

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

Maui Environmental Consulting, LLC
Paia, Hawaii
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

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

Hawaii 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 stormwater 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 are provided below.

Watershed Coordinator – Southwest Maui Watershed Plan, Maui County, Hawai'i

Michael was asked by the Central Maui Soil and Water Conservation District to prepare the Southwest Maui Watershed Plan for approval by the Hawaii Department of Health Clean Water Branch and by the United States Environmental Protection Agency. The watershed plan provides sediment reduction measures for the 49,688-acre planning area extending from the summit of Haleakalā to the coastal areas of Kihei, Wailea, and Makena. This work included geospatially modeling pollutant load reduction estimates for each implementation project listed in the watershed plan, 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. The Southwest Maui Watershed Plan was approved by the Hawaii Department of Health Clean Water Branch in 2019.

Senior Ecologist – Pohakea Stormwater Management Plan, Maui County, Hawaii

Michael recently completed the Pohakea Stormwater Management Plan for the Pohakea watershed which discharges into Maalaea Harbor and Maalaea Bay. This study was requested by the Maui Nui Marine Resource Council and involved a review of the current landscape conditions effecting water quality within Maalaea Bay, focusing on erosion and sediment transport caused by surface water flow during stormwater events. Results from the study included an extensive list of implementation projects designed to address non-point source pollution throughout the watershed designed to improve water quality in both the harbor and the bay. Using the Plan when applying for grant funding, Maui Nui Marine Resource Council was able to raise over \$700,000 to implement projects proposed in the Plan.

Senior Ecologist – Keokea Gulch Riparian Rehabilitation

Michael is currently utilizing R-1 wastewater from the Kihei Wastewater Treatment Facility to grow native plant species on five acres just mauka of Piilani Highway in Kihei, HI. Plant species include aalii, ilima, uhaloa, miapilo, wiliwili, ohe makai, naio, alahee, koaia, aweoweo, 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 Keokea Gulch, and establishing dryland native species on the leeward slopes of Haleakala.

Senior Ecologist – Low Impact Design Education and Outreach

Michael worked with the Hawaii 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

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Principal/Senior Ecologist

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 Hawaii

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 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 – Hawaiian Waterbird and other Listed Species Surveys

Working for a major Hawaiian construction company, Michael was asked to assess the potential occurrence of Hawaiian waterbird species on the Department of Transportation Opaeka'a Bridge Rebuild Project on the island of Kauai. The purpose of this survey was to identify the presence and relative abundance of Hawaiian waterbird species associated with the project location and surrounding habitat. A summary report from these surveys was prepared for submittal to the U.S. Fish and Wildlife Service.

Senior Ecologist – Underground Injection Control Water Quality Monitoring

Michael is currently working with a GOLD New Construction Leadership in Energy and Environmental Design (LEED) certified resort in West Maui. The resort uses geothermal heat rejection to replace the need for chillers and cooling towers (which emit harmful greenhouse gases and are among the top consumers of water and electricity at resorts) to provide cool air conditioning throughout the 393-villa resort while saving thousands of gallons of water every day. As part of the permitting requirements associated with this air conditioning system, Michael conducts water quality sampling in accordance with the Hawaii Department of Health Safe Drinking Water Branch permitting program.

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. 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.

Scenic Resources Analyst - Scenic Resources Inventory and Mapping Project, Hawai'i County, Hawai'i

Working with Hawai'i County and Planning Consultants Hawai'i, LLC., Michael identified and inventoried Hawai'i County's scenic, viewshed, and open space resources from major roadways and other appropriate public spaces using digital photography and GPS technology. Michael then used ArcGIS to build a digital map interface of scenic resources incorporating quantitative and qualitative field data and photographs for over 300 scenic resource locations on the Big Island.