



The Delta Science Program will host four Sea Grant State Fellows in 2023

Background

The Sacramento–San Joaquin Delta along with the San Francisco Bay, is part of the largest estuary on the West Coast of the Americas. The “Bay-Delta” supplies two-thirds of California’s water and provides vital habitat for endangered, endemic, and migratory species such as Chinook salmon and Sandhill cranes.



The **Delta Stewardship Council** (Council) is a state agency whose mission is to support a more **reliable statewide water supply** and a **healthy and resilient ecosystem**, both achieved in a manner that protects and enhances the unique characteristics of the **Delta as an evolving place**. The **Delta Science Program** (DSP) is a division of the Council and functions as a boundary organization with a mission to provide scientific information, independent peer review, and syntheses on issues critical for managing the Bay-Delta system. The DSP also leads efforts to build an open, integrated, and collaborative Delta science community.

The DSP has hosted fellows for the past ten years and provides a welcoming, collaborative and exciting work environment. Past fellows have enjoyed touring the Delta, taking professional development courses, attending seminars and conferences, and assisting partner agencies with field work. As one of four Science Program fellows, you will work at the interface of science and policy - **synthesizing, reviewing, coordinating, funding, and communicating science** on several high-priority issues, including:

- Climate change
- Sea level rise
- Water supply reliability
- Habitat restoration
- Endangered species
- Non-native and/or invasive species
- Fisheries management
- Integrated modeling
- Human dimensions of natural resource management

As California’s capital, Sacramento is a hub for environmental science and policy. The DSP provides fellows with opportunities to build their professional network as they engage with collaborators from a range of state, federal, and local agencies including the National Oceanic and Atmospheric Administration, the California Department of Fish and Wildlife, the United States (U.S.) Fish and Wildlife Service, U.S. Bureau of Reclamation, U.S. Geological Survey, California Department of Water Resources, and the State Water Resources Control Board), as well as consulting firms, academia, NGOs, and others. Many fellows have gone on to work with these partners.



Position 1: Science Communication, Synthesis, and Decision-Support Unit

This unit has three primary areas of emphasis: 1) enhance science communication among multiple stakeholders in the Bay-Delta system, including scientists, managers, decision-makers, and the public, 2) facilitate and participate in the analysis and synthesis of scientific information to inform management and decision-making, and 3) facilitate cooperative decision-making by supporting open science and integrated modeling initiatives. The fellow will have the option of working on one of the above core functions or a blend of tasks according to their interests and goals. The position also provides an opportunity to work directly with the Delta Lead Scientist (Dr. Laurel Larsen) on [monthly reports to the Council](#) that summarize recent science efforts around the Delta as well as water supply metrics and ecological indicators.

Host Headquarters Location: 715 P Street, Sacramento, California

Fellowship Supervisor & Point of Contact: Maggie Christman, Program Manager II, Maggie.Christman@deltacouncil.ca.gov, (916) 320-6174

Potential Projects

- Communicate science facilitated or funded by the DSP in creative and accessible formats for a variety of audiences (i.e., lay abstracts, infographics, briefs or fact sheets, web content, and seminars).
- Participate in [synthesis](#) efforts ranging from technical data integration projects and analyses (e.g., [Synthesis Working Groups](#)) up to organizing summaries of the 'state of the science' underlying topics of management concern (e.g., the [State of Bay-Delta Science](#)).
- Support initiatives related to open science, science activity tracking, or integrated modeling, such as the Delta Science Tracker, [Integrated Modeling Steering Committee](#), and development of a virtual modeling collaboratory.
- Participate in organizing the biennial [Bay-Delta Science Conference](#), the region's primary science conference connecting science and management.
- Support Delta Stewardship Council social media, including organizing regular "Ask-Me-Anything" Sessions with the Delta Lead Scientist (visit the @deltacouncil Instagram site to view a recording under the IGTV tab) or to highlight Delta science (see @DeltaCouncil Science Fridays #scifri on Twitter).

Examples of Previous Fellows' Projects

- Creation of a website ([A Beginner's Guide to the Delta](#)) to serve as a resource for those interested to learn more about this integral place in California
- Authoring a synthesis study modeling juvenile Chinook salmon migration to inform fisheries management and development of a complementary [Shiny App](#)
- Organization of a seminar series to explore a specific theme of importance to managing the Bay-Delta system
- Leadership and facilitation of interagency working groups (e.g., the Remote Imagery Collaborative)



Position 2: Collaborative Science and Peer Review Unit

The Collaborative Science and Peer Review Unit is working on several exciting and challenging efforts focused on: 1) catalyzing coordination and collaboration with a diverse set of stakeholders and agencies to develop the 2024 [Delta Science Plan](#), 2) supporting science activities and [funding](#) of priority research aligned with the 2022-2026 [Science Action Agenda](#), 3) facilitating [independent scientific peer reviews](#) of programs, plans, and reports, 4) implementing the Delta Science Program's science funding strategy and 5) synthesizing scientific information to generate best available science for informing water and environmental resources decision-making. A fellow in this unit will engage in our unit's collaborative interagency initiatives and may lead an independent project that leverages their unique skillset and interests.

Host Headquarters Location: 715 P Street, Sacramento, CA

Fellowship Supervisor & Point of Contact: Henry DeBey, Environmental Program Manager I, Henry.DeBey@deltacouncil.ca.gov, (916) 996-8658

Potential Projects

Specific projects will be identified based on the fellow's expertise and interests, but may include:

- Contributing to the development of the 2024 **Delta Science Plan** which aims to collaboratively identify and implement approaches and mechanisms for fostering an inclusive, proactive and resilient Delta science community.
- Advancing the integration of **social science** to inform Bay-Delta management and policy decisions through implementing investigations on the social dimensions of the estuary, facilitating collaborative syntheses or meta-analyses of existing datasets, and supporting the Bay-Delta social science community of practice.
- Contributing to the implementation of the **Science Action Agenda (SAA)** and/or execution of **science funding mechanisms** using the SAA as a framework.
- Supporting **independent peer review efforts**, including tracking and summarizing actions resulting from independent scientific peer reviews.
- Developing guidelines and best practices for **policy-science forums** to identify scientific uncertainties, prioritize management questions, and facilitate exchange among programs and entities to promote science communication among decision-makers, scientists, and stakeholders.
- Exploring programmatic growth areas across the **interface of science, management, policy and civil society**, such as strengthening partnerships with other boundary organizations, considering approaches to fostering diversity, equity, and inclusion in science and management governance, communicating science, and identifying opportunities to engage educational institutions.
- **Synthesizing information** on ecological or social science issues in the Bay-Delta ecosystem.





Examples of Previous Fellows' Projects

- Administration of \$9 million in science funding through the 2021 Proposal Solicitation Notice (i.e., call for research proposals)
- Planning and facilitation of an inter-agency workshop on fostering diversity of subject-matter experts
- Case study of a non-critically over-drafted groundwater basin, in the context of the Sustainable Groundwater Management Act
- Development and establishment of the Delta Stewardship Council's Delta Diversity Initiative
- Multi-agency investigation of salmon behavior and migration in floodplain habitats
- Multi-agency and stakeholder [salmon gaps analysis report](#)
- Contributed to the Interim Science Action Agenda ([past fellows' promotional video](#))
- Assisted in organizing a public workshop on Sacramento River temperature modeling
- Conducted an analysis of the potential values striped bass provide to the Delta
- Collaborative science governance report and appendix to the Delta Science Plan

Summary of Delta Stewardship Council Fellowship Opportunities

Skillset opportunities emphasized in each fellowship position

Division/position	Management plan development & implementation	Meeting facilitation & coordination	Science Communication	Data analysis & synthesis	Working at the science-policy interface	Build networks with agency scientists & managers
Planning & Performance Division	Strong emphasis	Moderate emphasis	Moderate emphasis	Moderate emphasis	Strong emphasis	Strong emphasis
Delta Science Program						
Science Communication & Synthesis	Moderate emphasis	Moderate emphasis	Strong emphasis	Strong emphasis	Strong emphasis	Strong emphasis
Collaborative Science & Peer Review	Strong emphasis	Strong emphasis	Moderate emphasis	Moderate emphasis	Strong emphasis	Strong emphasis
Adaptive Management	Moderate emphasis	Strong emphasis	Strong emphasis	Moderate emphasis	Strong emphasis	Strong emphasis
Interagency Ecological Program	Moderate emphasis	Moderate emphasis	Strong emphasis	Strong emphasis	Moderate emphasis	Strong emphasis

 Strong emphasis
 Moderate emphasis



Position 3: Adaptive Management Unit and Independent Science Board Support

This unit provides support and leadership on the use of adaptive management, which is a structured, scientific approach to management that aims to produce and incorporate new knowledge into management of natural resources, and supports the Delta Independent Science Board (Delta ISB) in their reviews of adaptive management. Current work includes (1) leading collaborative interagency groups to support the application of adaptive management in habitat restoration projects in the Delta and Suisun Marsh, (2) planning a biennial conference called the Adaptive Management Forum, for communicating adaptive management outcomes and coordinating adaptive management governance, (3) evaluating and communicating “lessons learned” from past restoration efforts and water management actions, and (4) supporting the reviews of scientific programs conducted by the Delta Independent Science Board (Delta ISB). Fellows working in this unit have unique opportunities to build networks with renowned scientists on the Delta ISB as well as with many technical experts and decision-makers at other agencies through the unit-led collaborative groups.

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Fellowship Supervisor & Point of Contact: Karen Kayfetz, Environmental Program Manager | Karen.Kayfetz@deltacouncil.ca.gov, (916) 870-9036

Potential Projects

- Help to plan and facilitate meetings of the IAMIT and/or the Suisun AMAT, interagency groups who support ecosystem restoration adaptive management in the Delta and Suisun Marsh.
- Support the reviews of scientific research, monitoring, and assessment programs by the Delta ISB, which could include literature reviews, analyzing questionnaire data from the science community, coordinating interagency events (e.g., panel discussions), and creating communication products and outreach materials on Delta ISB reviews.
- Collaborate on planning the next Adaptive Management Forum or other subject-specific workshop. Plan and facilitate interactive sessions and workshops to promote dialogue about adaptive management at the landscape scale. Co-produce a meeting summary, white paper, or essay for a scientific journal.

Examples of Previous Fellows' Projects

- Contributing author of the Delta Independent Science Board's Monitoring Enterprise Review
- Facilitation of Science Needs Assessment Workshop and collaborative report writing
- Co-authorship of scientific synthesis reports on climate resilience, ecosystem restoration, and zooplankton



Position 4: Monitoring Enterprise Review and Interagency Ecological Program Communication Team

This Team is new. We will be working to improve the Science Program's capability for technically focused reviews of monitoring program surveys and to produce more consumable science communications products as outcomes from the Interagency Ecological Program (IEP) monitoring enterprise and from other collaborating entities.

The IEP is a [six Federal- and three State-Agency cooperating group](#) organized around environmental monitoring requirements within the San Francisco Bay Estuary. For over 50 years the IEP has been coordinating ecological investigations and monitoring to support the use of resources and habitats for beneficial human and wildlife use.

Since we are developing new tasks and products associated with communication of the who, where, how, what, and why, of San Francisco Estuary monitoring activities, we are looking for a creative and flexible fellow to help us define relevant topics, approaches, and products for development and dissemination. Skill in reading, summarizing, and effectively communicating technical reports and publications for use outside the professional scientific community will be useful, as will a desire to develop these skills. Interest in understanding how to improve sample designs, supporting data stewardship and dataset management, and expressing ideas for how to effectively turn survey data into management-relevant information for policymaking will serve this position well.

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Fellowship Supervisor & Point of Contact: Steve Culberson, Program Manager III,
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Potential Projects

- Work with Interagency Ecological Program (IEP) scientists to create summaries of recent research, emphasizing who is using the data and the information provided by published research articles. Examples of items for project use can be found in various places within the [IEP Web Site](#). Specific examples of summary materials developed to date can be found [here](#) and [here](#).
- Help agency scientists and managers understand how changes in monitoring protocols could affect our ability to detect ecosystem change within the San Francisco Estuary. A [recent report](#) has detailed a pilot survey review effort and is available on our website where we post IEP [Technical Reports](#). The Science Program is interested in developing capabilities to support this type of review and in helping translate the outcomes of reviews into terms that are meaningful to California water policy forums and stakeholders responsible for providing mandated monitoring.
- Participate in, collaborate with partners for, and track on behalf of the Science Program, an effort to use [Structured Decision Support Models](#) to inform management of endangered fish species within the San Francisco Estuary.