Delta Science Program
Delta Stewardship Council

2017 California Sea Grant State Fellowship Opportunity
Adaptive Management & Independent Science Board

1. Host Location and Contact Information

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4. Introduction

California's Sacramento-San Joaquin Delta is the largest estuary on the West Coast and is the hub of the state's major water supply systems. It is inextricably linked to statewide issues that affect its ability to function in a healthy, sustainable way. In November 2009, the California Legislature enacted the Delta Reform Act, one of several bills related to water supply reliability, ecosystem health, and the Delta, and created the Delta Stewardship Council. The mission of the Delta Stewardship Council is to achieve the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem (including Suisun Marsh).

The Act also established the Delta Science Program (DSP), Lead Scientist, and Delta Independent Science Board (Delta ISB). The Delta Science Program's mission is to provide the best possible scientific information for water and environmental decision-making in the Bay-Delta system, and was established to develop scientific information and synthesis for the state of scientific knowledge on issues critical for managing the Bay-Delta system. That body of knowledge must be unbiased, relevant, authoritative, integrated across state and federal agencies, and communicated to Bay-Delta decision-makers, agency managers, stakeholders, the scientific community, and the public. The Lead Scientist is responsible for leading, overseeing, and guiding the Science Program and is guided by.

The Delta ISB is comprised of nationally and internationally renowned scientists with backgrounds in ecology, biology, biogeochemistry, geology, and economics and is mandated

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"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

– CA Water Code §85054

to provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta, including Suisun Marsh, through periodic reviews of each program. It also advises the Delta Stewardship Council when requested (science/policy interface).

Position Description

The Fellow will work under the direction of the DSP Adaptive Management and Independent Science Board (AMISB) Unit to develop innovative ways of assessing Delta Science programs that support agency efforts to understand the implications of actions taken to achieve the coequal goals. As an initial step, the Fellow will meet with the AMISB Unit Manager, Lead Scientist, Chair and Co-chair of the Delta ISB to develop a mentoring plan for the year. This plan is intended to maximize the Fellow's opportunities and will be based on the needs of the AMISB Unit, the Delta ISB, and the interests and background of the Fellow. Among the opportunities for the Fellow is assisting with development of restoration adaptive management resources and engaging in restoration adaptive management activities, as well as assisting with the Delta ISB's legislatively mandated reviews.

The AMISB Unit works with staff from state, federal and local government agencies, public agencies, and stakeholders and provides advice and assistance on adaptive management for restoration projects. This includes advice on conceptual models, regional monitoring, relevant research and integration of information into restoration projects. Additionally, the AMISB Unit will be working with partners to develop adaptive management frameworks and landscape-level conceptual models.

In addition to its advisory role, the AMISB Unit currently provides support for an interagency adaptive management technical team that is developing an ecosystem restoration adaptive management program for California EcoRestore (http://resources.ca.gov/ecorestore/, http://resources.ca.gov/docs/ecorestore/ECO_FS_Overview.pdf), the initiative to coordinate and advance at least 30,000 acres of critical habitat restoration in the Delta over the next four years. The technical team, the Interagency Adaptive Management Integration Team (IAMIT), is made up of agency scientists and technical management staff and works in conjunction with the EcoRestore Steering Committee of agency leaders and resource managers that will address developing and funding an overall Delta restoration adaptive management program. The initial task of the IAMIT is to develop a white paper with recommendations for the adaptive management program by the end of 2016, but we anticipate the IAMIT will provide longer term adaptive management support for Delta restoration projects in 2017 and beyond.

Currently, the Delta ISB is reviewing overarching "themes" rather than individual projects and/or programs. As part of the review process, the Delta ISB is evaluating the structure of and coordination among science programs evaluated as part of the overarching theme. A potential result of a review may be the identification of clusters of programs that should be more effectively coordinated to maximize resources and minimize duplication of efforts. Another outcome could be identifying the extent to which programs provide all of the information needed to guide policy decisions.

The initial efforts of the Delta ISB are to structure reviews around scientific issues inherent in the Act's coequal goals of water supply reliability and ecosystem health. The Delta ISB has completed three thematic reviews:

1. Habitat restoration activities and on how adaptive management and climate change are incorporated into these activities (http://deltacouncil.ca.gov/sites/default/files/documents/files/HABITAT%20RESTORATION%20REVIEW%20FINAL.pdf);
2. Flows and fishes (http://www.deltacouncil.ca.gov/science-board/delta-isb-products); and
3. Restoration adaptive management (http://deltacouncil.ca.gov/sites/default/files/2016/02/2016-2-19-Adaptive-Management-Report-FINAL.pdf).

Subsequent reviews will focus on how climate change and adaptive management are being incorporated into programs, water supply reliability, water quality, levees, and Delta as an evolving place.

Potential Assignments

- Programs Supporting Adaptive Management of the Delta - The Fellow will have the opportunity to interface directly and work in close collaboration with DSP AMISB staff and the Board as a whole and with individual members to research governmental and non-governmental agencies and organizations that implement programs related to:
    - Restoration Adaptive Management
    - Adaptive Management
    - Water Supply Reliability
    - Water Quality
    - Levees
    - Delta as an Evolving Place
- Synthesis of Information - Opportunities will exist to synthesize information obtained from research and site visits with governmental and non-governmental staff to assist with the preparation of the Delta ISB's reports to the Delta Stewardship Council. This may also require participating in meetings and coordinating with program staff from other agencies and organizations.
- Delta Science Plan – As required by the Delta Plan, the Delta Science Program prepared a Delta Science Plan in December 2013 (http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Science-Plan-12-30-2013.pdf). The Delta Science Plan is a framework for conducting science that organizes and integrates Delta science activities and builds an open collaborative science community (One Delta, One Science). The Plan proposed 31 actions intended to strengthen, organize, and communicate science to provide relevant, credible, and legitimate decision-support for policy and management actions. Chapter 3 of the Plan describes the use of adaptive management as a tool to manage complex natural resources programs and projects and Chapter 4 discusses the necessity of building a science infrastructure. The Fellow may be asked to assist in the implementation of one or more tasks identified in the Science Plan.