DELTA SCIENCE FELLOW 2017

Delta Stewardship Council
Delta Science Program

Sea Grant California

Jessica Rudnick
Doctoral Student
University of California, Davis

WHY THIS RESEARCH MATTERS

In the Sacramento-San Joaquin Delta, agriculture is the dominant land use. Improved soil health management displays substantial potential to provide environmental benefits (e.g. carbon sequestration, water retention and filtration, subsidence reversal) and help agriculture become more resilient to climate change. Therefore, understanding the factors influencing farmers' adoption of soil management practices is critical to building collaborative solutions to current and future climate and water challenges.

Managing agricultural soils for carbon and water benefits in the California Delta: Understanding influences on decision-making and practice adoption of in-Delta farmers

STATUS
Started April 1, 2017

PROJECT COST
$105,041

RESEARCH MENTOR
Mark Lubell,
University of California, Davis

COMMUNITY MENTOR
Michelle Leinderfelder-Miles,
UC Agriculture of Natural Resources & Contra Costa Resource Conservation District

Mixed vegetable farm using conservation practices, including cover copping and inter-planting of beneficial native plants between strawberry rows to attract pollinators and increase field-level diversity. ***Courtesy photo***

This project will investigate and analyze the major factors contributing to decision-making and adoption of soil management practices by farmers in the Delta. Specifically, researchers will:

1. Develop a qualitative understanding of key influences and barriers to the adoption of improved soil health management practices.
2. Conduct a survey with in-Delta growers to assess current use of soil management practices and the environmental and economic benefits and challenges associated with each.
3. Characterize drivers of grower decision-making and practice adoption.
4. Quantify the potential opportunity for improved environmental benefits resulting from improved soil health management.

The findings will help guide practice and policy designed to protect the future health of both the natural ecosystem and human-made landscapes of the Delta.