

WIT.Committee

From: Eva Blumenstein <Eva.Blumenstein@co.maui.hi.us>
Sent: Thursday, January 30, 2020 5:13 PM
To: WIT.Committee
Cc: Jeff Pearson
Subject: WIT-13 presentation
Attachments: WIT Watershed Protection 020320.pdf

Aloha,

Please find attached the Department of Water Supply's presentation for 2/3/20.

Thanks,

Eva

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Watershed Protection Grant Program

Council of the County of Maui

Water, Infrastructure and Transportation Committee

February 3, 2020

County of Maui Department of Water Supply

Why DWS Funds Watershed Protection

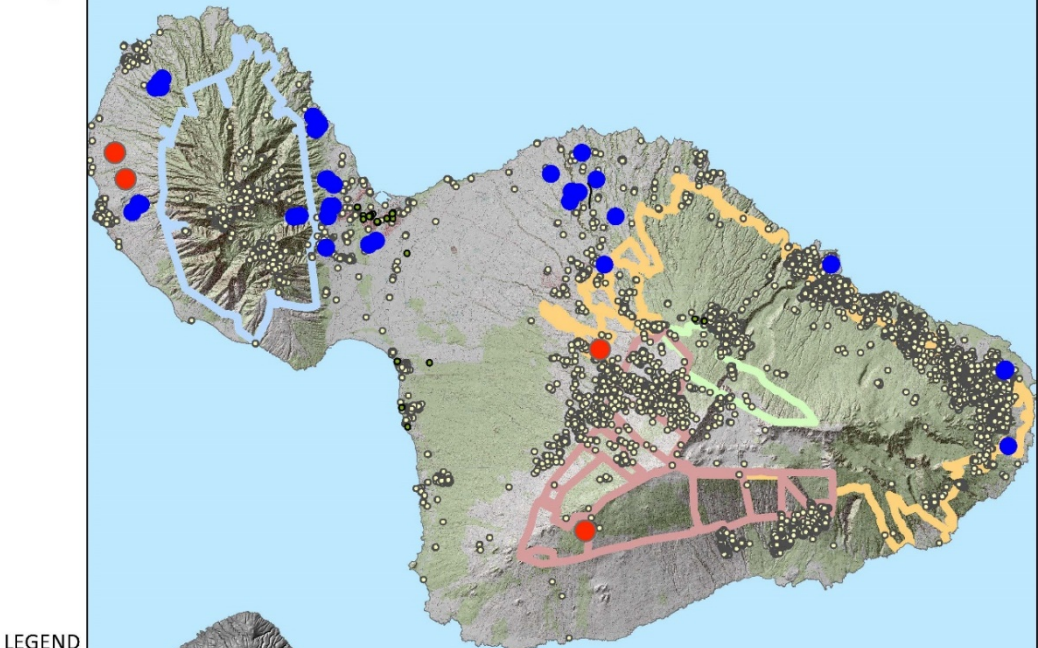
- Forested watersheds face major threats that alter the ability to provide many ecosystem services, including **reliable groundwater recharge and stream flow**.
- Feral ungulates (hogs, deer, cows, goats) damage forests by browsing, rooting and trampling vegetation, leaving the ground bare and exposed to erosion.
- Invasive weed species can overtake native forest covers needed to capture rain and fog and hold soils.
- Watershed Partnerships provide on the ground management to keep feral ungulates and invasive weeds out of critical watersheds.

Key watershed management measures protect drinking water supplies

\$23M funded since 1997

Grant Request Analysis and DWS priorities

Maui Watersheds
Maui County / DWS Wells

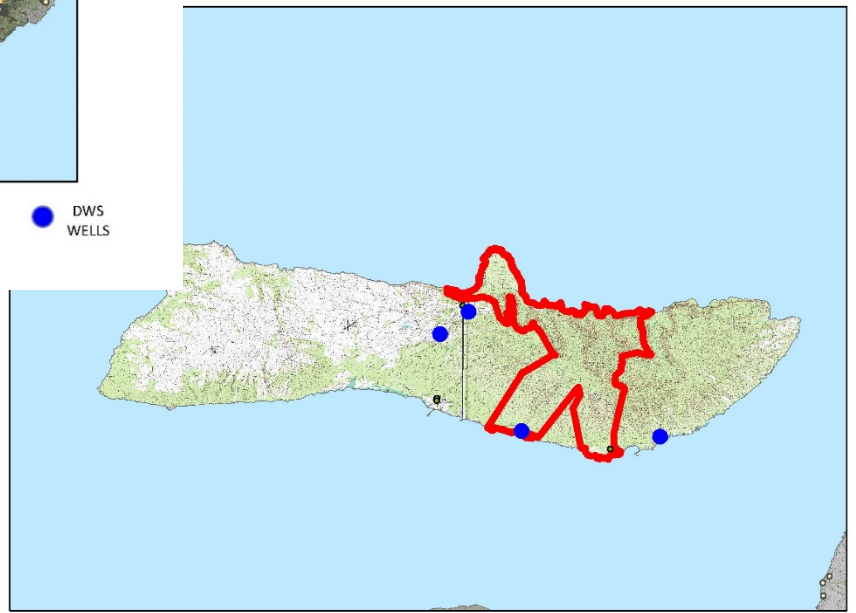


LEGEND

WMMWP 47,322 Acres	LHWRP 43,175 Acres	East Maui TNC 7,914 Acres Waikamoi Preserve	EMWP 122,000 Acres	MISC 190,000 Acres	HI Ag Research Center	DWS WELLS
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- Water rate funded
- Benefits to public water supply
- Watershed management plan

i Watersheds
/S Wells

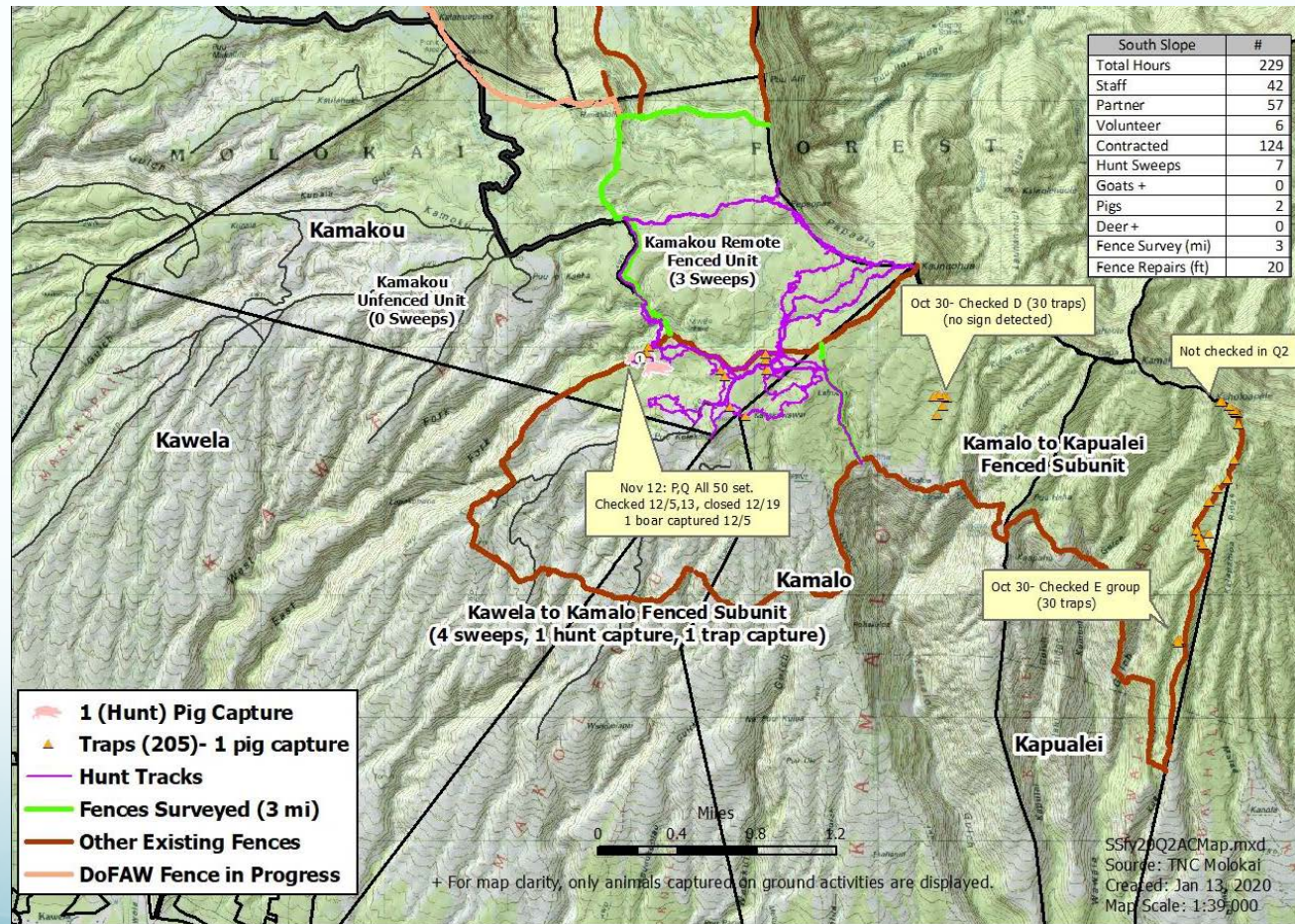


LEGEND

EMoWP 30,680 Acres	MoMISC 85,430 Acres	DWS WELLS
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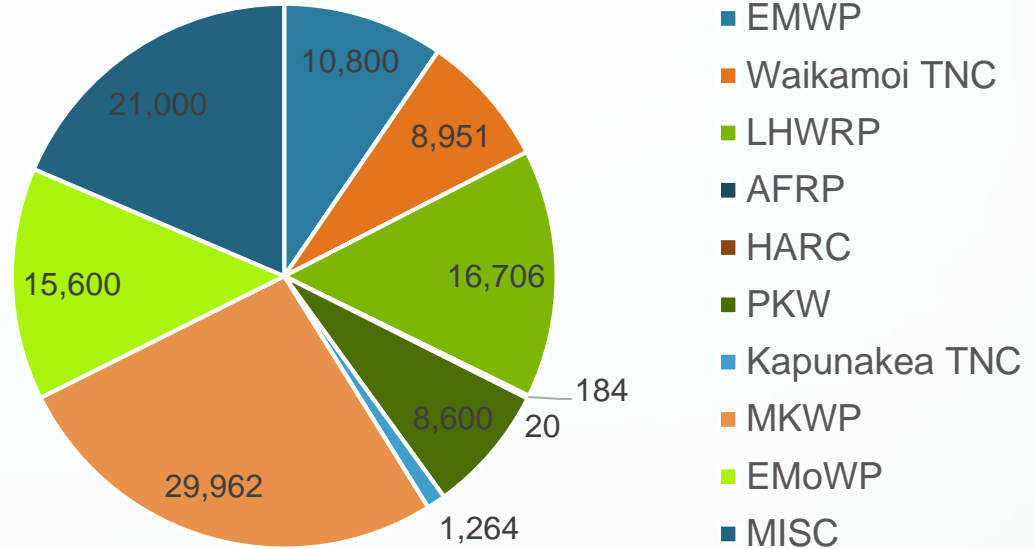
Performance Benchmarking

- Deliverables met on a quarterly basis
- Expenditures fiscally responsible
- Due diligence and transparency
- Reporting



Performance Benchmarking

Acres Actively Managed/Surveyed



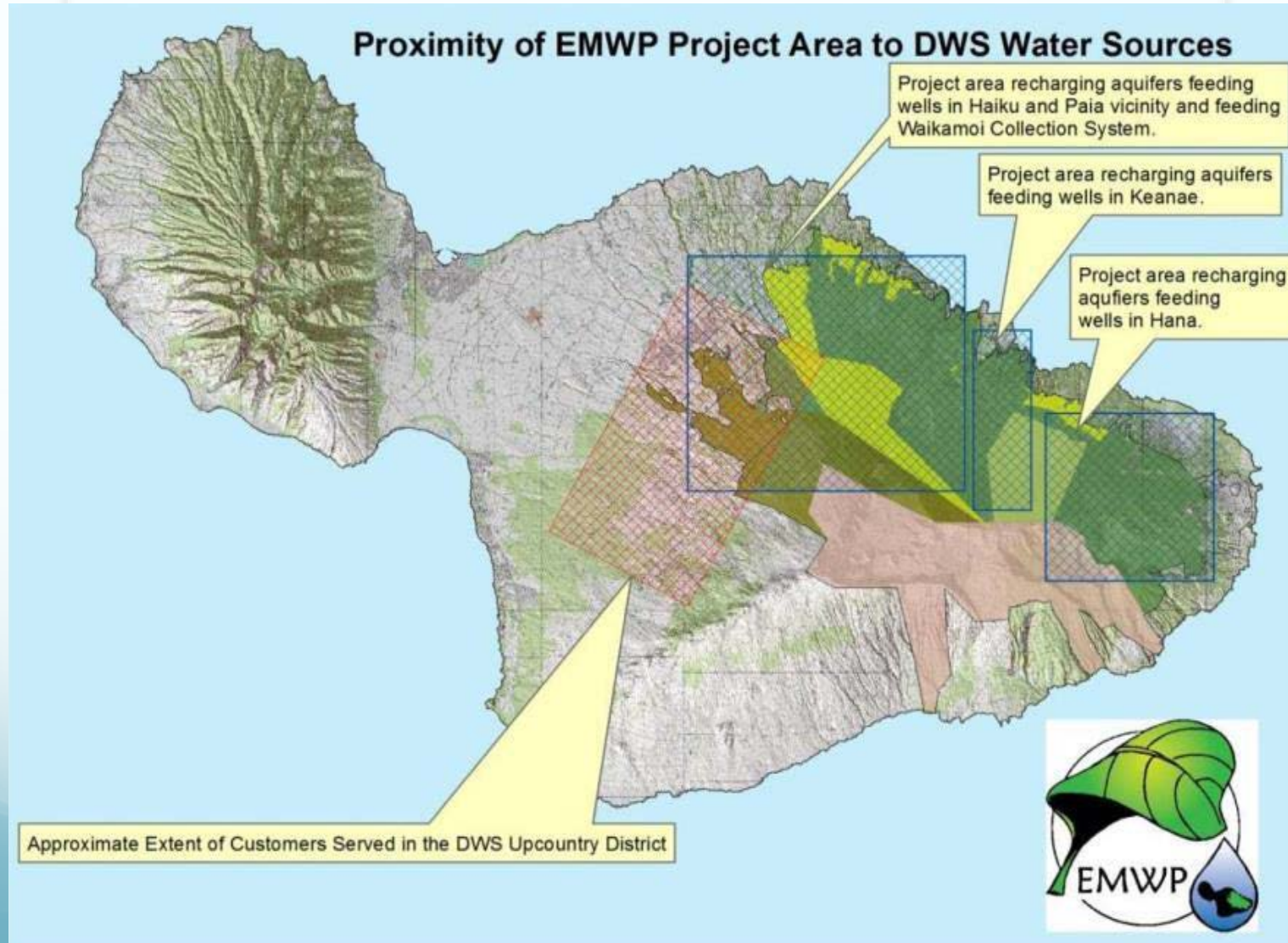
Fence Construction	137 miles
Forest Area Protected by Fencing	64,883 acres
Actively Managed Feral Ungulates Area	~92,000 acres
Feral Ungulates Removed	1,697 animals
Actively Managed Invasive Species Area	119,500 area
Invasive Plant Species Removed	>95,000
Native and Endangered Species Planted	10,000; 50K koa seeds
Leveraged Funds	\$3.32M

FY 2021 WATERSHED PROTECTION GRANT PROPOSALS

	Applicant	Committee
1. East Maui Watershed Partnership	\$492,988.00	\$450,000.00
2. Waikamoi Haipua'ena Water Source Protection	\$270,797.00	\$260,000.00
3. Leeward Haleakala Watershed Restoration Partnership	\$300,000.00	\$250,000.00
4. Auwahi Forest Restoration Project	\$141,000.00	\$141,000.00
5. West Maui Mountains Watershed Partnership	\$693,604.00	\$600,000.00
6. Honokowai & Wahikuli Source Protection	\$76,215.00	\$76,300.00
7. Pu'u Kukui Watershed Preserve	\$340,000.00	\$330,000.00
8. East Molokai Watershed Partnership	\$250,000.00	\$250,000.00
9. Maui Invasive Species Committee	\$260,000.00	\$260,000.00
10. Hawaii Agriculture Research Center – Koa	\$70,000.00	\$56,500.00
11. Hawaii Agriculture Research Center – Ohi'a	\$74,980.00	\$75,000.00
	\$2,969,584.00	\$2,748,800.00

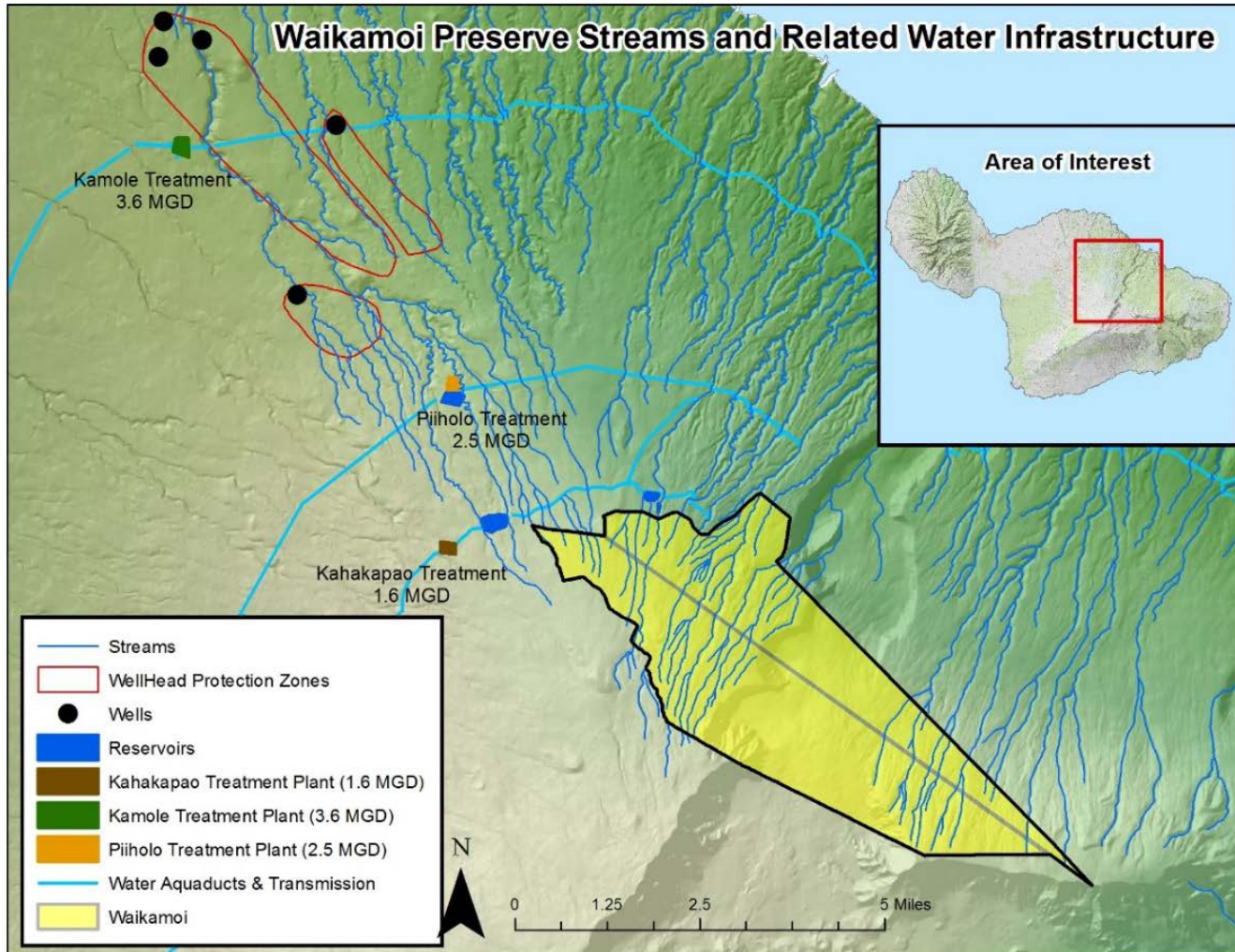
East Maui Watershed Protection

- Active management of 11,600 acres
- Fencing, ungulate control, weed management, public outreach



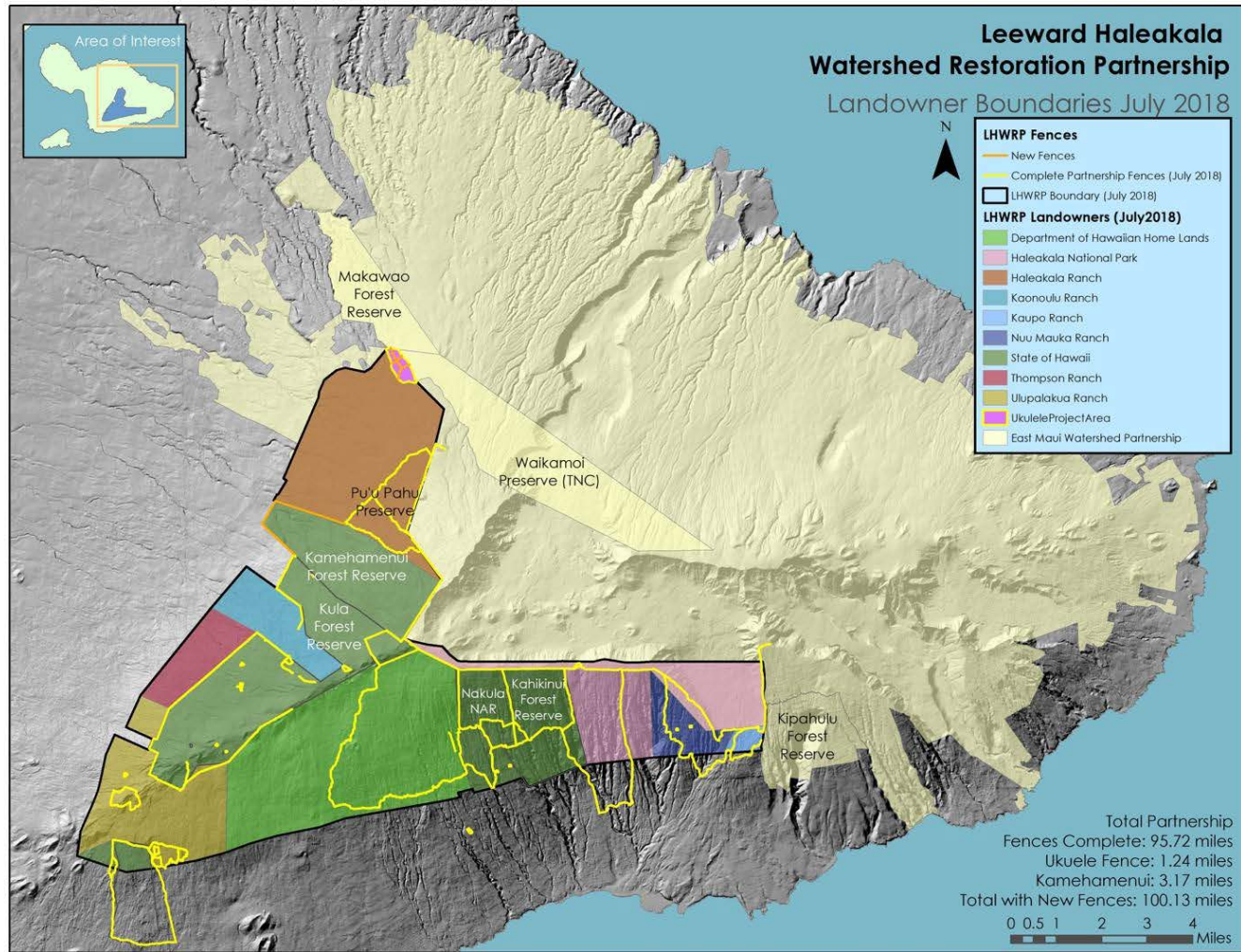
East Maui Watershed Protection

- Waikamoi Preserve, 9,000 acres ungulate free
- Protect major stream headwaters and groundwater for DWS customers
- Weed control and fence maintenance, public outreach



Leeward Haleakala Watershed Restoration

- Inspect and maintain 22 miles fences
- Seed collection for propagation
- Plant native seedlings with volunteers
- Invasive weed control



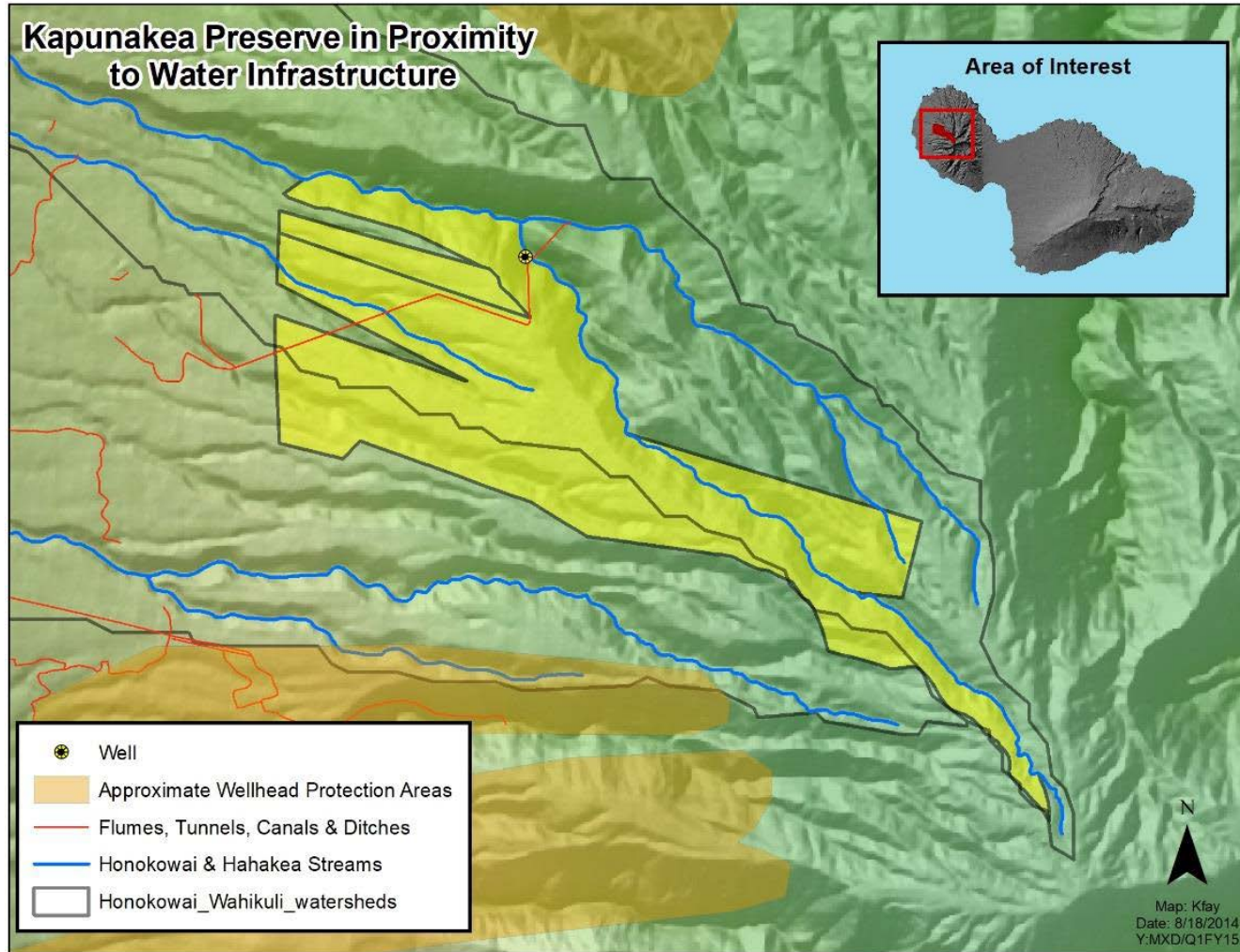
Auwahi Forest Restoration Project

- Ecotourism, volunteer trips
- Research and scientific presentations (ferns, Rapid Ohia Death)
- Native plantings, seed collection, weed control



West Maui Kapunakea Preserve

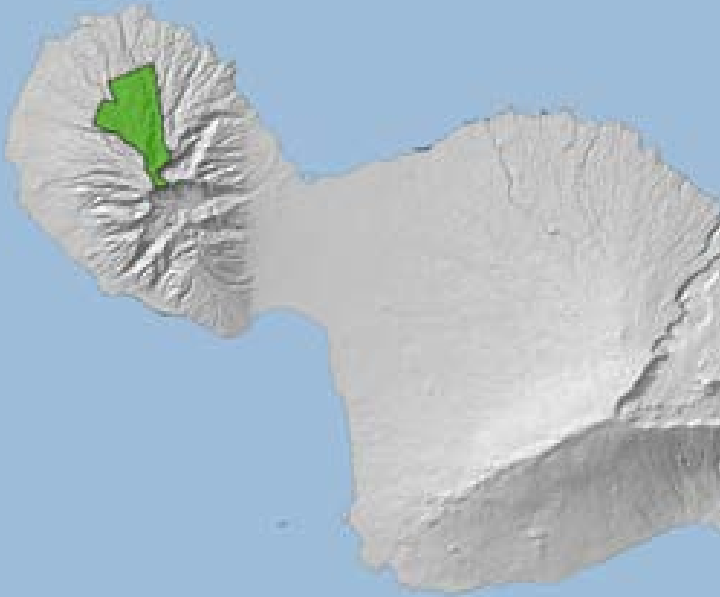
- 1,300 acre conservation easement in Honokowai and Wahikuli watersheds
- Fence inspection and maintenance
- Ungulate and weed control and monitoring



Pu`u Kukui Watershed Preserve

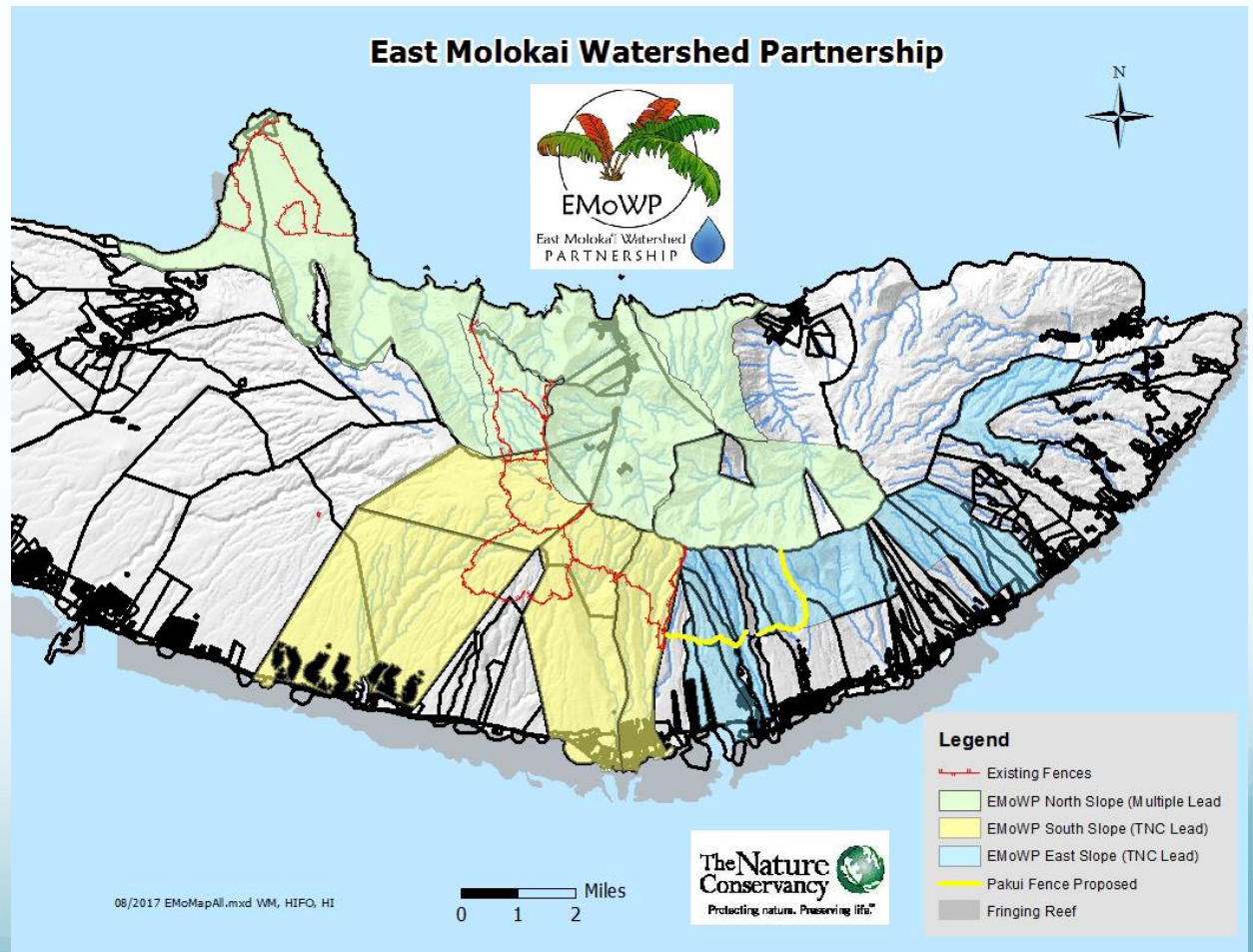
- 8,600 acres conservation easement
- 47,000 feet fence inspection and maintenance
- Ungulate and weed control and monitoring
- Public outreach

Pu'u Kukui Watershed Preserve



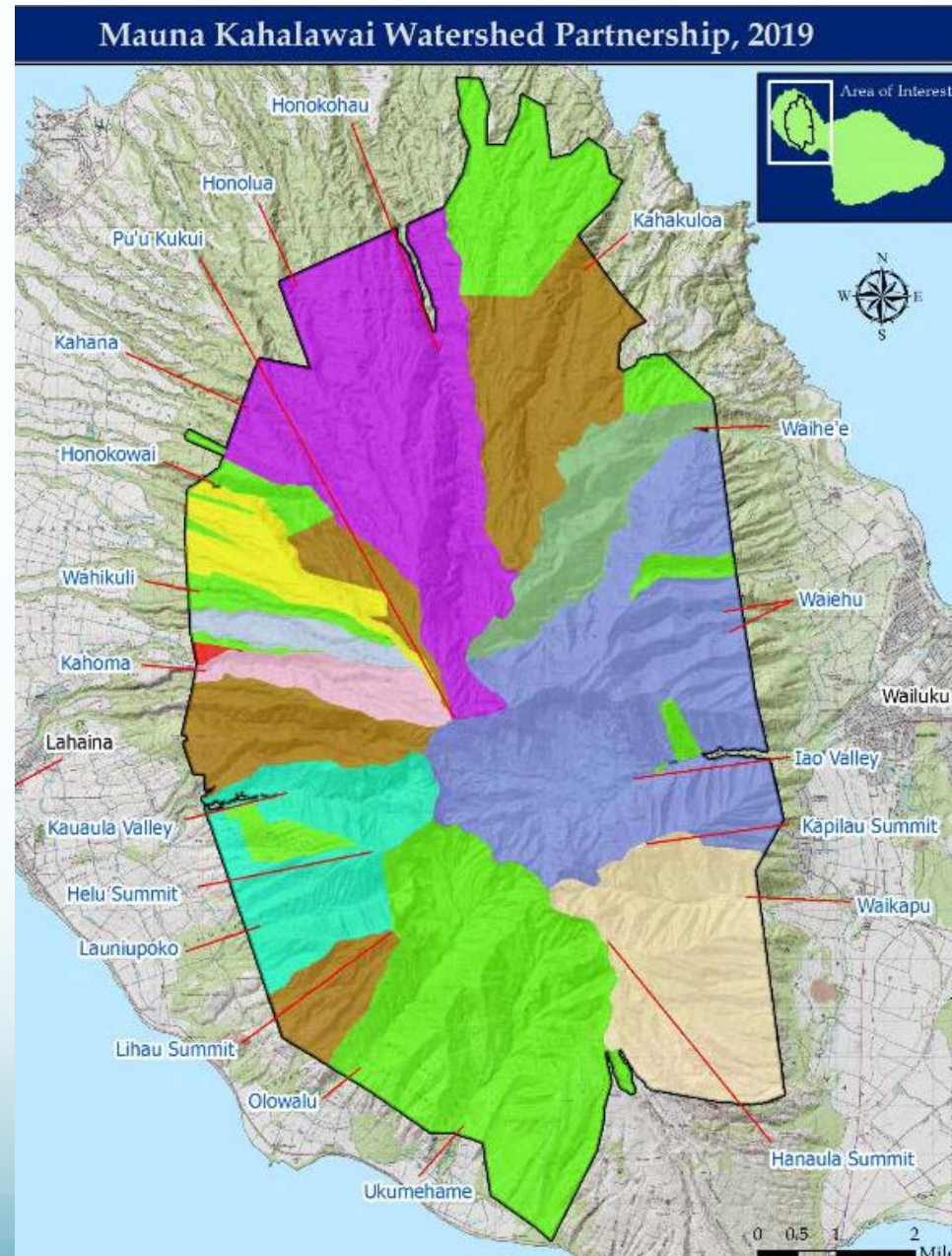
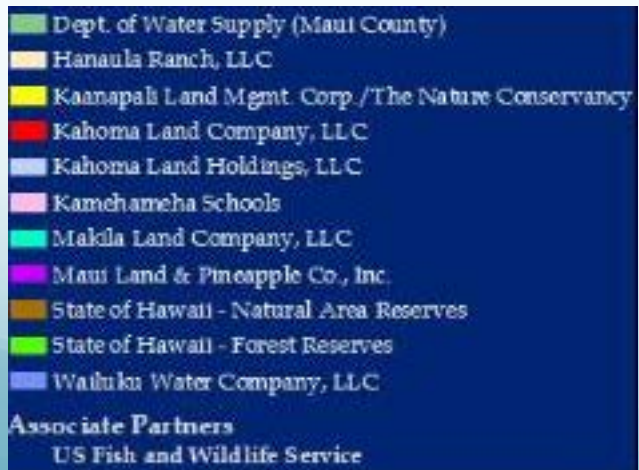
East Molokai Watershed Partnership

- 15,600 acres conservation easement
- 47,520 feet (9 miles) fence inspection and maintenance
- Ungulate and weed control and monitoring
- Fire management
- Public outreach



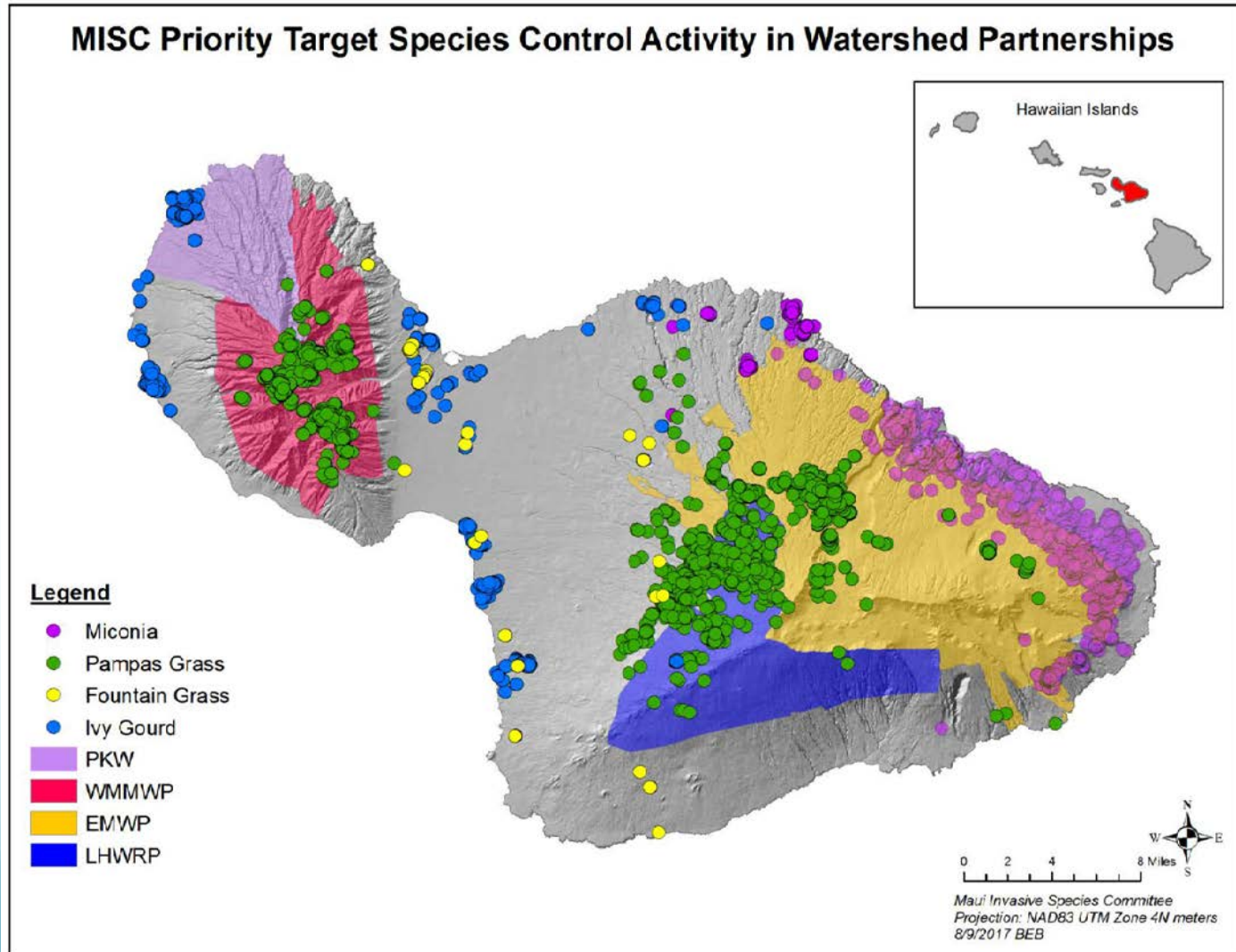
West Maui/Mauna Kahalawai Watershed Partnership

- 70% of 33,051 acres native Hawaiian forest
- Ungulate and invasive weed control
- Native plant restoration
- Ungulate, invasive weed, biocontrol dispersal and water quality monitoring
- Public outreach



Invasive Weed Containment

- Monitor and remove spread of *miconia calvenscens* and other invasive target species (pampas grass, fountain grass, ivy gourd)
- Public outreach



Disease Resistant Koa and Ohia

- Seed reconnaissance surveys and collection
- 5 existing resistant Koa sites
- Develop disease resistant Ohia populations

