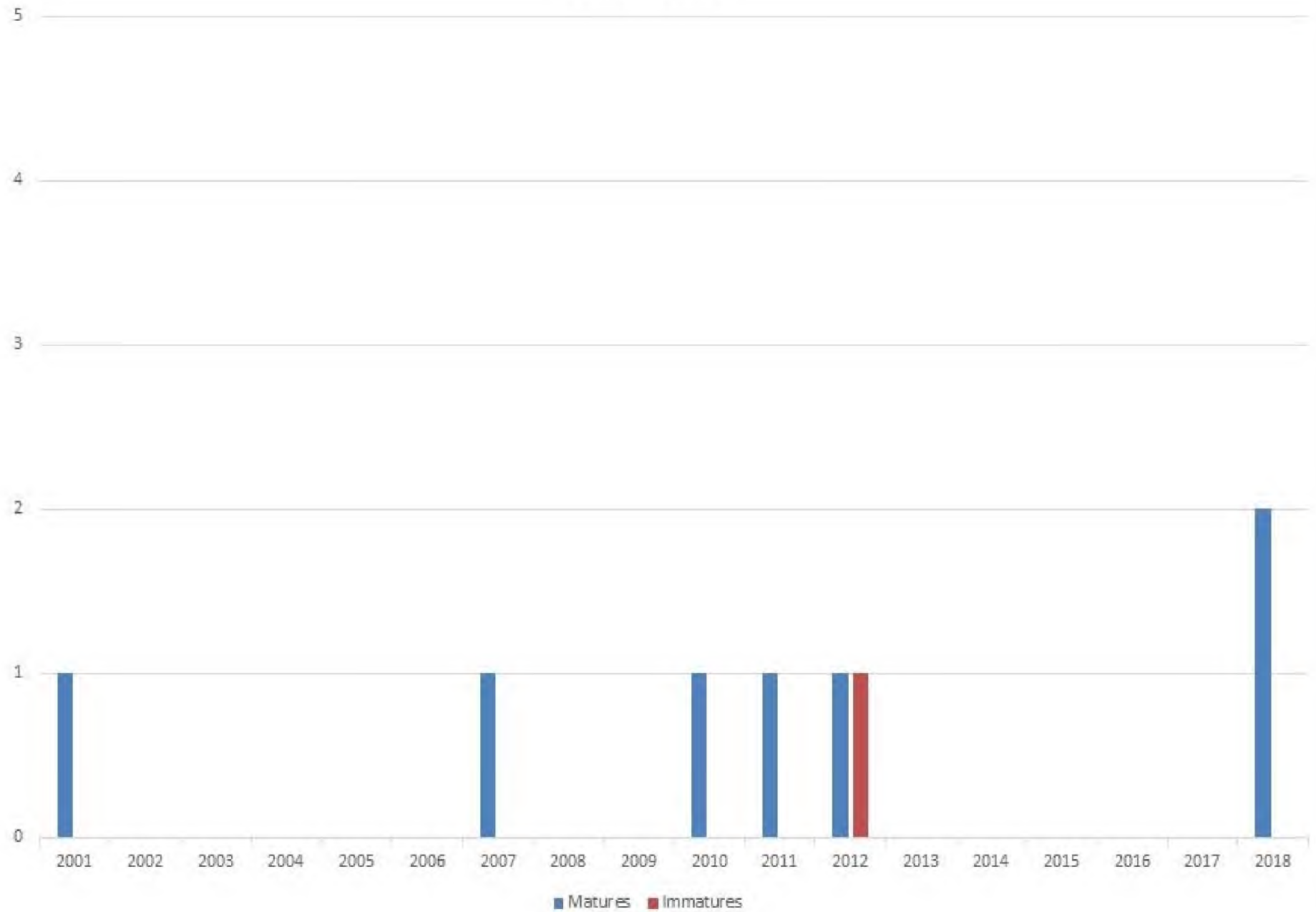
-  Coqui Frog
-  Coqui Frog Surveys



0 1.25 2.5 5 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Coqui Frog 2001 - 2018

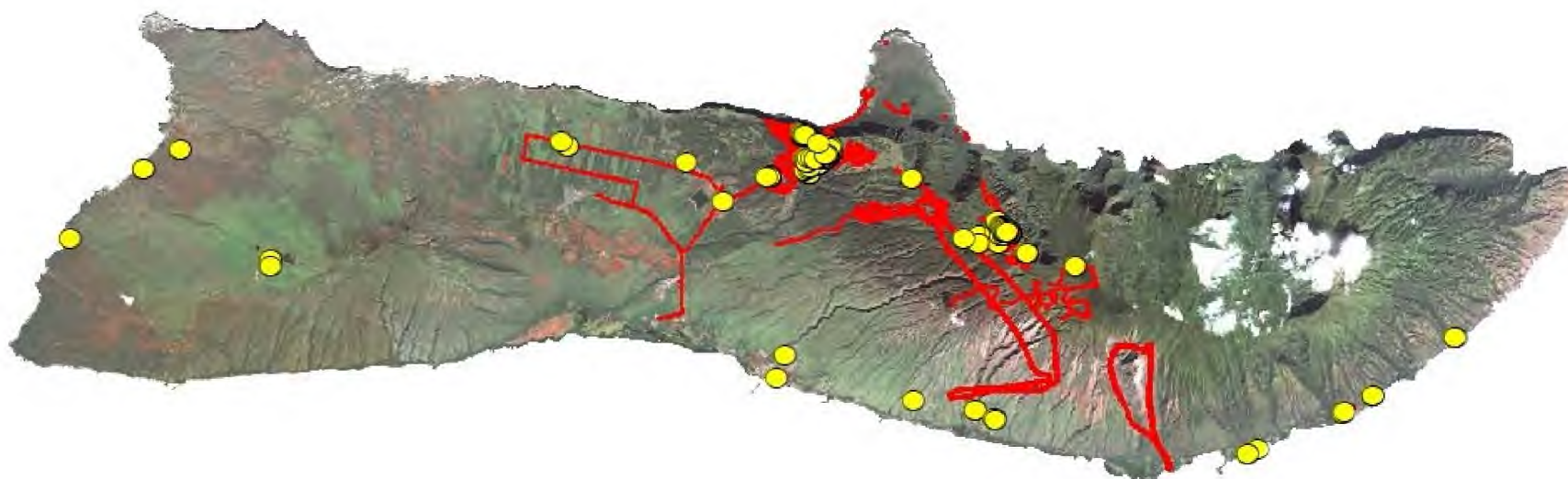
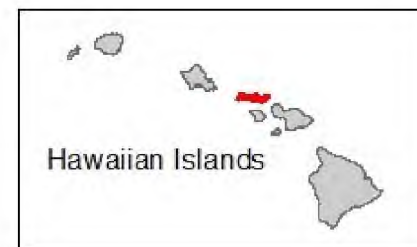


Concerns



- Australian Tree Fern
- Banana Bunchy Top
- Fireweed
- Mules Foot Fern
- Tumbleweed

Australian Tree Fern Surveys and Control

2003 - 2018



Legend

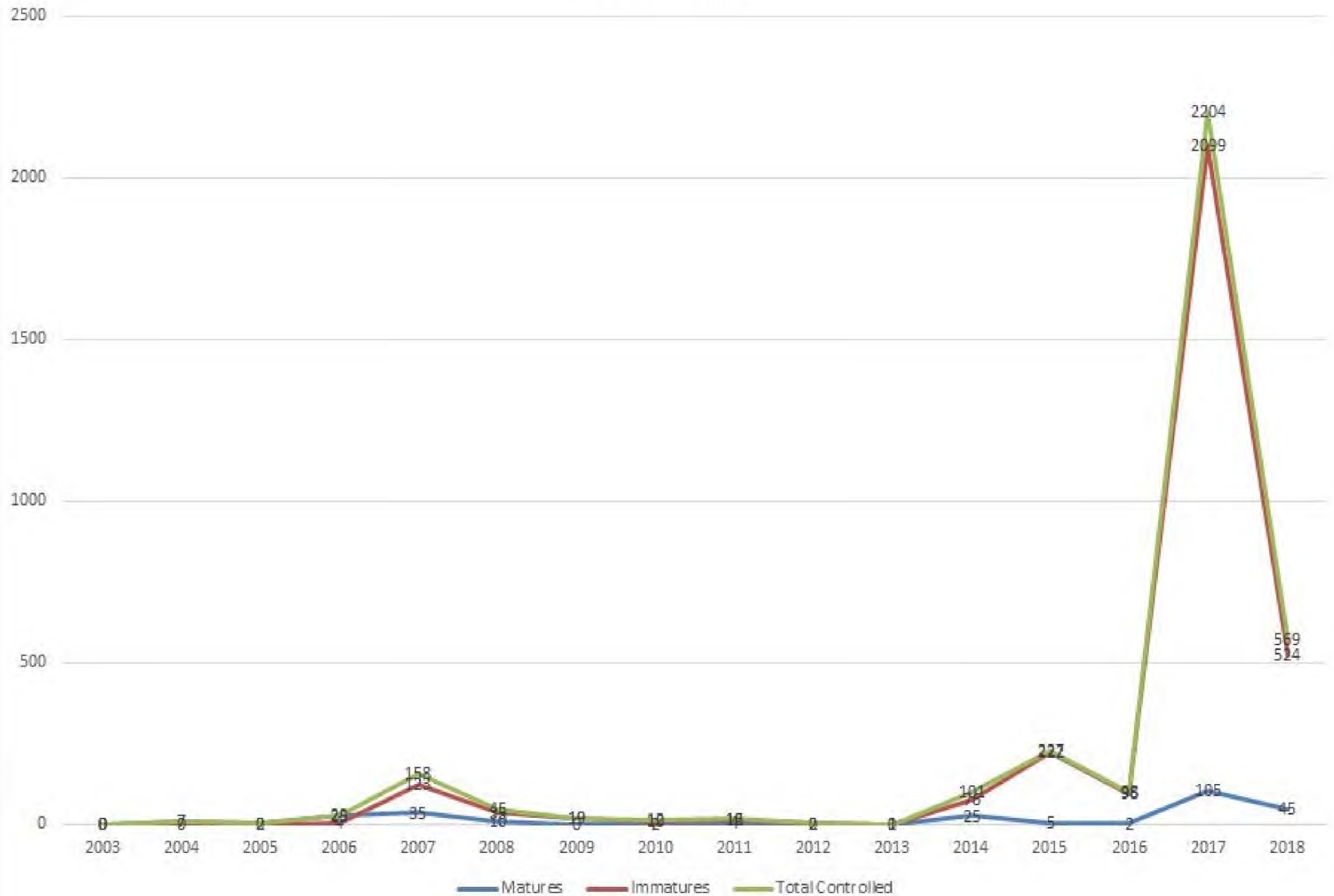
-  Australian Tree Fern
-  Australian Tree Fern Surveys



0 1.25 2.5 5 Miles

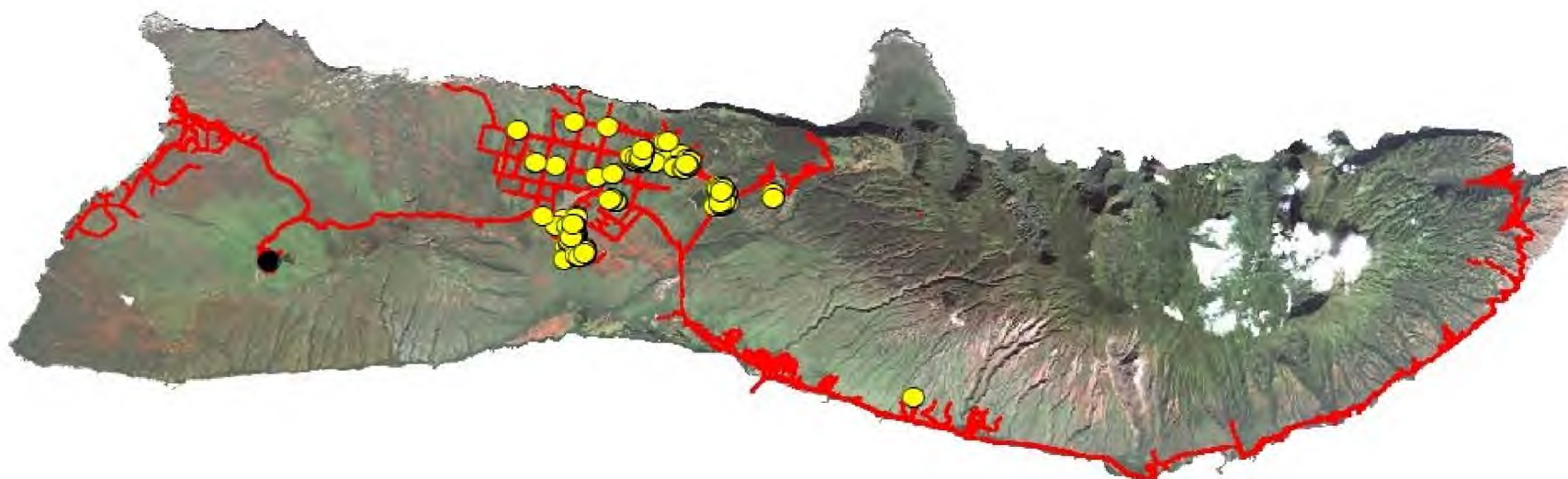
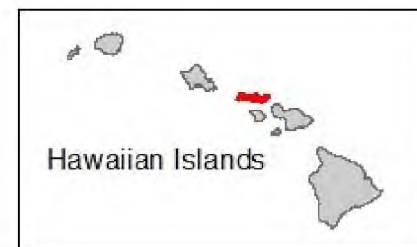
Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Australian Tree Fern 2003 - 2018



Banana Bunchy Top Virus Surveys and Control

2005 - 2018



Legend

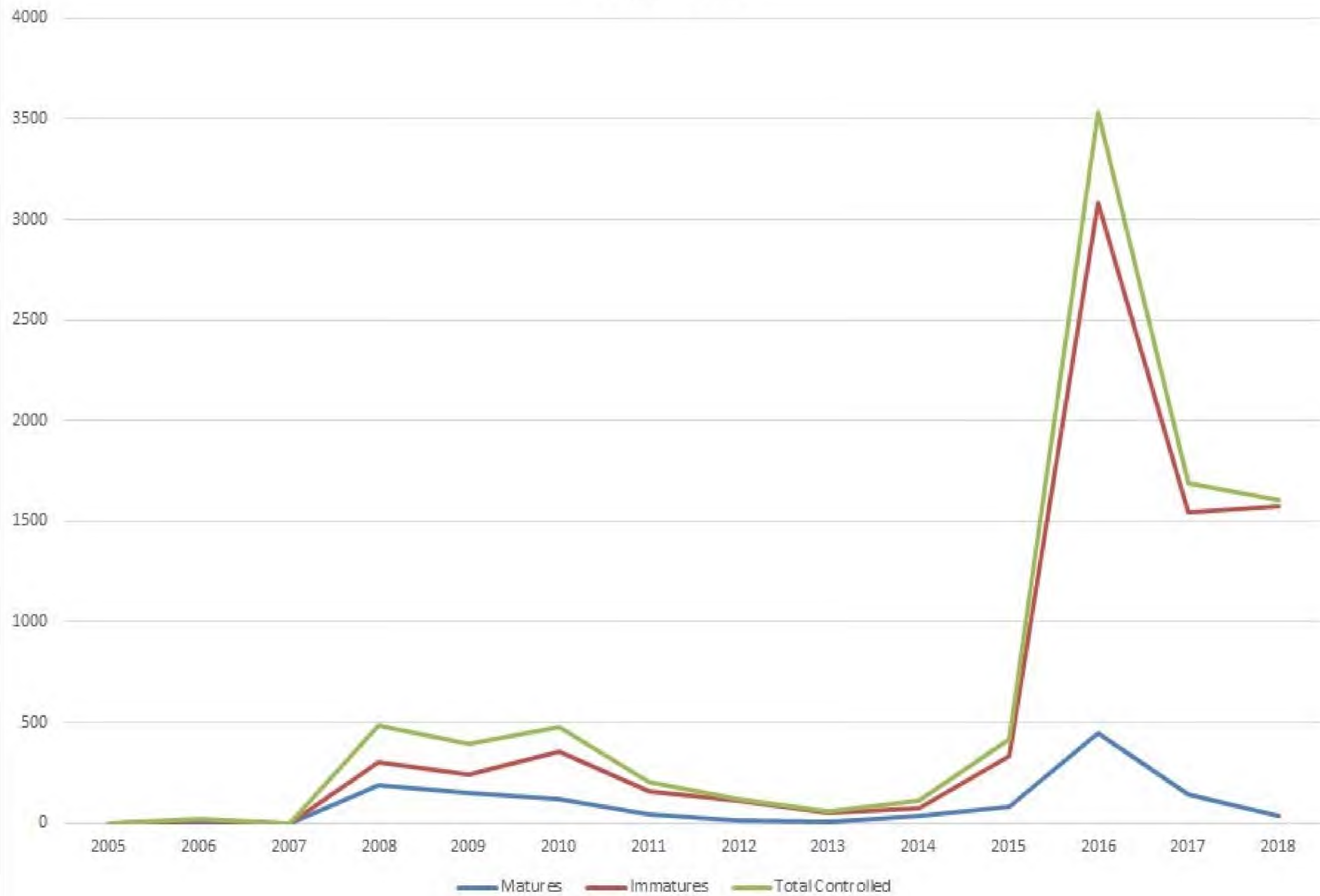
- BBTV
- BBTV (Untreated)
- BBTV Surveys



0 1.25 2.5 5 Miles

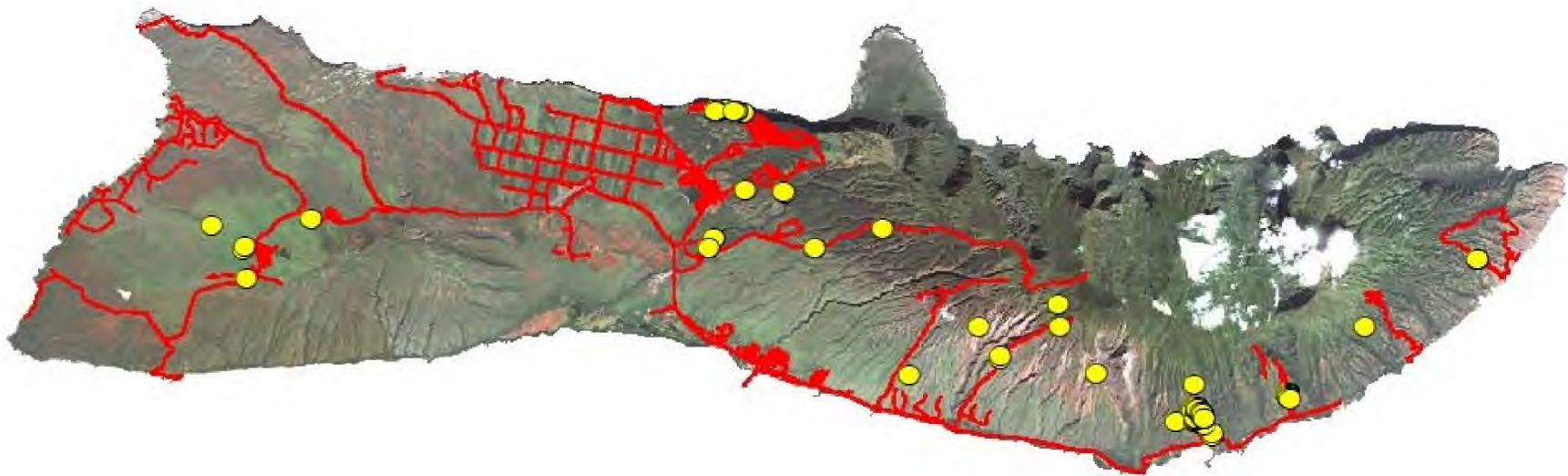
Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Banana Bunchy Top Virus 2005 - 2018



Fireweed Surveys and Control

2010 - 2018



Legend

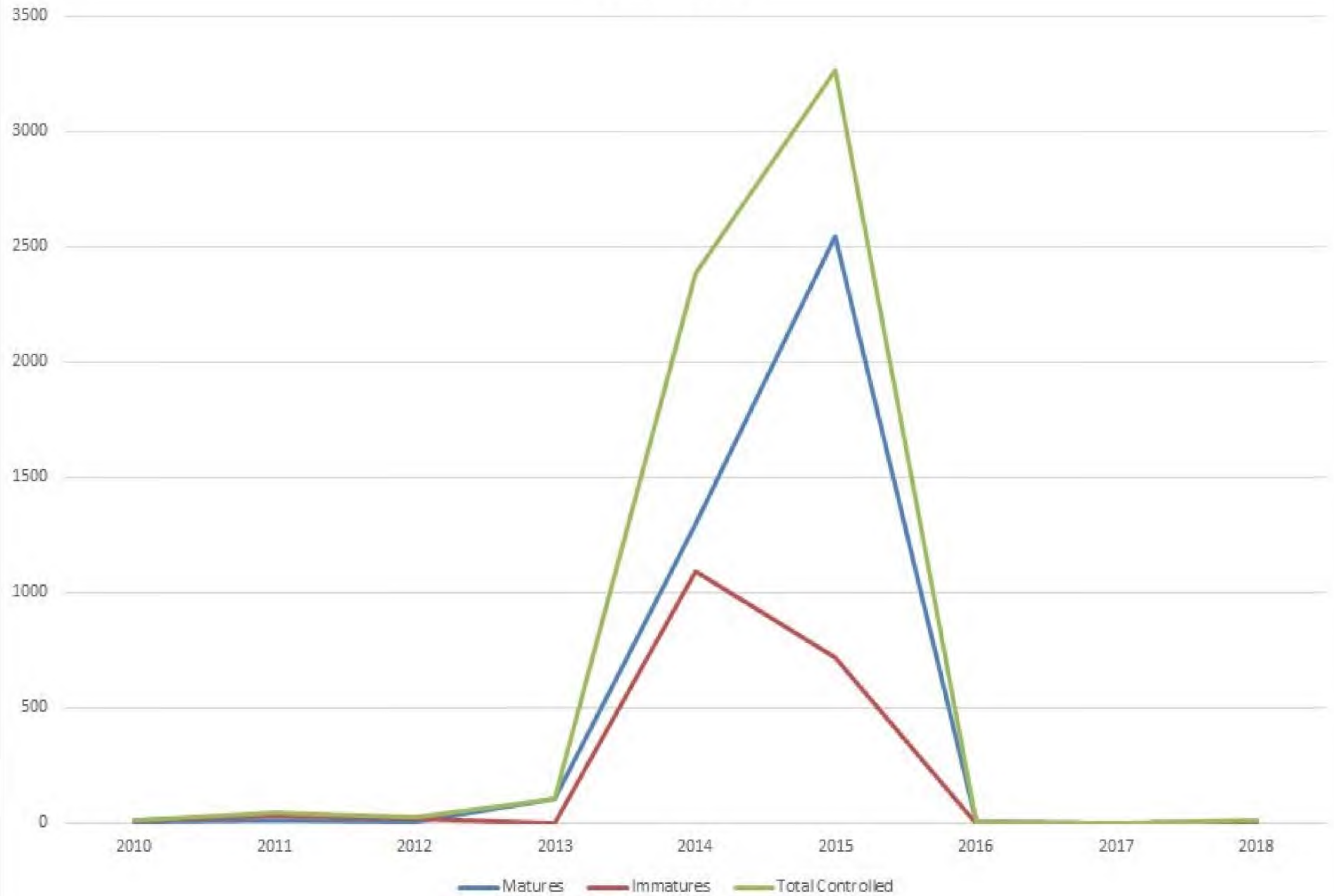
- Fireweed
- Fireweed Surveys



0 1.25 2.5 5 Miles

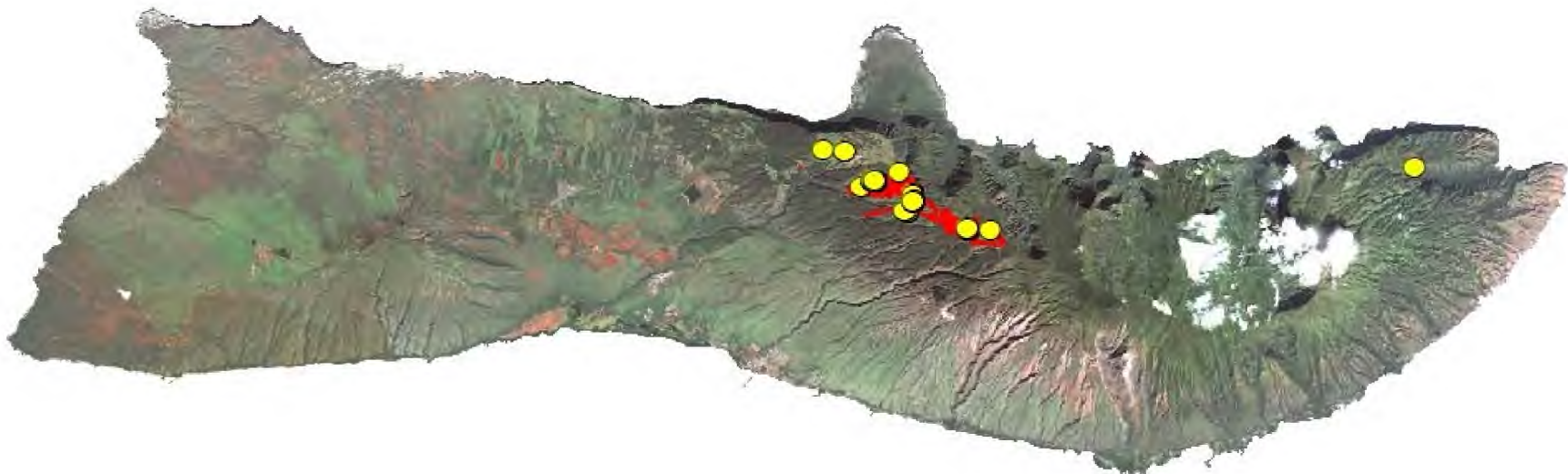
Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Fireweed 2010 - 2018



Mule's Foot Fern Surveys and Control

2007 - 2018



Legend

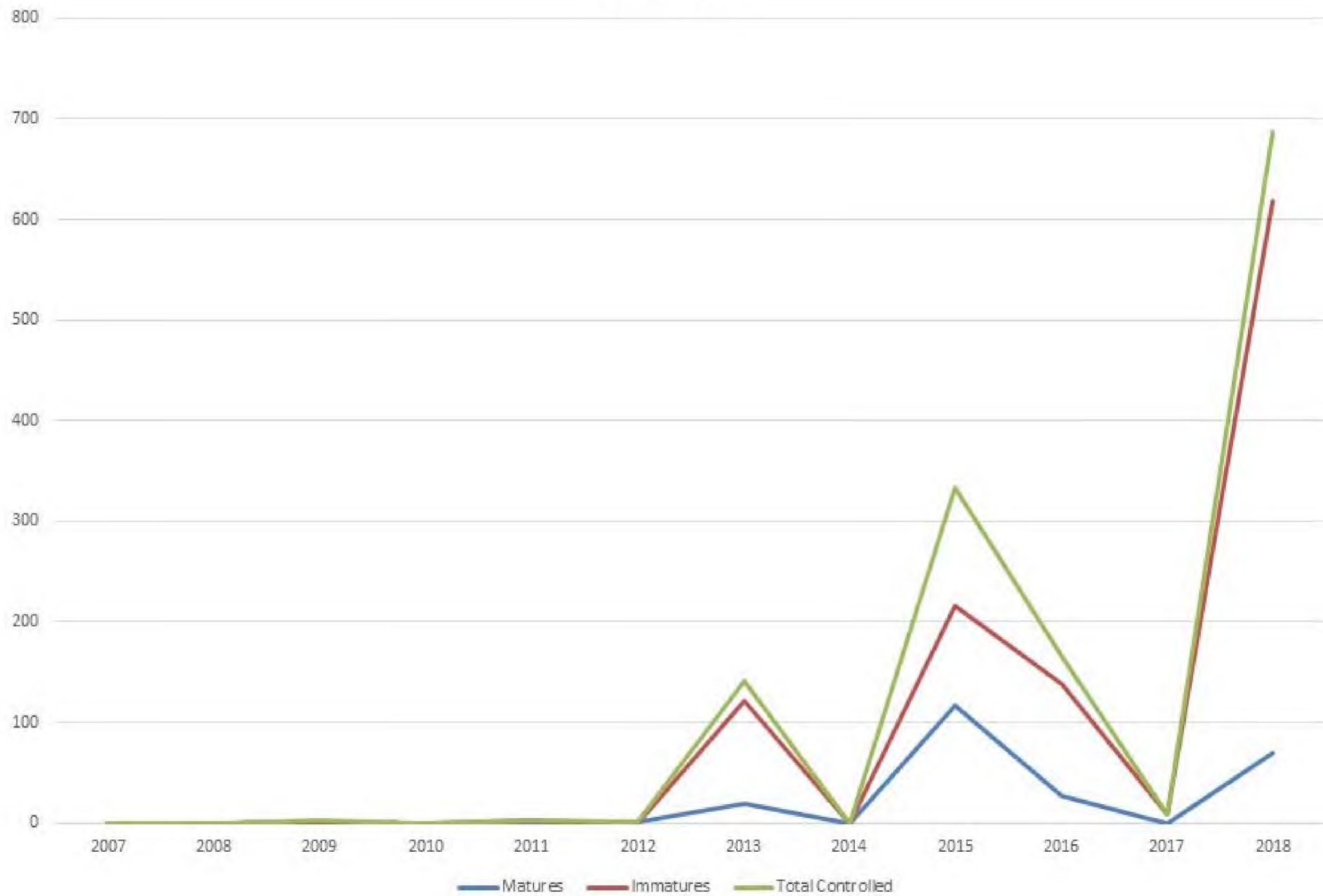
-  Mules Foot Fern
-  Mule's Foot Fern Surveys



0 1.25 2.5 5 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

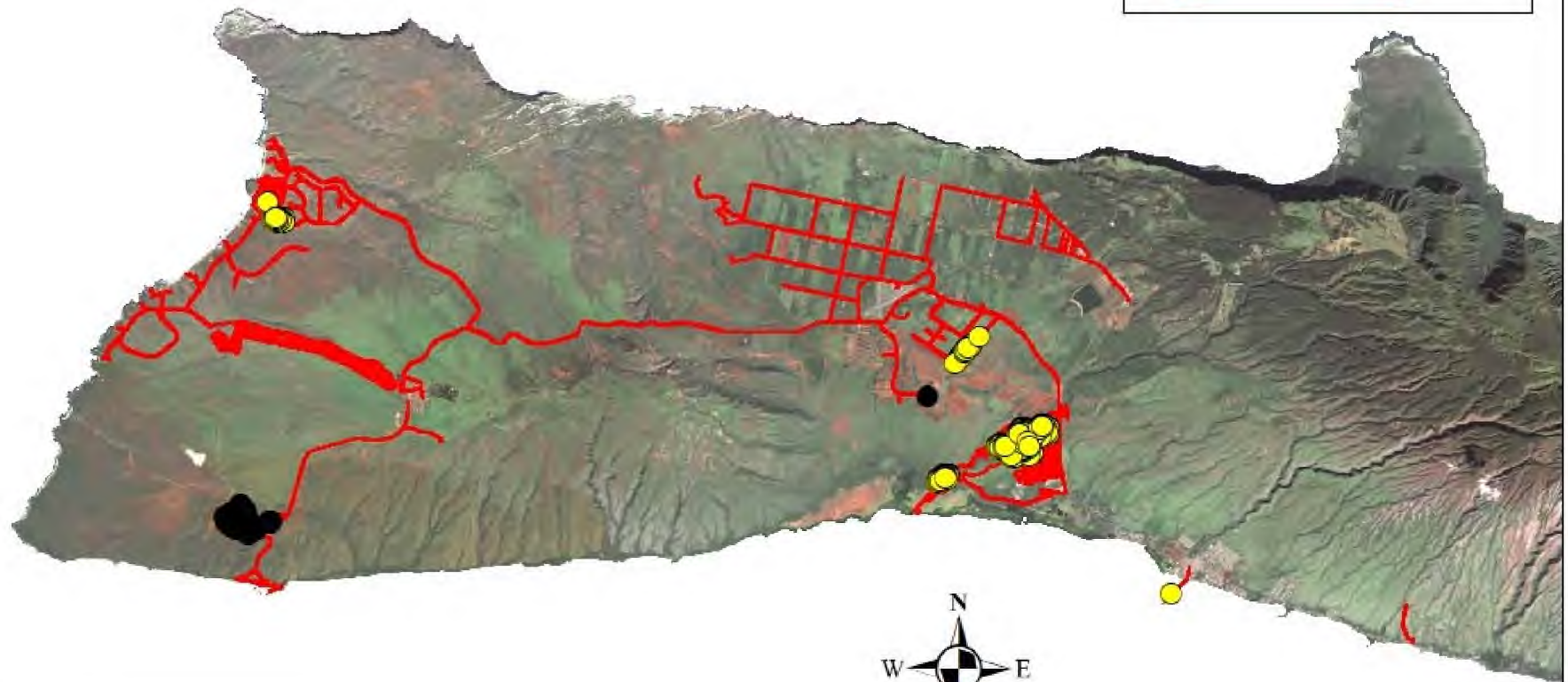
Mules Foot Fern 2007 - 2018






Tumbleweed Surveys and Control

2005 - 2018

Island of Molokai



Legend

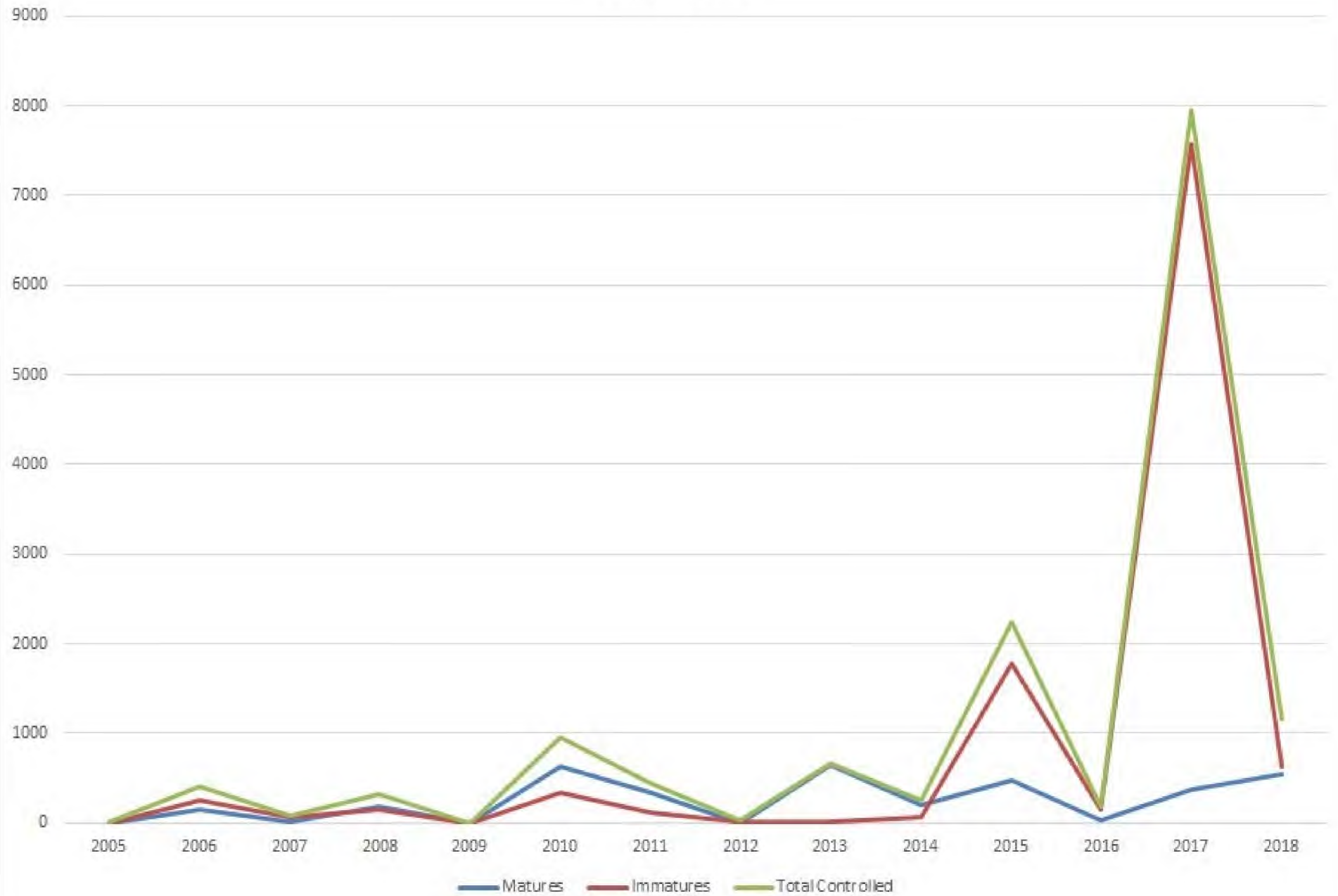
-  Tumbleweed
-  Tumbleweed (Untreated)
-  Tumbleweed Surveys



0 0.75 1.5 3 Miles

Molokai Invasive Species Committee
Projection: NAD83 UTM Zone 4N meters
12/5/2018 KTP MoMISC

Tumbleweed 2005 - 2018



So What Now?

- Education/Outreach
- Prevention
- Early Detection
- ROD
- LFA
- CRB
- Bees
- Mosquitos
- Miconia
- Rabbits
- Red Vented Bulbul
- Ag Person
- Partners
- Interns
- Training
- Legislative
- Money
- Aerial Surveys
- BMP's Not Biosecurity
- Plant List

Mahalo

