DELTA SCIENCE FELLOWS PROGRAM - 2017

Request for Applications

Delta Science Program California Sea Grant College Program

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Please read this solicitation carefully as there have been changes from previous announcements.

OVERVIEW

Delta Stewardship Council

On February 3, 2010, the Sacramento-San Joaquin Delta Reform Act of 2009 took effect creating the Delta Stewardship Council (Council) as an independent state agency with the mission to achieve the coequal goals. As stated in the California Water Code section 85054, "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." Under the same legislation, the Delta Science Program replaced and became the successor to the CALFED Science Program, and the Delta Independent Science Board replaced the CALFED Independent Science Board; the latter reports to the Council.

Delta Science Program

The mission of the Delta Science Program (Science Program) is to provide the best possible unbiased scientific information to inform water and environmental decision-making in the Sacramento/San Joaquin Bay-Delta (Delta) (Appendix A) to support achieving the coequal goals. This body of knowledge must be unbiased, relevant, authoritative, integrated across program elements, and communicated to the scientific community, agency managers, stakeholders, and the public.

The Science Program's mission is carried out through funding research, synthesizing and communicating scientific information to policy- and decision-makers, promoting independent scientific peer review, and coordinating with Delta agencies to promote science-based adaptive management. As part of the Council, the Science Program assists with the development and periodic updates of the Delta Plan's adaptive management program.

In December 2013, the Delta Science Program released the Delta Science Plan (Plan) which lays the foundation for achieving a shared vision for Delta science: 'One Delta, One Science' – an open Delta science community that works collaboratively to build a shared body of scientific knowledge with the capacity to adapt and inform future water and environmental decisions. The Delta Science Plan was developed with contributors from across the diverse science community engaged in improving understanding of the complex Bay-Delta system and structuring scientific findings to inform policy and management actions. The Science Plan is composed of a three-part planning, implementation, and reporting strategy and includes the Delta Science Plan, the Science Action Agenda, and the State of Bay-Delta Science. (http://deltacouncil.ca.gov/science-program/delta-science-plan-0)

Delta Agency Science Workgroup

The 2009 legislation that created the Delta Stewardship Council also required that the Council "...establish and oversee a committee of agencies responsible for implementing the Delta Plan." In December, 2013, the Council identified a core group of state and federal agencies to compose the Delta Plan Interagency Implementation Committee

(DPIIC). The DPIIC held its first meeting on April 9, 2014. In November, 2014, the DPIIC was asked to accept an Interim Science Action Agenda (ISAA) as the foundational document to guide regional science actions. At that time, DPIIC members expressed a collective interest in taking the next steps toward prioritizing and implementing the ISAA. In response, a Delta Agency Science Workgroup (Workgroup) of key policy and science managers representing the DPIIC member agencies was formed. The subsequent efforts of the Workgroup resulted in the identification of a list of high impact science actions. This list was then refined based on feedback from other interested parties.

Delta Science Fellows Program

Since 2003, the Science Program and the California Sea Grant College Program have sponsored a fellows program for pre-doctoral students and postdoctoral researchers. The aim of the program is to bring together junior scientists with Delta agency scientists and senior research mentors in collaborative data analysis and research projects relevant to Delta policy and management, including analyses of the immense monitoring database collected and maintained by the implementing agencies. The Science Program is again seeking applications from qualified individuals to compete for fellowship opportunities. California Sea Grant will administer and manage the fellowship program on behalf of the Science Program. Fellowships will be awarded based on the intellectual merit of the application and the expected contribution to the priority issues identified by the Delta Agency Science Workgroup as well as other collaborative research projects that address emerging challenges (refer to Appendix B).

Goals

The goals of the Delta Science Fellows Program are to:

- (1) Engage highly qualified scientific talent to help advance the state of scientific knowledge on the Delta Plan policy areas and high priority science actions identified by the Delta Agency Science Workgroup and other groups. The Delta Plan covers the Sacramento-San Joaquin Delta and Suisun Marsh (Appendix A) and may include areas outside the Delta and Suisun Marsh that affect achievement of the coequal goals including the Delta watershed and critical linkages with San Francisco Bay (Appendix C);
- (2) Provide support for the training and development of scientists able to work in multidisciplinary, field-oriented and modeling-based research intended to support resource management in the Delta; and
- (3) Promote scientific partnerships across agencies, research institutions, and non-profit organizations.

To be eligible research teams <u>must</u> include a community mentor, usually an agency scientist, who has direct experience in the collection of the data to be analyzed and how the science may contribute to management issues or fundamental understanding of the Delta system. During the fellowship, the fellow, community mentor (more than one is acceptable), and research mentor will collaborate on the approved project, and together

they will provide updated progress information and drafts of any manuscripts intended for publication to the Science Program. The research mentor will be in charge of the project, providing broad oversight and review of the fellow's research and products. A mentoring plan between the fellow, the research mentor and the community mentor(s) will be required within one month after the fellowship is initiated.

Fellowship Opportunities

To achieve these goals, the Science Program and agency partners are expected to sponsor at least 6 fellows total at the pre-doctoral and post-doctoral levels in disciplines that address the 2017 research topics as described in Appendix B.

FELLOWSHIP PROGRAM

Award

The fellowship will provide up to two (2) years of support based on scope/type of projects and contingent upon the availability of funds, for both postdoctoral and predoctoral fellows, in the form of a grant/award that includes funds for a stipend and for research-related expenses. Once the funds are awarded by California Sea Grant through a cooperative agreement with the Science Program, the fellow's stipend and research related expenses will be administered by the university, college or research institution with which the fellow and/or research mentors are affiliated.

Postdoctoral fellows will receive up to \$49,500 per year stipend and pre-doctoral fellows will receive up to \$27,500 per year stipend, for a maximum duration of two years. In addition, each fellow may request funds (up to \$34,925 per year for postdoctoral fellows and \$23,265 per year for pre-doctoral fellows) for research supplies/equipment, travel and other expenses necessary for carrying out the proposed research, and attending scientific meetings including the Bay-Delta Science Conference (see "Communication of Information").

The funds for research-related costs and benefits are subject to a maximum indirect cost rate limit of 29.95%, in accordance with rates determined/set by the cooperative agreement between the Science Program and California Sea Grant. The maximum amount requested for the stipend and research and/or education-related expenses (including tuition or health benefits) should not exceed \$109,710/year for postdoctoral fellows and \$65,969/year for pre-doctoral fellows, including indirect costs.

For pre-doctoral fellows, the portion of the award provided to each fellow for tuition (unless waived), health insurance, and other university fees will be determined by each university in accordance with its guidelines. The portion of the award for living expenses will be distributed as a monthly stipend, not as salaries, wages, and benefits, by the academic or research institution affiliated with the fellow.

Continued support after the first year will be contingent on satisfactory performance of the fellow and on the availability of funds.

Applicants are strongly encouraged to use existing data sets to the maximum extent feasible. If collection of new data is part of the proposed research, the prospective Fellow should clearly explain how these new data will supplement available data, what existing data will also be used, and provide a clear rationale of why new data are essential to the research objectives.

Mentorship Program

A formal mentoring plan will be required to be submitted within one month after funds are awarded and the fellowship is initiated. The purpose of the mentoring plan is to ensure a quality experience for the Fellow that provides a springboard to a career in scientific research and/or program implementation.

A sample mentoring plan is provided in Appendix D.

2017 Priority Topic Areas

For 2017, the Delta Science Fellows Program is encouraging submission of research proposals that address one or more of the priority research topics identified in Appendix B, including high impact science actions identified by the Delta Agency Science Workgroup and others.

Delta Agency Science Workgroup High Priority Science Actions

- 1. Assessing the effects of extreme events (e.g., drought, flood, seismic events) on the Delta
- 2. Effectiveness and implications of habitat restoration actions
- 3. Life histories, habitat requirements, and food webs of Delta estuarine and migratory species in a changing landscape
- 4. Science supporting the enhancement and protection of the cultural, recreational, natural resources, and agricultural values of the Delta

Guiding Documents

Research topics need to address the science needs identified by the Delta Agency Science Workgroup, DPIIC agencies, and others as shown in Appendix B.

Additional documents that may be helpful to applicants wishing to familiarize themselves with broad and specific Delta Science Program issues include:

- Delta Science Plan: http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Science-Plan-12-30-2013.pdf
- Interim Science Action Agenda http://deltacouncil.ca.gov/interim-science-action-agenda
- Delta Plan Interagency Implementation Committee
 http://deltacouncil.ca.gov/delta-plan-implementation-committee (main page)
 http://deltacouncil.ca.gov/event-detail/11866 (May 11, 2015 during which the high priority science actions were discussed)
- Delta Independent Science Board products: http://deltacouncil.ca.gov/science-board/delta-isb-products

- 2015 Long-term Operations Biological Opinions Annual Science Review: http://deltacouncil.ca.gov/events/2015-long-term-operations-biological-opinions-annual-science-review
- Science Review of Collaborative Adaptive Management Team (CAMT) Directed Research Proposal 'Evaluations of Key Assumptions Underlying Analyses of Delta Smelt Survey Data' http://deltacouncil.ca.gov/event-detail/12084
- Independent Review of the Draft Bay Delta Conservation Plan Effects Analysis, Phase 3 Chapter 5: Effects Analysis and Associated Technical Appendices http://deltacouncil.ca.gov/event-detail/10163
- Fall Low Salinity Habitat (FLaSH) Studies and Adaptive Management Plan Review:
 - http://deltacouncil.ca.gov/event-detail/7070
- National Academies Report on Sustainable Water and Environmental Management of the California Bay-Delta: http://www.nap.edu/catalog.php?record_id=13394
- Delta Plan: http://deltacouncil.ca.gov/delta-plan-0
- Bay Delta Conservation Plan/California WaterFix/EcoRestore: http://baydeltaconservationplan.com/Home.aspx
- State Water Resources Control Board Bay Delta Plan update: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/
- Delta Protection Commission Economic Sustainability Plan: http://www.delta.ca.gov/Economic%20Sustainability%20Plan.htm
- Delta Conservancy Strategic Plan:
- http://deltaconservancy.ca.gov/docs/Delta_Conservancy_Strategic_Plan_Design ed_20June2012.pdf
- The State of Bay Delta Science, 2016 (first half published in the San Francisco Estuary and Watershed Sciences online journal: http://escholarship.org/uc/jmie_sfews
- CALFED Science Program's *The State of Bay Delta Science, 2008*: http://www.science.calwater.ca.gov/publications/sbds.html

Research Mentors

Fellowship applicants <u>must</u> include a letter of support from the research mentor they plan to work with on the proposed effort. Research mentors must be scientists actively engaged in environmental science, social studies, policy, or economics as the primary focus of their position, with a publication record in peer-reviewed scientific journals, and, for those working at academic institutions, employed at the tenure-track level of Assistant Professor or higher (academics holding non-teaching, research faculty positions and/or those permitted by their institution to serve as principal investigators on grants are also eligible to be research mentors).

Applicants for the pre-doctoral fellowship should be working with a research mentor from the academic institution at which (s)he is enrolled. Applicants for the postdoctoral fellowship may work with mentors from any academic or research institution.

Community Mentors

In addition to working with research mentors, fellows <u>are required</u> to collaborate with at least one community mentor(s) familiar with existing data and resource issues central to the proposed research. Community mentors must be people with scientific training. Current involvement with the Delta programs or agencies is preferred. Community mentors may be agency scientists (who are interested in analyzing, interpreting and/or expanding data not currently published in peer reviewed journals), restoration program managers, engineers or scientific/technical staff in environmental organizations or stakeholder associations. In many cases, people involved in generating existing data will be the most appropriate community mentors.

Fellows will work closely with community mentors, sharing ideas and progress throughout the project. Fellows may also communicate their findings and request feedback from an appropriate scientific/technical group within the Delta Science community. Examples include, but are not limited to, Interagency Ecological Program project work teams, Ecosystem Restoration Program, California Water Plan, Central Valley Flood Management Planning Program, Delta Protection Commission, Delta Conservancy, California Water and Environmental Modeling Forum.

As part of the application, applicants must identify at least one community mentor and include a corresponding letter of support from that community mentor. The apparent or demonstrated depth of collaboration with mentors is an important factor in the selection process and applicants are encouraged to enlist the community mentor during the proposal development stage. Applicants may have more than one community mentor.

Please contact Nir Oksenberg (Nir.Oksenberg@deltacouncil.ca.gov, 916.445.0715) for additional information regarding potential community mentors.

Communication of Information

BAY-DELTA SCIENCE CONFERENCE

Fellows will be required to present the results of their research at a Bay-Delta Science Conference (2018) or State of the Estuary Conference (2017 or 2019), either as a poster or oral presentation. The conferences are held between September and November in Sacramento and the San Francisco Bay area, respectively. Fellows should budget for travel to at least one conference in their application. Fellows are also encouraged to present their research at other national and international professional meetings.

PEER-REVIEWED PUBLICATIONS

Fellows are encouraged to publish results from this fellowship in the journal *San Francisco Estuary & Watershed Science*, or other open-access online journals.

DELTA STEWARDSHIP COUNCIL MEETINGS

Fellows may be asked to give a limited number of briefings to Council technical groups or agency managers in Sacramento, California. In these cases, California Sea Grant will

fund additional travel costs, if needed.

EARLY CAREER LEADERSHIP WORKSHOP

If offered, fellows will be expected to attend a 1-day Early Career Leadership Workshop and attend a Delta Stewardship Council meeting the following day at the beginning of their fellowship. This workshop helps to put research in the context of management challenges, provides training in communicating science, and advice on career opportunities and how to build a successful career in science.

ANNUAL REPORTS

All fellows must prepare annual progress reports to be submitted to the California Sea Grant Office, which will deliver these to the Science Program. The progress report will detail the grantee's research activities, provide retrospective and prospective revision of the research plan, and report expenditures. Additionally, a copy (may be electronic) of any poster/other professional submissions to that year's science conference or scientific journals will be required at the end of each year. Additional metrics specified in the Mentoring Plan should be reported.

FINAL COMPLETION REPORT

Each fellow must produce and submit to the California Sea Grant Office a final research report, deliverable to the Delta Science Program, at the end of the respective fellowship agreement period. The final report will summarize results and accomplishments of the research project, including all publications since the fellowship's inception. Additional metrics specified in the Mentoring Plan should be reported.

This is a prestigious fellowship program with past recipients going on to successful careers in agencies, universities and other organizations. Fellows are actively encouraged to maintain contact with Sea Grant as they are frequently invited to participate in review panels and other activities, wherever they may eventually reside.

FELLOWSHIP SELECTION AND APPLICATION PROCESS

Eligibility

PRE-DOCTORAL (GRADUATE DOCTORAL) FELLOWSHIPS

Prospective Pre-doctoral Science Fellows must at the time of application be in or have recently been admitted to a Ph.D. degree program in natural resources, environmental sciences, environmental policy and management, engineering, social sciences, or coastal, aquatic or related sciences at any accredited U.S. institution of higher education. Candidates must remain associated with an accredited U.S. institution of higher learning for the duration of the award.

POSTDOCTORAL FELLOWSHIPS

Prospective Postdoctoral Science Fellows must hold a Ph.D. or complete a Ph.D. before the starting date of the fellowship, in a Doctoral degree program in the environmental sciences, engineering, social sciences, or in a related field appropriate for disciplines identified under "Fellowship Opportunities." Any postdoctoral researcher may apply who is associated with an accredited U.S. institution of higher learning for the duration of the grant. Postdoctoral fellowships will not be awarded unless and until the prospective fellow has fully completed the Ph.D. degree.

Selection Criteria

The fellowships will be awarded in a competitive process to highly qualified researchers. The selection criteria will include:

- A. The quality of the research proposal including appropriateness of the approach to be used.
- B. The research mentor's demonstrated abilities in the general area of questions addressed by the proposal.
- C. The strength of academic performance and relevant academic achievement, the quality of applicant's career goal statement, and the narrative summary of experience
- D. The importance of the proposed research to science needs identified in Appendix B.
- E. The expected quality and strength of interaction that will be developed between the research institution, the community mentor and her/his organization.

Selection Procedure

Selection is highly competitive. Applications must be submitted to the California Sea Grant College Program Office no later than 4:00 pm Pacific Daylight Time, September 23, 2016. A review panel consisting of outside, independent expert reviewers, Delta Science Program leadership, and California Sea Grant leadership will be convened early in October 2016 (approximately) to review and recommend selection of finalists to the Science Program Lead Scientist, using the criteria outlined above. We anticipate awarding a combined total of approximately 6 postdoctoral and graduate fellowships total for 2017. All applicants will be notified of the selection decision early to mid-January 2017.

Timetable

September 23, 2016 (4 p.m.) - Applications due at California Sea Grant College Program Early to mid January 2017 (approximate) - Applicants notified of selection results February 2017 (approximate) - Start date: Funds awarded to the selected Delta Science pre-doctoral and postdoctoral fellows

February 2019 (approximate) – 2-year fellowship awards end.

PLEASE NOTE THAT DUE TO THE CONSTRAINTS INHERENT TO THE FUNDING SOURCE, NO TIME EXTENSIONS BEYOND DATES SPECIFIED IN THE AWARD WILL BE POSSIBLE.

Application Process and Contents

Electronic Submission

A fellowship application is required to be submitted using eSeaGrant:

http://eseagrant2.ucsd.edu

Whereas we are using a new eSeaGrant system, all PI's (research mentors) will need to register, even if previously established in our old system. Please click on the "Register" tab to get set up in the system.

Application must be made by a qualified Principal Investigator (PI) at the academic institution at which the Fellow will work as a post-doc or is enrolled as a graduate student. Typically, this will be the Research Mentor. The applicant (PI) should use the above link to register as an Investigator. As part of registration the PI will be asked to upload a CV. Please limit the CV to 2 pages maximum.

eSeaGrant provides separate pages to fill out a project summary, key personnel, yearly and cumulative budget(s), and budget justifications. These pages may require additional calculations and pop-up pages, so please allow your browser to display pop-up windows and enable JavaScript.

eSeaGrant provides sections to upload signed (endorsed) title pages, project narratives, support letters, and transcripts. These pages must be converted to PDFs before uploading to eSeaGrant. The multiple support letters required must be consolidated into one PDF before uploading.

Please use these instructions (http://go.ucsd.edu/2a2PMbs) as a guide to fill out your proposal using eSeaGrant.

For questions regarding use of eSeaGrant, please contact Miho Umezawa at (858) 534-1160; email: mumezawa@ucsd.edu

Contents of a Complete Application

Listed below are the requirements for a complete application package. Please use this as an inventory checklist to aid you in preparing the application.

1) Title or Cover Page

A signed title page must be included with the proposal. A blank copy downloadable in Excel format, labeled "DSF-2017.Cover-Page", can be found here. Please provide all requested information and obtain the required signatures. If you are applying from an academic institution, send your original proposal to your campus research office for local campus approval. The completed and signed title page must be converted to a PDF and uploaded.

2) Project Summary

The Project Summary is fillable on-line in eSeaGrant. Applicants will need to prepare separate, brief sections for objectives, methodology and rationale (referring to relevance to high priority Delta science actions [Appendix B]) to complete the Project Summary form. The project summary presents a concise description of the proposed research in a form useful to a variety of readers not requiring detailed information. The project summary is the most widely consulted description of your project.

3) Project Narrative

The Project Narrative will be a single PDF file including multiple components. The format may vary; however, applications should include the information listed below. The Proposed Research section of the Project Narrative file **MUST not exceed 12 pages** (INCLUDING illustrations, charts, tables, and figures).

- 3a) **Proposed Research** (12-page limit, not including literature citations, using 12-pt font and 1" margins, top, bottom, left and right). The format is flexible but please address the following:
 - 1. Introduction/Question/Objectives: What is the question/problem being addressed? What are the goals and objectives of the proposed research? The objective(s) should be well defined and clearly stated.
 - 2. Approach/Plan of Work: What is the anticipated approach of the proposed research? The application should present evidence that there has been thoughtful consideration of the approach to the question under study, with a timeline for meeting objectives during the requested period of support. Sufficient detail of the methodologies should be provided to facilitate an assessment of the adequacy of the approach to achieve the stated objectives.
 - 3. Output/Anticipated Products and/or Benefits: Upon commencement of the fellowship, what are the anticipated benefits to the fellow, the research mentor, community mentor(s), and the relevance of the research to policy or management of the Delta. What can be expected after year 1, or year 2? Please describe anticipated per year outcomes.
 - 4. References and Literature Citations: Should be included but will not be counted toward the 12-page limit for the proposed research.
- 3b) Explanation of how the proposed research links to the high priority actions identified in Appendix B (1-page limit).
- 3c) **Personal Statement** from the fellowship candidate that describes how this research fits into the fellow's career plans and summarizes experiences that specifically prepared the applicant for this research task (not to exceed 2 pages).
- 3d) CV from the fellowship candidate (not to exceed 2 pages). This does not count towards your 12- page limit.

4) Budget and Budget Justification

Pay careful attention to the annual budget limits noted above (see section titled Fellowship Program – Award). Budget worksheets will need to be created in eSeaGrant. A budget workbook available in **Excel** (called DSF-2017.Budget) may help in planning your budget. However, please remember that your budget submission and justification must be completed using the online form in eSeaGrant. Do not submit the Excel file as your final budget.

In eSeaGrant the fellow's stipend should be listed under "Section G-Other costs" and not under salaries and wages. Also, as applicable, indicate expected costs for expendable supplies, publication costs, and travel (please clearly identify any travel proposed outside of California).

All budget sections will require justification. The budget justification should explain all budget items in sufficient detail to enable reviewers to evaluate the appropriateness of the research-related funds being requested.

For any questions regarding your budget, please contact the Sea Grant business manager, Rose Madson, rmadson@ucsd.edu or by telephone 858-534-4601.

5) Letters of Support

The fellowship application requires that two letters of support be included. These should be collected, converted to a PDF, and uploaded in eSeaGrant.

- **5a)** Letter of support from prospective community mentor(s) (1-2 pages): A community mentor must be identified and contacted early in the project development phase and a letter of support from the community mentor(s) must be included. For questions regarding community mentors, please contact Nir Oksenberg (Nir.Oksenberg@deltacouncil.ca.gov, 916.445.0715). A list of potential community mentors that indicate a willingness to work with a fellow is available upon request.
- 5b) Letter of commitment from the research mentor: The application must include a letter from the research mentor indicating a willingness to be a mentor for the applicant, and expressing support of the proposed research project (not to exceed 2 pages). If the fellow is selected, a mentoring plan similar to the sample in Appendix D will be required within a month of starting the fellowship.
- 6) Copies of graduate and undergraduate transcripts (undergraduate transcripts are required from pre-doctoral fellowship applicants only): Transcripts are required and should be uploaded as PDFs into eSeaGrant.
- 7) **Three signed letters of academic recommendation:** It is the responsibility of the prospective fellow to arrange to have three letters of recommendation sent directly to Sea Grant by the application deadline. Referees should be aware of the academic qualifications and performance of the candidate fellow. Please identify the three referees

that will be submitting a letter of academic recommendation in eSeaGrant. Letters of reference should be sent as an attachment to an email to sgfellow@ucsd.edu

Information Contact

Additional information about the Delta Science pre-doctoral and postdoctoral fellowships may be obtained from:

Miho Umezawa Research & Fellowship Coordinator California Sea Grant (858) 534-1160 sgfellow@ucsd.edu

In addition, California Sea Grant and the Delta Science Program will host an optional webinar to review the fellowship program and application logistics on August 17 from 10am to noon.

Further information on participating in this webinar can be found at https://cc.readytalk.com/r/s3c5ddyuyal4&eom