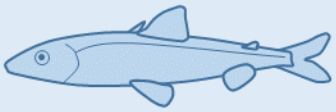
# 2019 Competitive Research Awards

The Delta Stewardship Council (Council), the California Department of Fish and Wildlife, and the U.S. Bureau of Reclamation (Reclamation) are pleased to award approximately $17 million to fund 26 critical scientific studies in the Sacramento-San Joaquin River Delta and Suisun Marsh over the next three years. Of these, the Delta Science Program is awarding approximately $9.6 million to fund 15 projects, with Reclamation contributing almost $2 million toward four of these projects.

*"With these new projects, we expect to fill important knowledge gaps that will continue to allow decision makers to make forward-looking management decisions based on the best available science" – Delta Lead Scientist John Callaway*

Research topics include:

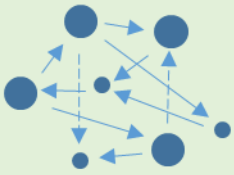


## Native Fish

**Enhanced monitoring and knowledge on how tides and flows influence salmon** to better guide water project operations.

**Improved green sturgeon monitoring methods** to support their recovery and management.

**New tools to distinguish different runs of Chinook salmon** to improve our ability to protect their diversity.



## Food Webs

**Fill knowledge gaps about food web dynamics** to determine if food availability is a limiting factor in fish recovery.

## Levees

**New methods for levee hazard assessments** to ensure wise investments.


## Climate Change

**A multi-year carbon budget for a tidal marsh** that will help managers better predict how climate change affects carbon capture.

More

## Restoration

**How habitat restoration affects the food web,** allowing for better restoration project location and design.

## Aquatic Vegetation

**Satellite-based monitoring of vegetation** to measure progress toward restoration habitat goals.

## Recreation

**Quantifying the economic benefits of hunting on restored sites** as a means to evaluate multi-benefit projects.

## Water Quality

**How combinations of contaminants affect fish health** to guide fish recovery plans and pesticide regulations.

**Fill knowledge gaps about nutrients, sediment, mercury, and salinity** to enhance monitoring tools for improved water quality management.

Projects went through a rigorous and competitive selection process by multiple panels of subject matter experts and were chosen based on their potential to fulfill knowledge gaps and needs identified by the 2017-2021 **Science Action Agenda.** The Science Action Agenda prioritizes and aligns science actions to inform management decisions for the Sacramento-San Joaquin Delta. The five Science Action Agenda action areas are:


Human Dimensions


Science Synthesis


Habitat Restoration


Stressors, species, and communities


Monitoring, data management, and modeling

http://deltacouncil.ca.gov/delta-science-joint-proposal-solicitation
http://scienceactionagenda.deltacouncil.ca.gov/