Delta Science Fellow 2020

Martin Volaric, PhD

Project

My project focuses on nitrogen and carbon cycling within the Bay-Delta, both before and after planned 2021 upgrades to the Sacramento Regional Wastewater Treatment Plant (SRWTP). We will measure *in situ* benthic nitrate (NO_3^-) and oxygen (O_2) fluxes using a new non-invasive technique, which provides high frequency continuous data over a much larger sediment surface area than traditional methods.

Timeline

2020-2021 Begin benthic flux measurements to establish baseline values for the Delta before SRTWP upgrades.

2021-2022 Continue measurements following SRTWP upgrades to capture and assess immediate impacts.

Impacts

The SRTWP currently represents one of the largest point sources of nitrogen to the Bay-Delta, with the upgrades projected to cut nitrogen outputs from the plant by ~65%. This project will help assess the efficacy of this major management action and our results will add to biogeochemical models for the Bay-Delta.

Post-Doctoral Fellow *Stanford University/ San Francisco Estuary Institute (SFEI)*

Focus Nitrogen cycling and ecosystem metabolism before and after regulatory action

Award $231,399

Research Mentor
Dr. Stephen Monismith, *Stanford University*

Community Mentor
Dr. David Senn, *SFEI*

"Our goal is to help inform local resource managers on the efficacy of SRTWP upgrades, aiding in future management actions."

Delta Stewardship Council
Delta Science Program

Sea Grant California