

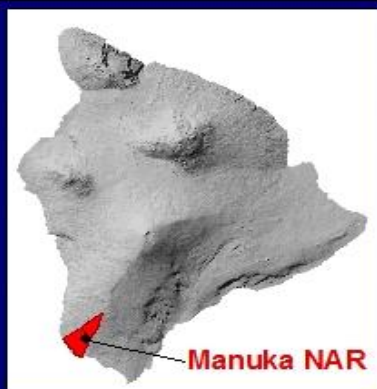
# Fountain Grass (*Cenchrus setaceus*) Suppression in Manuka Natural Area Reserve: 20 Years Later

Jennifer Randall NARS Specialist





# MANUKA NATURAL AREA RESERVE – DISTRICT OF KAU



Kipuka Kaulanamauna

Kipuka Malua

Kipuka Kaupua`a

0 1 2 3 4 5 6 Miles

A scale bar showing distances from 0 to 6 miles.



## Reasons for suppression efforts:

- Fast growing
- Fire-adapted grass that enhances fuel loads
- Spreads throughout a wide elevational range
- Aggressively colonizes on barren lava flows
- Disrupts important primary succession processes

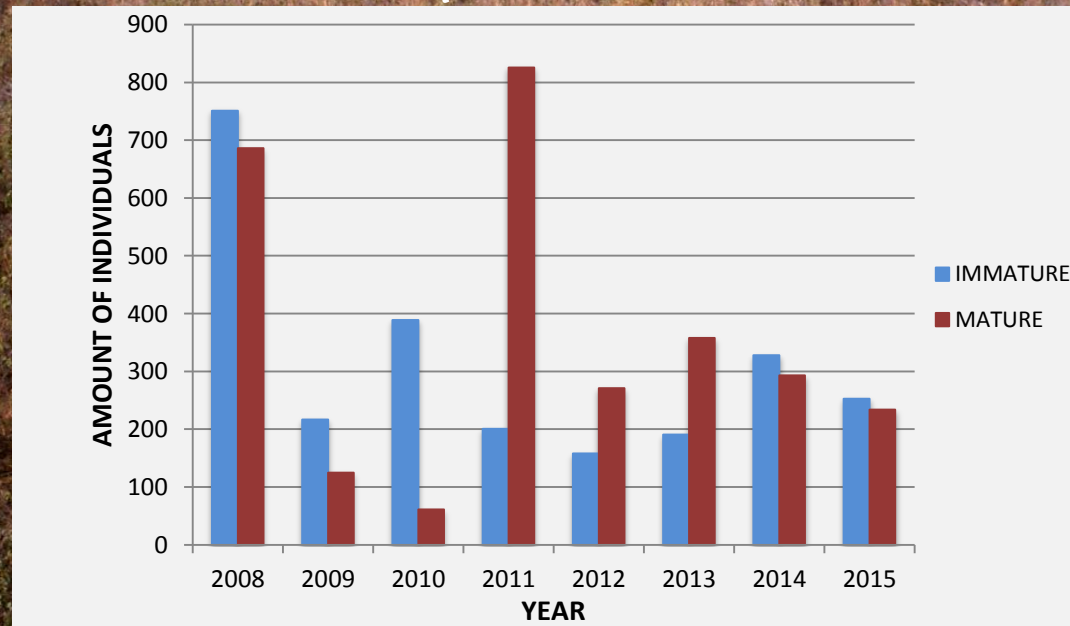




## Management history:

- In the mid 1990's NARS staff initiated a project to control *Cenchrus* populations in Kipukas
- We continue to maintain these areas
- Monitoring decline of population in the kipukas

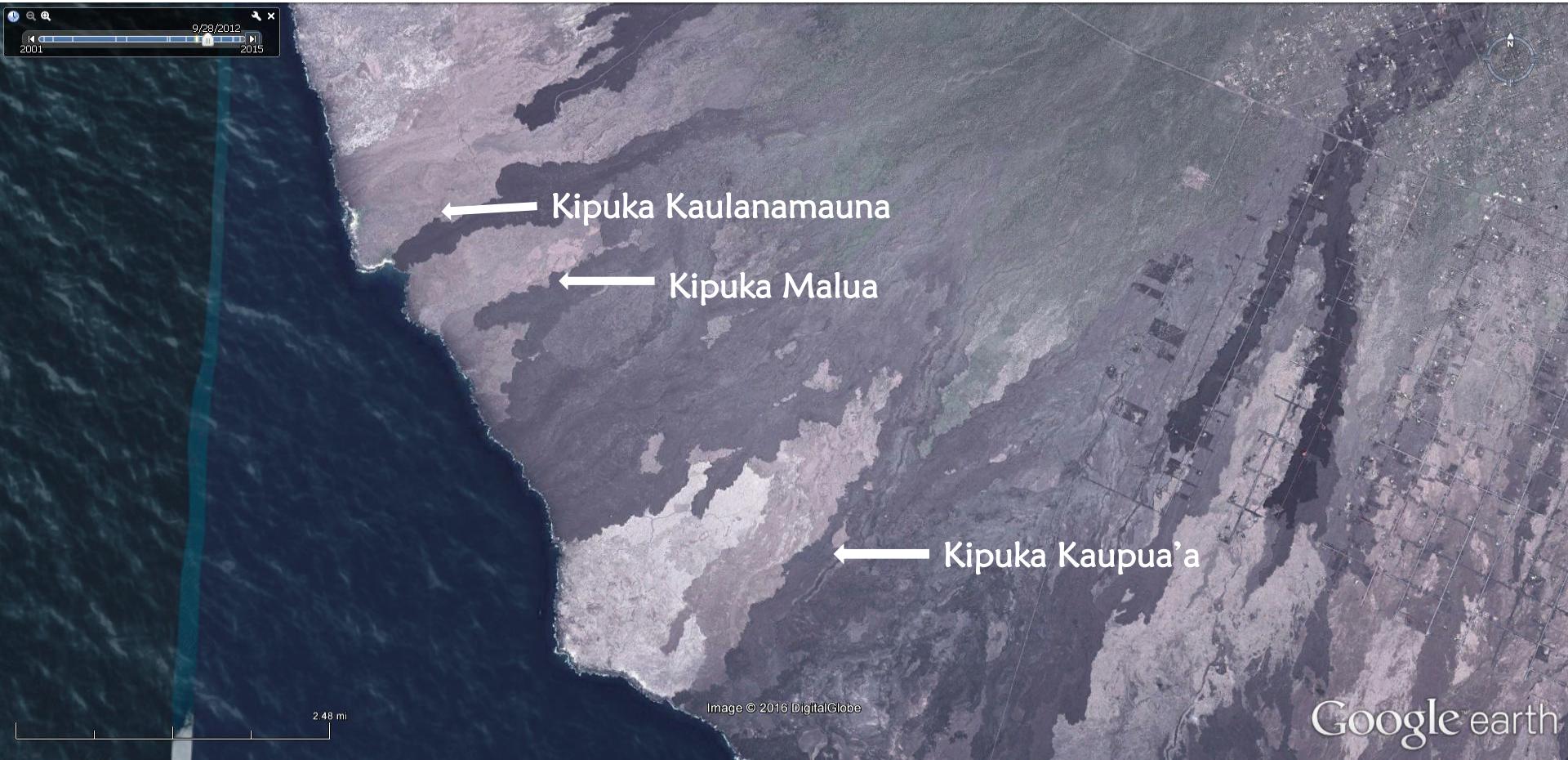
Kipuka Malua





## PLAN:

- Maintain suppression of fountain grass in initial kipukas
- Target fountain grass in upper elevation forest
- Target fountain grass on older lava flow surrounding Kipuka Kaupua'a





# METHODS

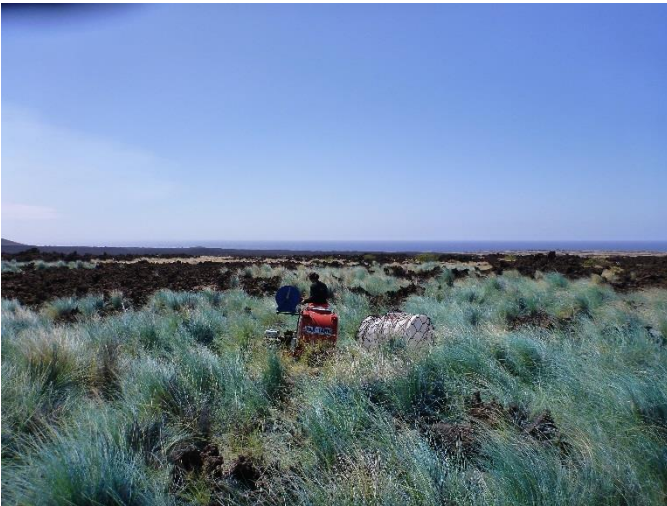


BACKPACK



SPOT SPRAY

2% Round Up Pro Max/ 1% Polaris



100 GL PAC-TANK



5000 GL CATCHMENT

# 3 ACRE EXCLOSURE IN KIPUKA KAPUA'A

APRIL 2009



OCTOBER 2009



JUNE 2012





# Within Exclosure

## Recovering Native Species

*Heteropogon contortus* (Pili grass)



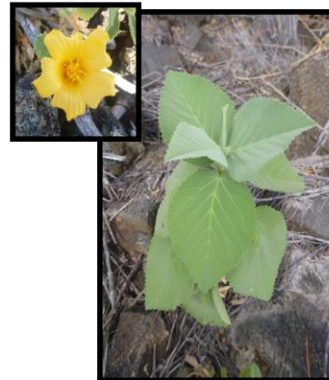
*Tephrosia purpurea* ('ahuhu)



*Waltheria indica* ('Uhaloa)

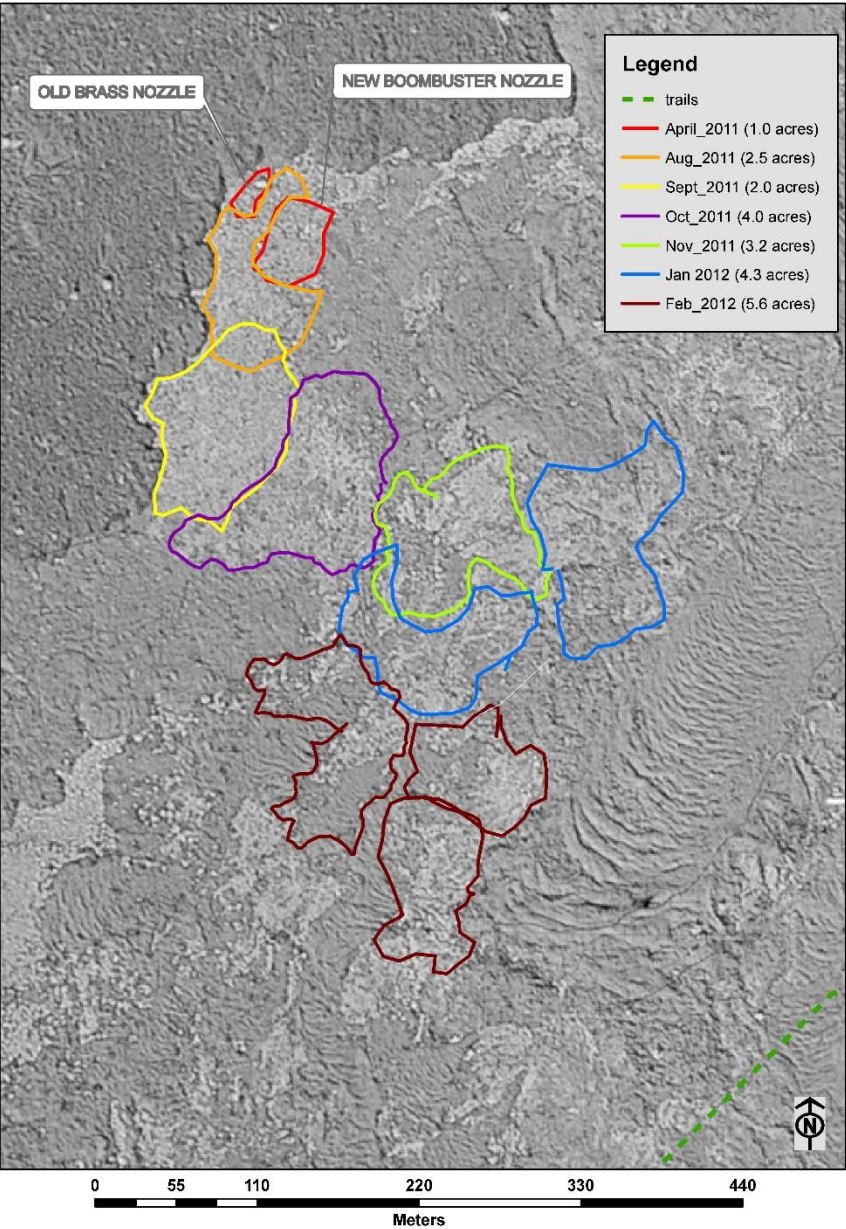


*Sida fallax* ('Ilima)





Manuka NAR Fountain Grass Control in Kipuka Kaupua'a



2011

2012



2014





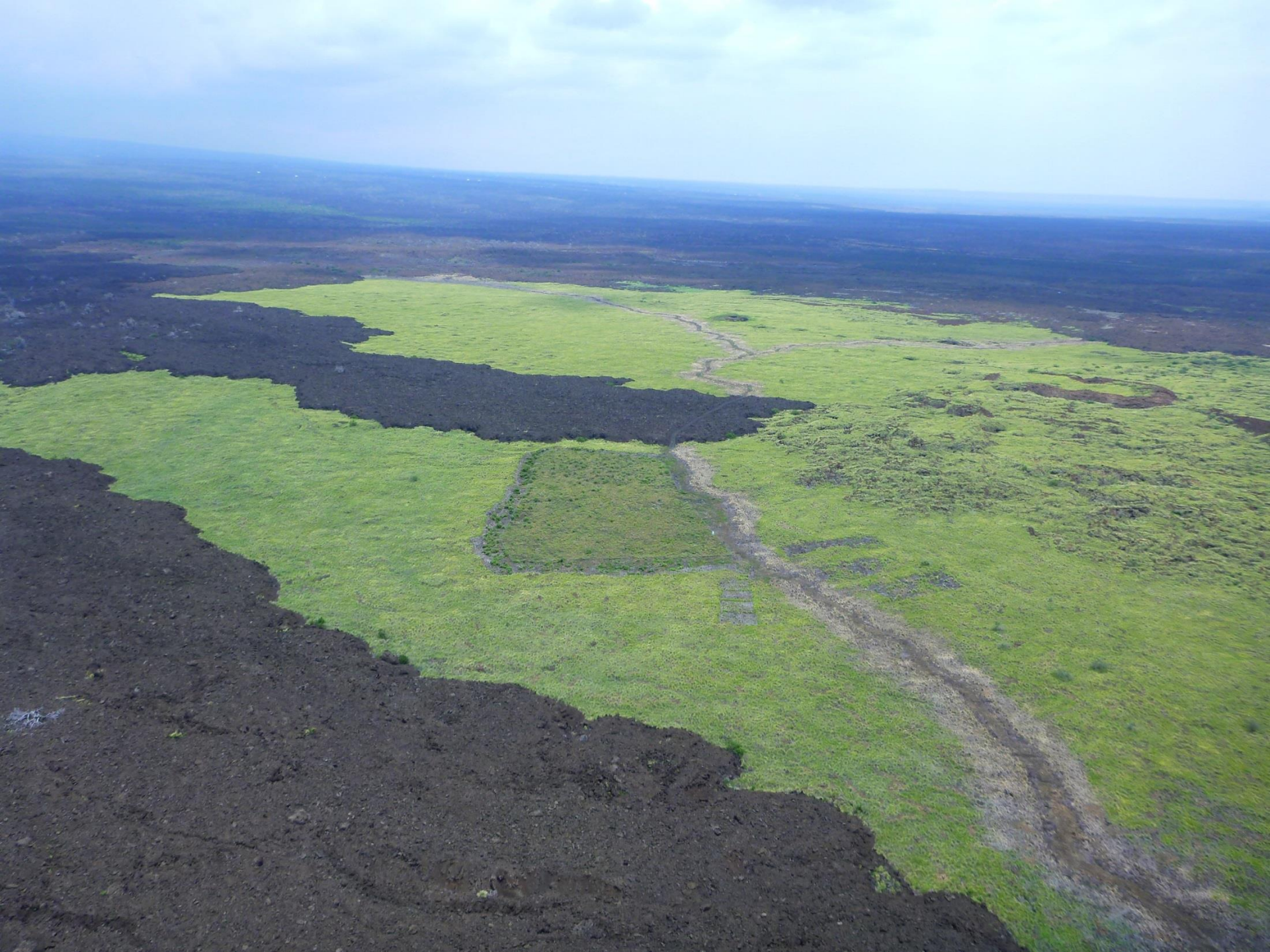




July 2013 Helicopter Boom Sprayer Trials









# 3-4 Acre Test Plots for Helicopter Boom Sprayer

November 2015

3% RUPM/ 1.5% Polaris  
1% Torpedo  
0.5% 10-10-5 fertilizer

3% RUPM/ 2% Polaris/ 1% Torpedo

3% RUPM/ 1.5% Polaris/ 1% Torpedo

2% Polaris/ 1% Torpedo

3% RUPM/ 1% Torpedo





## RESULTS:

- 3% Round Up Pro Max/ 1.5% Polaris/ 1% Torpedo - Helicopter Boom spraying



## ADVANTAGE:

Can successfully suppress approximately 40 acres using 24 man hours and our contracted helicopter pilot



## Challenges:

- Unknowns- herbicide application efficacy
- Non-typical rainy years
- Drought years
- Access to areas
- Man power



Feb. 2016



## FUTURE GOALS:

- Out planting
- Seed scatter

MAHALO TO EVERYONE INVOLVED IN THIS PROJECT

