West Maui Fire Prevention and Post Fire Erosion Stabilization Supply Procurement and Native Seed Hydro-mulch Trials to Reduce Potential Sediment Erosion

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PROJECT OVERVIEW

In West Maui, it is not a question of "if" there will be a wild land fire, rather "when". Lands cleared by fire are open to mass erosion in rain events, which can contribute to the sediment deposited on coral reefs below.

In Sept. 2014, a post-fire rehabilitation plan was completed for Honokōwai and Wahikuli watersheds to define who will do what, where and how to minimize the time between a fire, and erosion control measures on the ground. While the actions and organizational needs are outlined, without the materials to install erosion control measures, or funds to carry out the top recommendations for reducing the risk of wild fire, planning alone will be ineffective. This project is needed as Phase 2 of the priority project identified in the Wahikuli-Honokōwai Watershed Management Plan to secure and store the necessary supplies to enable an immediate erosion control response, as well as take steps towards prevention.

RESULTS

Collected native seed for use in post fire-restoration totally ~500,000 aalii seeds, a 5 gallon bucket of koa seed, and 4.5 viles of ohia seed.

Purchased and tested hydromulcher technology with native seeds as a means to innovatively disperse native seeds more efficiently.

Developed protocols and methods to collect, process and store native to maximize shelf life and efficiency.

Built consensus amongst West Maui Fire Prevention Task Force partners on response plan following wildfire to expedite a coordinated soil stabilization response.

Engaged 100s of community members and youth in native seed collection and sorting.

PROJECT GOALS AND OBJECTIVES

1. Develop the structure for a post-fire response team and create "go-time" plan
2. Secure, test and store post-fire stabilization materials
3. Mitigate pre-fire hazard by managing vegetative fuels

Figure 1: Pu`u Kukui Watershed Preserve staff and local students harvest ohia lehua seeds for storage in preparation for propagating following a fire

MANAGEMENT OUTCOMES

This project achieved a key management need by developing the methods, infrastructure and equipment needed, along with a significant supply of native seeds that will be critical to stabilizing the landscape in West Maui following a fire. Having the seed stock and means to distribute broadly is the first step in being able to prevent mass erosion that can be deliver large sediment loads to coastal ecosystems. Given than fire is, and will continue with climate change to be a meaningful threat to this landscape, this project represents a meaningful step towards addressing this management concern.

Future management needs include maintaining sufficient quantities of native seeds to enable a large scale planting when needed, and keeping a current list of landowners and partners across West Maui who would be mobilized for support following a fire.