

The background image shows a volcanic landscape with a large, dark stone wall in the foreground, palm trees, and a mountain range in the distance under a cloudy sky.

Cultural Landscape Rehabilitation Through Restoration of Native Ecosystems

Kaloko-Honokōhau National Historical Park

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Kaloko-Honokōhau National Historical Park

– Setting

- ~600 ac terrestrial; ~600 ac marine
- Five *ahupua`a* (land divisions)

– Cultural Resources

- National Historical Landmark
- ~428 identified cultural sites

– Natural Resources

- Coastal terrestrial & marine habitats
- Two ancient Hawaiian Fishponds and wetlands
- Endemic & indigenous biota including 16 threatened, endangered and candidate species



Vegetation Composition

Total Vegetation 444 acres

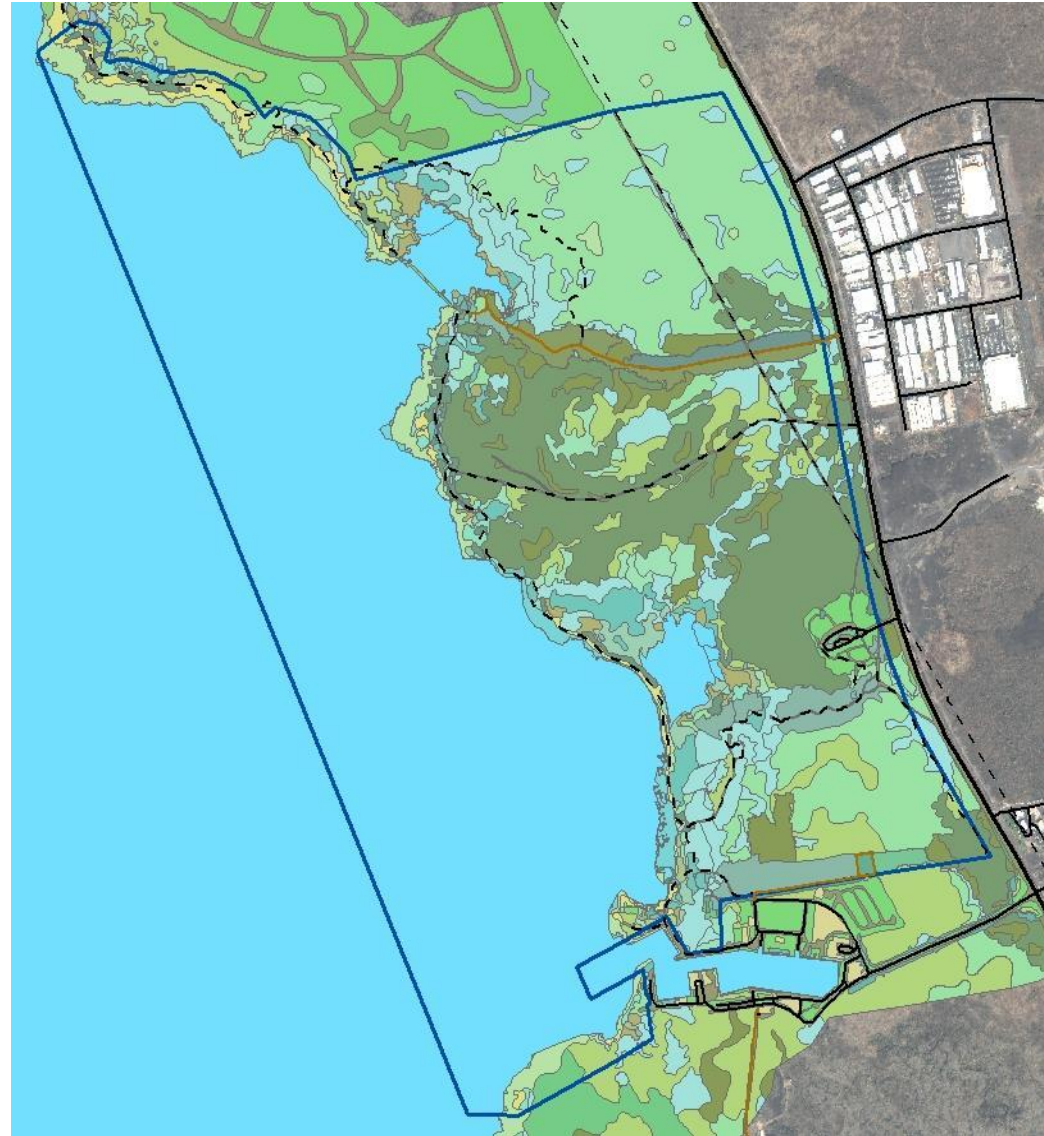
DRYLAND FOREST

- Kiawe ~96 ac
- Fountain grass ~49 ac
- Haole koa ~172 ac
- Christmas berry ~15 ac

WETLANDS

- Batis & Paspalum ~22 ac

LAVA –Bare or sparsely vegetated lava ~218 ac



Hawaiian Fishponds: Kaloko and 'Aimakapā



Hawaiian Fishponds: Kaloko and 'Aimakapā



Clearing and Control Methods



IPM Approach

- Mechanical
- Manual (staff & community stewards)
- Weed flaming
- Chemical
 - Only herbicides approved for use in wetlands used throughout park
 - Conservative approach
 - No herbicides used in wetlands areas to date



Challenges and Limitations

Cultural sites and T&E species require protective measures for vegetation work.



Sites are avoided and ground protection measures are used to protect surfaces.

Challenges and Limitations

Access limited to foot and UTV = large amount of person-hours to clear sites.

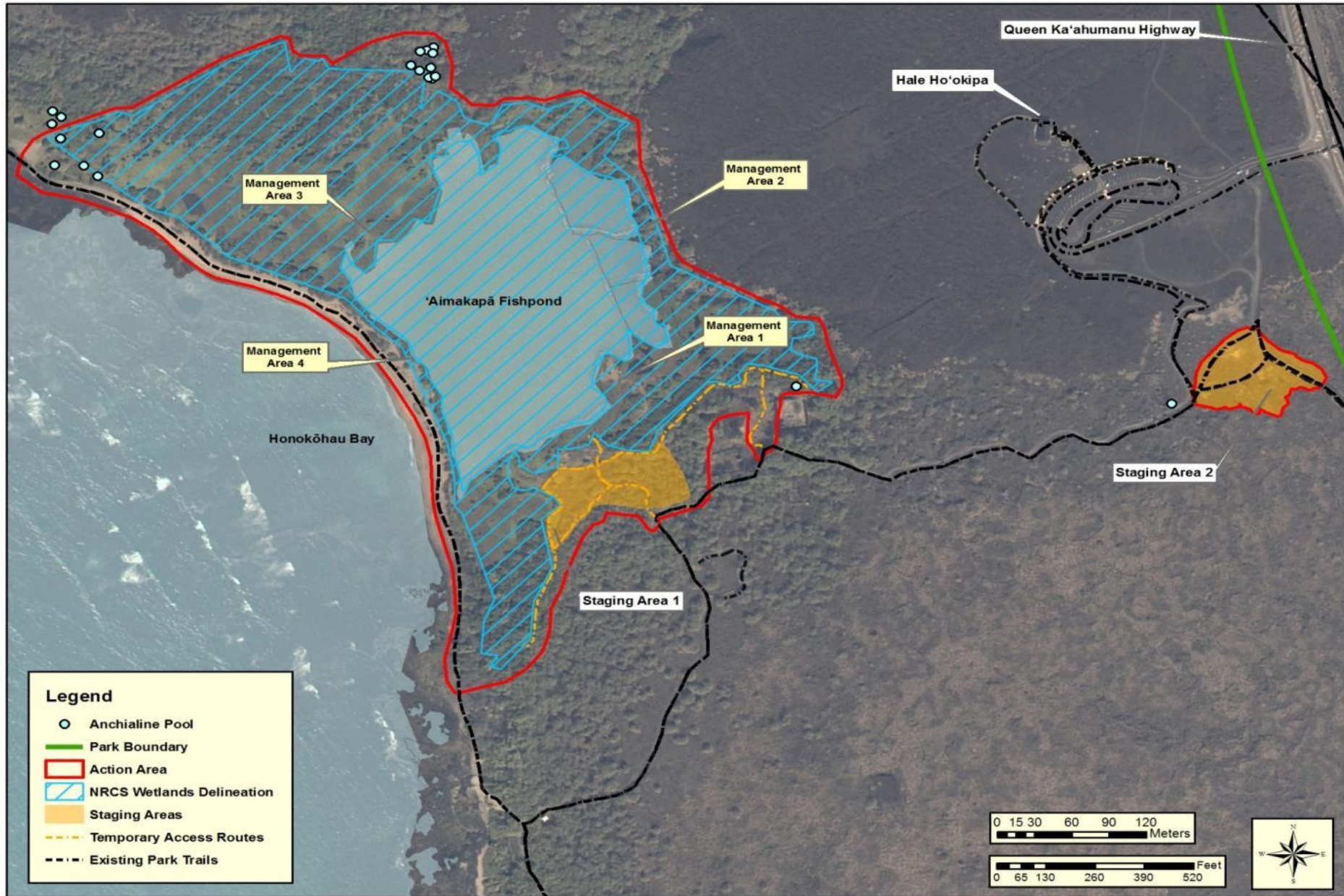


45% to 82% of time is spent hauling material out
-Dependent on species, site access and area size (Leary & Gross 2013).

Challenges and Limitations



Mālama 'Aimakapā: Wetlands Restoration



Mālama ‘Aimakapā: Wetlands Restoration



Fishpond Restoration: Community

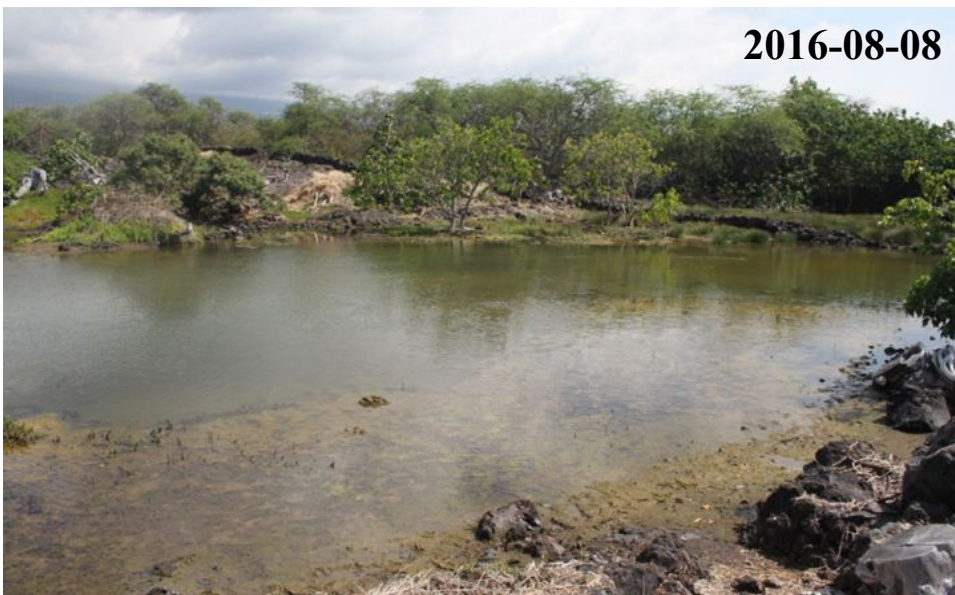


Mālama Kaloko Fishpond-Community Workdays

2015-09-19



2016-08-08



Restoration: Native Plant Regeneration



- Wetlands native plant reserve and seed bank is excellent.
- Augmented with nursery outplants of less common species.



Restoration: Native Plant Regeneration and Outplanting



2003



2017



A photograph of a colony of black-necked stilts in a shallow, rocky wetland. The birds are standing in the water, with their long legs and black-and-white plumage clearly visible. The water is calm, reflecting the birds and the sky. The foreground shows a rocky shoreline with some water pooling between the stones.

Mahalo! Questions?