

DELTA SCIENCE FELLOW 2020

JULIE SHAHAN



PROJECT

My project aims to improve understanding of atmospheric and hydrologic carbon fluxes in a restored tidal salt marsh in the South San Francisco Bay. I will use soil chambers to measure how much carbon dioxide and methane is taken in and emitted from the marsh. I will also examine how spatial variability in marsh surface cover impact these exchanges.

TIMELINE

2020 Record soil chamber measurements of carbon dioxide and methane exchange.

2021 Analyze data. Communicate results.

IMPACTS

We will use the data collected in this study to create a biogeochemical model that estimates the carbon budgets of wetlands in the Bay-Delta. A complete carbon budget will illuminate relationships between carbon fluxes and environmental variables. This information can support more informed management of wetlands, as well as allow us to more effectively plan wetland restoration to be effective in managing carbon fluxes in the face of possible impacts due to climate change.



Masters Fellow *California State University, East Bay*

Focus Wetland carbon sequestration and impacts of climate change

Award \$47,425

Research Mentor

Dr. Patty Oikawa, *CSU East Bay*

Community Mentor

Dr. Lisamarie Windham-Myers, *United States Geological Survey*

"The results from this study will be useful for management of existing restored tidal wetlands and for future restoration projects in the Delta."



DELTA STEWARDSHIP COUNCIL
DELTA SCIENCE PROGRAM

