## Michael J. Reyes, M.S., PWS Senior Ecologist/Principal Maui Environmental Consulting, LLC

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Maui Environmental Consulting, LLC Paia, Hawai'i Principal/Senior Ecologist 2014-Present

Flatwoods Consulting Group, Inc., Tampa, Florida Ecologist 2009-2014

#### **Expertise**

Wetland Delineation

Natural Resource Management

Water Quality Assessment

Ecological Data Analysis

Aquatic Systems Evaluation

Wildlife Ecology

Geographic Information Systems (GIS)

#### Education

M.S., Environmental Science and Policy, University of South Florida, 2012

B.S., Biology, University of South Florida, 2002

#### Certifications

Professional Wetland Scientist (PWS#2303)

### Memberships & Affiliations

Mālama Haleakalā Foundation – Executive Director 2023-present

Nā Kai 'Ewalu Hawaiian Canoe Paddling Club – Board of Directors Vice President 2018-2022

Hawai'i Association of Environmental Professionals (HAEP) Member since 2014

Maui Axis Deer Task Force Watershed Representative



As the senior ecologist and principal owner of Maui Environmental Consulting, LLC (MEC), Michael Reyes' educational and professional experiences have provided him with an extensive background in several aspects of ecology and water quality. He has experience in environmental assessments, listed species surveys, Low Impact Design (LID), water quality evaluations, surface water monitoring, and numerous wetland delineations/evaluations. Mike has been certified by the National Society for Wetland Scientists as a Professional Wetland Scientist (PWS#2303). He is proficient in the use of Geographic Information Systems (ArcGIS) and Global Positioning Systems (GPS) technologies. Other areas of proficiency include watershed management plans and implementation, Microsoft Office applications, and water quality instruments including multi-parameter sampling units and turbidimeters. A short list of representative projects Michael has completed in his role as Senior Ecologist at MEC is provided below.

# Project Senior Ecologist – Wetland Delineation Services, Various Counties, Hawai'i

Michael has delineated numerous wetlands throughout the State of Hawai'i. These wetland delineations were conducted in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Wetlands Delineation Manual and the 2012 Supplement for the Hawai'i and Pacific Islands Region. Within Maui County, these delineations were also conducted to adhere to Ordinance 5421. Wetlands observed in the field were marked with wetland flags used to depict wetland limits and were recorded using a global positioning system. This data was then used to create an ArcGIS map depicting the jurisdictional limits of wetlands within the project boundary. Wetland Delineation reports were then submitted to the USACE to receive formal Jurisdictional Determinations.

# Project Manager – Pulehu, Kula, and Olinda Fire Recovery Efforts, Maui County, Hawai'i

Working with the Central Maui Soil and Water Conservation District (CMSWCD) and the U.S. Natural Resource Conservation Service (NRCS), Michael is currently providing project coordination, contractor management, monitoring of work being implemented, technical support and final reporting for the Pulehu, Kula, and Olinda Fire recovery efforts as outlined in the November 2023 Emergency Watershed Protection Plans (EWPP) provided by the Natural Resource Conservation Service. This 15 million dollar project addresses impacts from the August 2023 wildfires that burned thousands of acres on Leeward Haleakala.

### Senior Ecologist - Watershed Management Planning, Maui County, Hawai'i

Michael has written the Southwest Maui Watershed Plan (approved in 2019), the Pōhākea Watershed Management Plan (approved in January 2023), and the Māʿalaea Bay Watersheds Management Plan (approved in December 2023). With the goal of identifying sources of pollution and providing management recommendations to improve water quality, stakeholders within the community can now seek federal 319 grant funding to combat pollution. Totaling 100,680 acres, all aquatic resources flowing from the southeast peaks of Mauna Kahālāwai and the southwest peaks of Haleakalā to the shorelines stretching from Mākena Beach to beyond McGregor's Point are now included in a watershed management plan. These plans have been approved by the Hawai'i Department of Health Clean Water Branch and by the United States Environmental Protection Agency. This work included geospatially modeling pollutant load reduction estimates for each implementation project listed in the watershed plans, developing a robust monitoring and assessment plan to capture the effects of the watershed plan implementation projects, creating various ArcGIS maps, and developing a project timeline with milestones for determining project progression.

## Michael J. Reyes, PWS, M.S. Maui Environmental Consulting, LLC Principal/Senior Ecologist

### Senior Ecologist - Wetland Rapid Assessment Procedure, Maui County, Hawai'i

Michael developed and employed a Wetland Rapid Assessment Procedure (WRAP) to quickly assess historical, cultural and ecological indicators of wetland health along the Olowalu-Ukumehame-Papalaua wetland complex. The purpose of this report was to provide supporting ecological evidence and recommendations for wetland restoration with regards to the future relocation of the Honoapi'ilani Highway. This work was conducted at the request of The Nature Conservancy.

### Senior Ecologist - Wetland Delineations, American Samoa

At the request of the American Samoa Government, Department of Commerce, Michael has delineated wetlands occurring in numerous villages across the territory. The purpose of each site visit was to determine the jurisdictional limits of wetlands in accordance with the USACE 1987 Wetlands Delineation Manual and the 2012 Supplement for the Hawai'i and Pacific Islands Region. American Samoa Coastal Management Program (ASCMP) personnel were also trained on the methods employed.

### Senior Ecologist - Kēōkea Gulch Riparian Rehabilitation

Michael is currently utilizing R-1 wastewater from the Kihei Wastewater Treatment Facility to grow native plant species on seven acres just mauka of Piilani Highway in Kihei, HI. Plant species include aalii, ilima, uhaloa, miapilo, wiliwili, ohe makai, naio, alahe'e, koaia, 'āweoweo, and koali. This project has several ecological benefits including the reuse of R-1 water that would normally be discarded via injection well, trapping soil and reducing erosion within the riparian corridor of Kēōkea Gulch, and establishing dryland native species on the leeward slopes of Haleakala.

### Senior Ecologist - Low Impact Design Education and Outreach

Michael worked with the Hawai'i Department of Land and Natural Resources Division of Aquatic Resources to build the technical capacity of Maui County stakeholders to implement LID and align incentives to encourage widespread adoption of LID best management practices (BMPs) across public and private landscapes. This is accomplished by training County employees in LID through their participation in training exercises, by designing incentives to integrate LID methodologies into County ordinances and watershed management planning efforts, and by working with private landowners, developers, and engineers on Maui to plan LID on their properties.

### Senior Ecologist - Honolua Bay / Lipoa Point Stormwater Management Plan, Maui County Hawai'i

Michael created a stormwater management plan for the State of Hawaii's newly acquired Honolua Bay / Lipoa Point lands located north of Kapalua in the West Maui Mountains. The purpose of this stormwater management plan was to identify and offer management strategies for the various stormwater related sources of erosion and sediment currently observed within the Honolua Bay / Lipoa Point project boundary. On-site review of observed indicators of erosion, sources of sediment, Department of Health Clean Water Branch (DOH CWB) water quality data, Geographic Information System (GIS) data, local community expert information, and historical literature for the project were reviewed in the preparation of the stormwater management plan.

### Project Ecologist - Habitat Conservation Plan Implementation, Maui County, Hawai'i

This Habitat Conservation Plan (HCP) addresses anticipated impacts to state and federal threatened, endangered, and listed species from the construction of the Daniel K. Inouye Solar Telescope (DKIST) at the Institute for Astronomy (IfA) Haleakalā High Altitude Observatory (HO) on Maui, Hawai'i. In implementing this HCP, Michael collected and managed noise and vibration data from construction occurring in close proximity to Hawaiian Petrel habitat. He also monitored bird activity and behavior utilizing video surveillance technology. In addition, he deployed bird carcasses as part of a Searcher Efficiency trial (SEEF) and conducted Carcass Retention (CARE) trials.

### Senior Ecologist -Listed Species Surveys, Various Counties, Hawai'i

Michael has conducted numerous listed species surveys throughout Hawai'i to identify the presence and relative abundance of species considered Endangered, Threatened, or of Special Concern by the U.S. Fish and Wildlife Service (FWS) under Title 50 Code of Federal Regulation (CFR) 17.11 and 17.12 or by the Hawai'i Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW) under Hawai'i Administrative Rules (H.A.R.), Chapter 195D.