

# West Maui Ridge to Reef Initiative

Sharing Session Nov.2, 2012

Tova Callender,

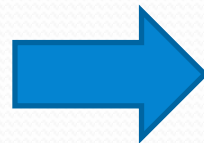
West Maui Watershed & Coastal Management

Coordinator



# Objective of Planning

- to identify sources of land-based pollutants and develop actions to remediate them to reduce stress on coral reefs.



# Efforts focused on West Maui

- Priority watershed partnership for USCRTF & priority site for Hawai'i Coral Program
- \$3m cost share agreement between US Army Corps and DLNR signed in September, 2012
- For planning in Kahana, Honokohua & Honolua



# West Maui Ridge to Reef Project Area

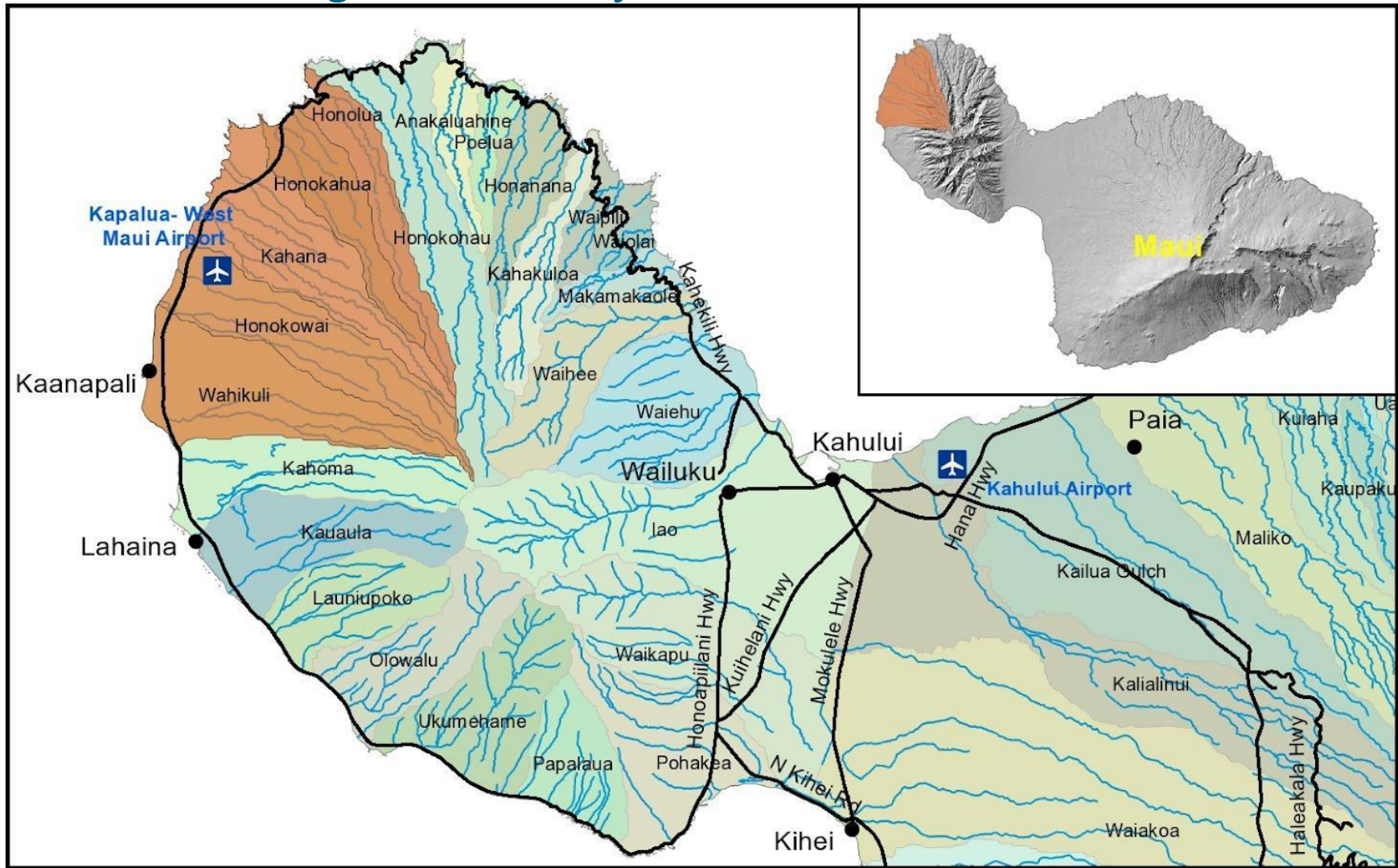
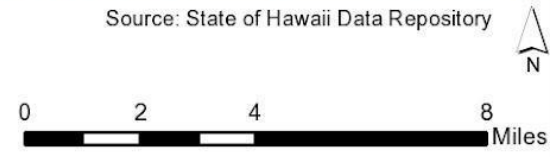


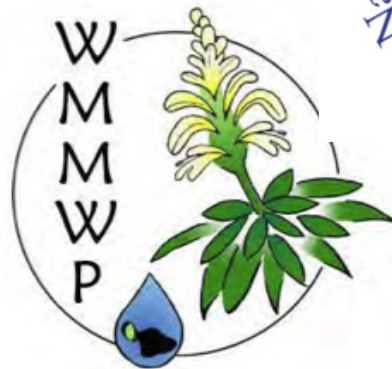
Figure 2.  
USACE West Maui Project Area

Source: State of Hawaii Data Repository

Draft Ka'anapali-Kahekili Watershed Management Plan  
February 2012



# West Maui Ridge to Reef Partners



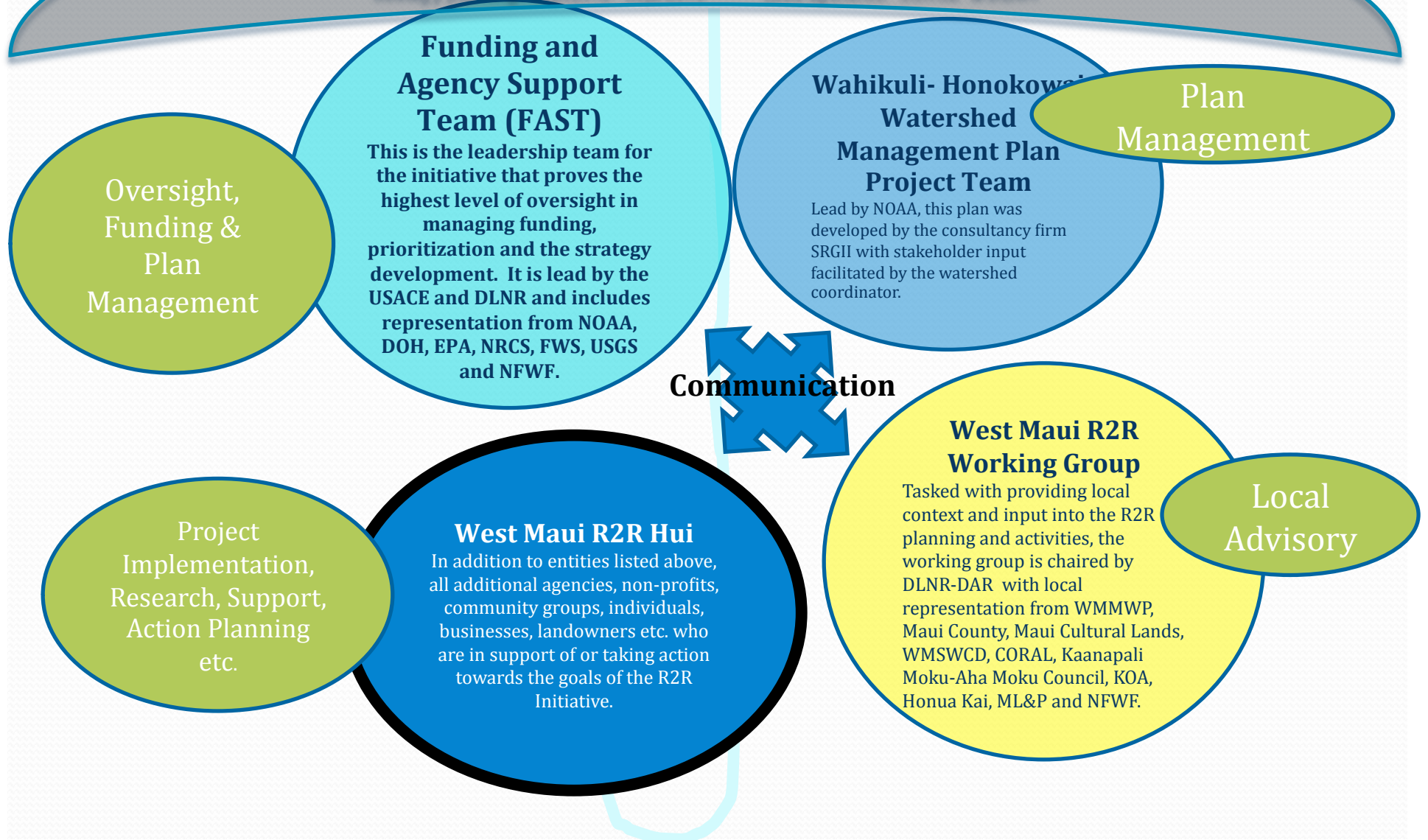
US Army Corps  
of Engineers

The Nature  
Conservancy   
Protecting nature. Preserving life.™

# WMR2R Work Teams & Functions

## West Maui Ridge to Reef Initiative

Five West Maui Watersheds: Wahikuli, Honokowai, Kahana, Honokohua & Honolua  
Strategy planning: Sept 2012- Sept 2015      Lead agencies: USACE & DLNR



# West Maui Ridge to Reef Working Group

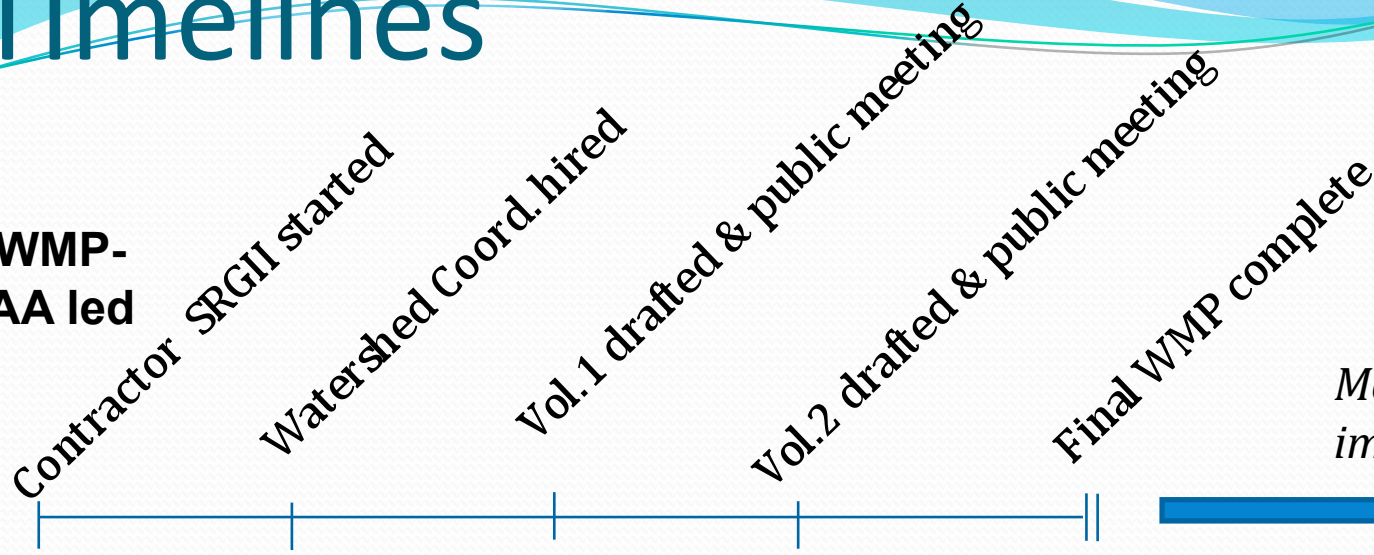
*(Two members missing)*



# Timelines



**WHWMP-  
NOAA led**



Sept.  
2011

Mar.  
2012

June  
2012

Oct.  
2012

Dec.  
2012

USACE-DLNR agreement signed  
Begin planning

Public meeting to launch



Sept.  
2012

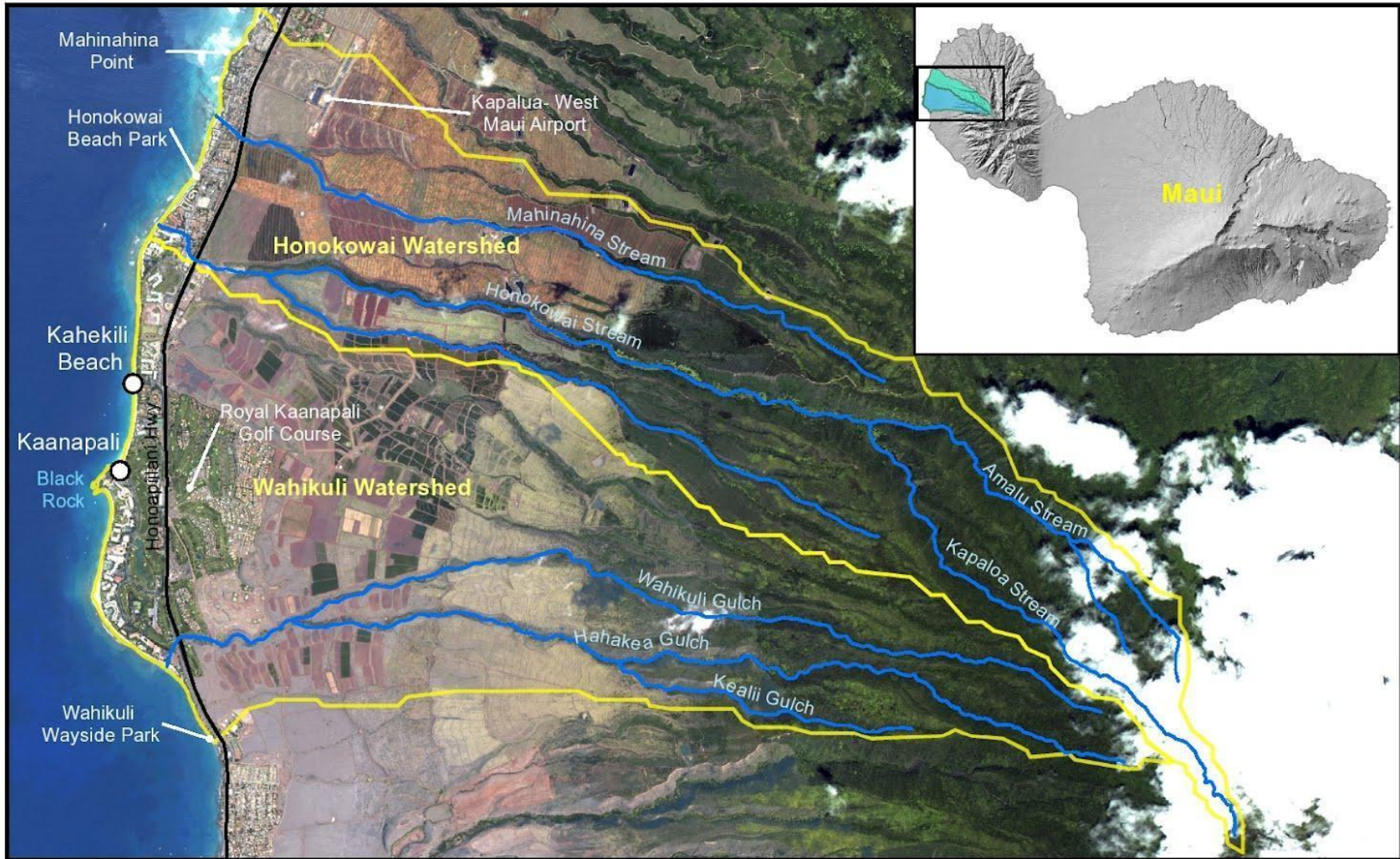
Oct.  
2012

Dec.  
2012

Complete Planning  
Oct. 2015



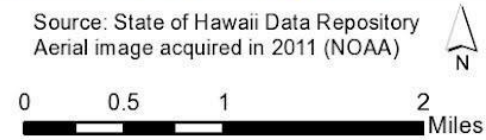
# Wahikuli-Honokowai Watershed Management Planning Area



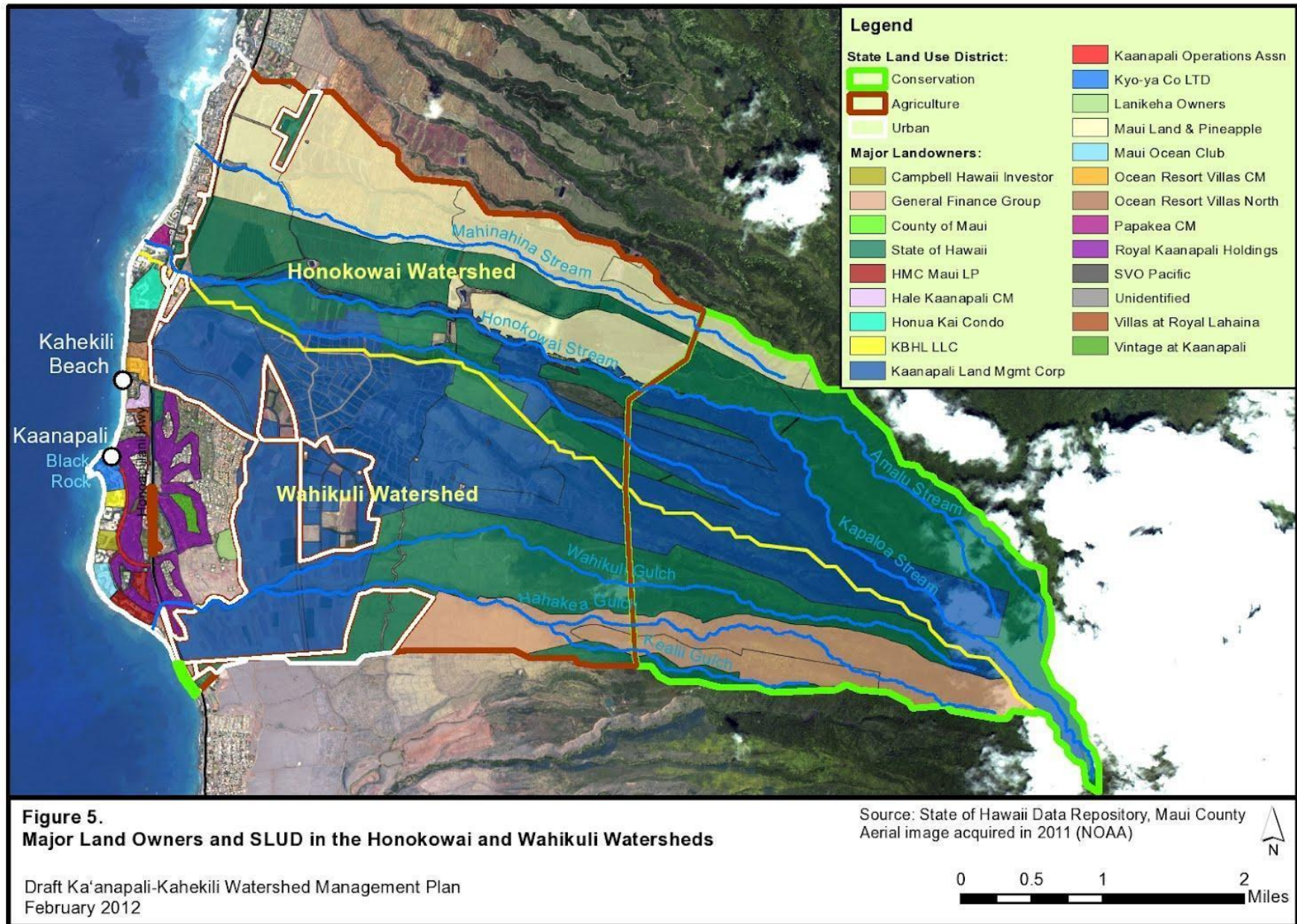
**Figure 1.**  
**Ka'anapali-Kahekili WMP Project Area**

Draft Ka'anapali-Kahekili Watershed Management Plan  
February 2012

Source: State of Hawaii Data Repository  
Aerial image acquired in 2011 (NOAA)



# Land Use Districts and Ownership In Wahikuli & Honokowai Watersheds



# Priority Issues in Wahikuli-Honokowai: Agricultural District

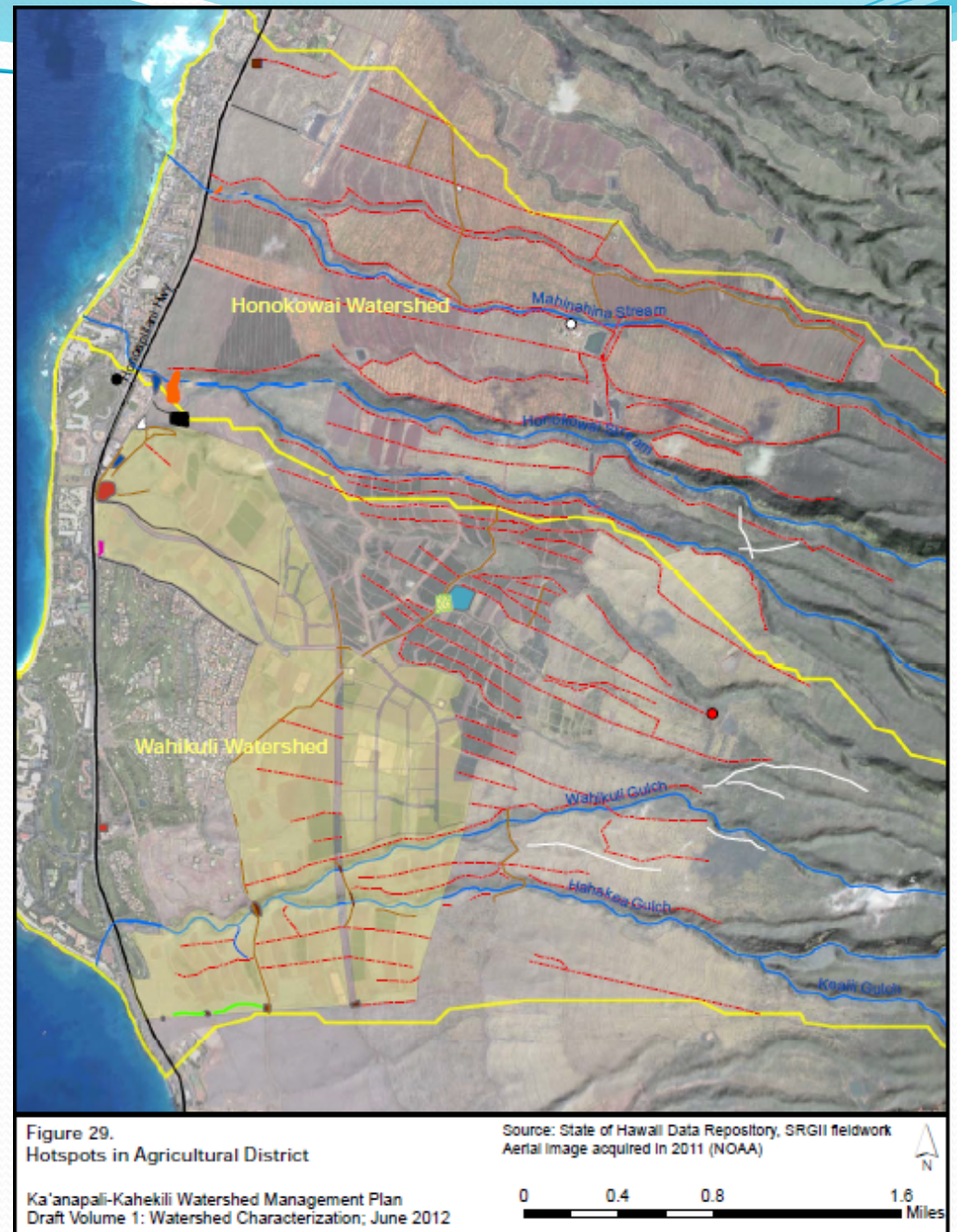
- Primary NPS pollutants: sediment and nutrients
- Highest priority hotspots: Eroding agricultural access roads and bare fields in former seed corn fields



Summer intern Malia Santos  
knee deep in rut

# Ag Roads & Fields

- Red lines are potentially problematic roads
- Tan shading is open former corn fields



# Priority Issues in Wahikuli-Honokowai: Urban District



Hotel parking lot runoff heading directly to stream near ocean

- Primary NPS pollutants: nutrients and sediment
- Highest priority hotspots: landscaped areas, urban pollutants, Waste Water Reclamation Facility

# Urban hotspots

## Legend (Figures 29-30)

● Accelerated Erosion	■ Cemetery
● Impervious Area	■ Dam Erosion
○ Miscellaneous	■ Dirt Road Crossing Gulch
♀ Outfall Stormwater	▨ Impervious Area Runoff
▲ Parking Lot Runoff	■ Lahaina Wastewater Reclamation Facility
■ Sediment Deposition	■ Maintenance Yard - Agricultural
☞ Shoreline Erosion	■ Maintenance Yard - Other
— Dirt Road Uphill	□ Miscellaneous
— Dirt Road Along Contour	■ Parking Lot Dirt - Other
— Dirt Road Crossing Gulch	▨ Parking Lot Paved
— Irrigation Ditch Bank	■ Stream Bank Erosion
— Miscellaneous	■ Sediment Pile or Loose Material
— Paved Road Shoulders	■ Corn Fields with High Erosion Potential
— Stream Bank Erosion	

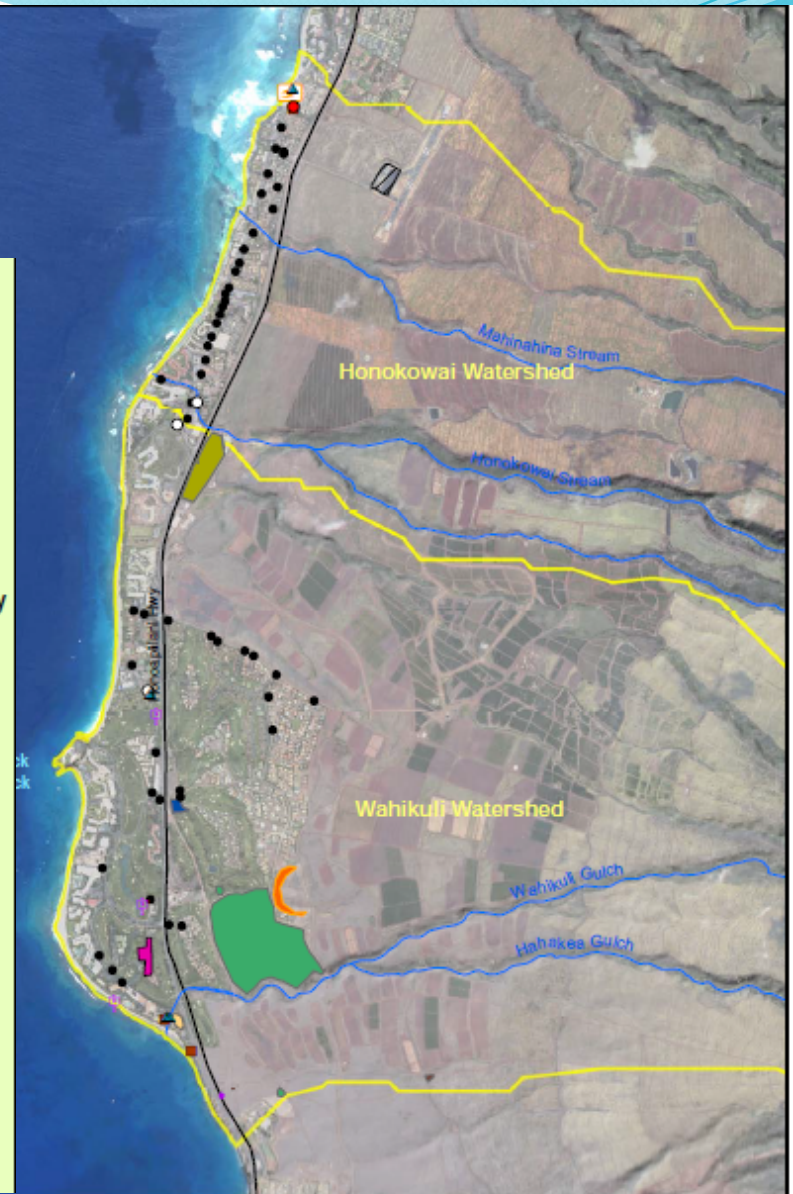


Figure 30.  
Hotspots in Urban District

Source: State of Hawaii Data Repository, SRGI fieldwork  
Aerial image acquired in 2011 (NOAA)

# Priority Implementation projects:

## #1 Agricultural Road Remediation



Funded by DAR/NOAA &  
landowner match- in  
planning stages, to begin  
early 2013

## #2 Cover bare fields





# #3 Reduce injection well volume



CORAL project funded by NFWF to increase hotel preparedness & interest in R1

# #4 Engineering study for Honokowai Structure 8



# #5 Engineering study for Wahikuli Gulch stabilization



DAR/NOAA funded: in  
planning stages to begin  
early 2013

# #6 Fertilizer management plans for urban and ag districts



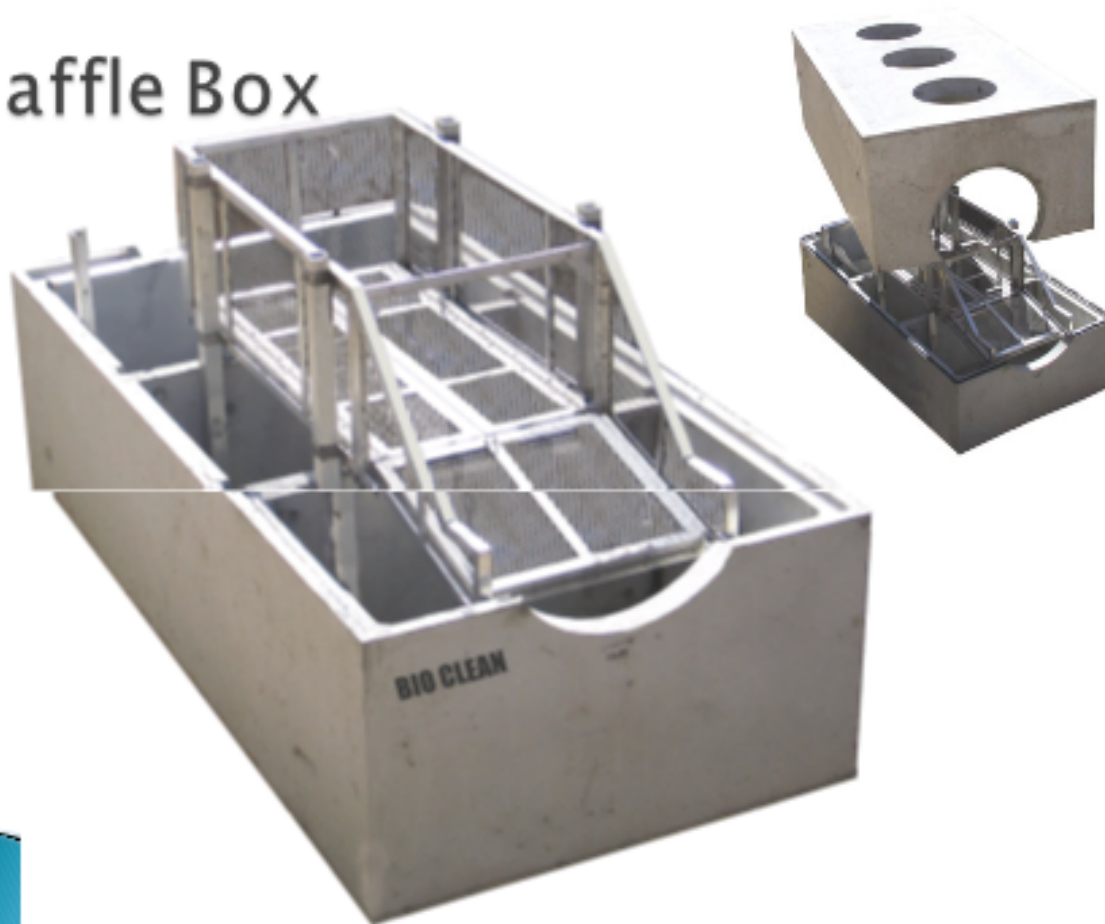
# #7 Post-fire rehabilitation planning



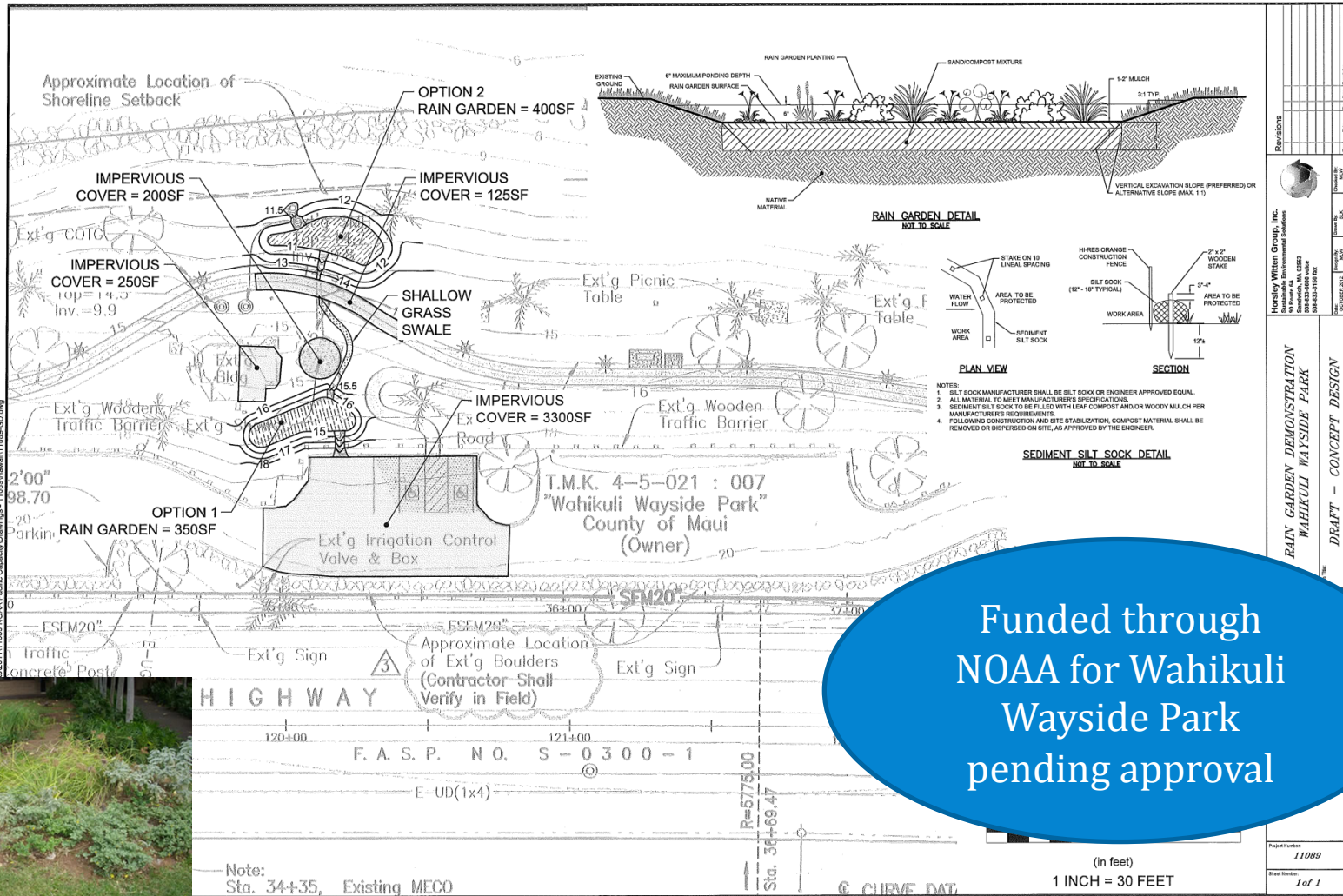
DAR/NOAA  
funded- working  
with Hawaii  
Wildfire  
Management Org.

# #8 Baffle box installation in Honokowai

Baffle Box



# #9 Rain garden installations



Funded through NOAA for Wahikuli Wayside Park pending approval

# Integrated Projects & Efforts

- NFWF- Conservation Innovation Grant- 1. gathering baseline data, 2. thresholds for sediment and 3. standardizing monitoring (using bio-marker work)
- NRCS West Maui Coral Reef Initiative funding program
- TNC- Conservation Action Planning, Kahekili
- Makai Watch, Ka`anapali
- Kahekili Herbivore Fisheries Management Area
- CORAL- Ka`anapali Hotel Coral Reef etiquette education
- West Maui Mountains Watershed Partnership





# Additional partner projects

- Ongoing research
  - Tracer study (EPA/DOH)
  - Contaminant work (NOAA)
  - Stream assessment (USGS)
  - others
- Outreach & education- SeaWeb partnership on social marketing, PIP plan, partner grants
- Monitoring- baseline & effectiveness for each project
- Stakeholder engagement



# Next Steps

- Final WHWMP complete and released early Dec. 2012
- Public meeting to launch West Maui Ridge to Reef Initiative, Dec.5<sup>th</sup>, 2012
- Match funding with projects
- Match projects with partners
- [www.kaanapaliwmp.com](http://www.kaanapaliwmp.com) or [www.hawaiicoralreefstrategy.com](http://www.hawaiicoralreefstrategy.com)