

Meris Bantilan-Smith¹, Greg Bruland¹, Rich MacKenzie², Christina McGuire³, Adonia Henry⁴, Connie Ramsey⁵

¹University of Hawai‘i at Mānoa, Honolulu, HI, ²Institute of Pacific Island Forestry, U.S. Forest Service, Hilo, HI, ³Pacific Coast Joint Venture, Honolulu, HI, ⁴U.S. Fish and Wildlife Service, Honolulu, HI, ⁵U.S. Army Corps of Engineers, Honolulu, HI

A Quantitative Investigation and Inventory of the Soils and Vegetation of Coastal Lowland Hawaiian Wetlands. Coastal lowland wetlands are important features in the landscape that provide numerous functions for people and wildlife, including water quality improvement, flood attenuation, wildlife habitat, and biological productivity. Due to the loss and degradation of wetlands throughout the Hawaiian Islands, created (CWs) and restored (RWs) wetland projects are becoming more common. A comprehensive, quantitative assessment of the conditions of these wetlands has yet to occur and it has not been resolved whether CWs and RWs provide the same environmental and ecological benefits as NWs. In light of this deficiency this project seeks to assess the current water quality and habitat functions of CWs, RWs, and semi-natural wetlands in Hawai‘i. Approximately 40 coastal wetlands sites on each of the five major Hawaiian Islands (Kaua‘i, O‘ahu, Moloka‘i, Maui, and Hawai‘i) were intensively sampled. The sampling consisted of collecting soil samples and assessing percent cover of vegetation across two transects that spanned the major hydrologic gradients at each site. Preliminary results revealed that vegetation communities were dominated by exotic, invasive species and that there were significant differences in soil across the hydrologic gradients and among the different types of sites. Soil samples and vegetation data will be further analyzed to evaluate whether the water quality and habitat functions performed by the different wetland types significantly differ between wetland types and among different islands.