



CA Department of Fish & Wildlife Sea Grant Fellow Opportunity Aquaculture Program

Host Location

Aquaculture Program - CA Department of Fish & Wildlife
830 S Street
Sacramento, CA 95811

Supervisor & Point of Contact for Prospective Fellows and Finalists

Randy Lovell
State Aquaculture Coordinator
(address above)
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Position Description

Aquaculture is the fastest-growing sector in global food-production, and now accounts for over half of the world's supply of seafood. Over 90% of the US demand for seafood is met by imports. California's aquaculture industry, which values its economic impact at some \$170M+, is still at a very modest level of output, and is noted for its niche character and diversity: in where it's done, in what is produced, and its response to the many market demands or applications for its products (which go far beyond seafood alone). The opportunity to expand aquaculture in California is immense, but the challenge of matching the state's many complex interests and resources to the promise of aquaculture's future opportunities demands a thoughtful and creative approach.

In conjunction with the CA Fish & Game Commission, the CA Department of Fish & Wildlife (CDFW) administers, regulates, and supports aquaculture activities throughout the state in both fresh- and marine waters, starting with Fish & Game Code §1700 (f), which declares that it is "...the policy of the state to encourage the conservation, maintenance, and utilization of the living resources of the ocean and other waters under the jurisdiction and influence of the state for the benefit of all the citizens of the state and to promote ... the development of commercial aquaculture."

In fulfillment of his statutorily-described duties (F&G Code §15100), the State Aquaculture Coordinator:

- a. promotes understanding of aquaculture among public agencies and the general public,
- b. proposes methods of reducing the negative impact of public regulation at all levels of government on the aquaculture industry,
- c. provides information on all aspects of regulatory compliance to the various sectors of the aquaculture industry, and
- d. provides such advice to aquaculturists on project siting and facility design that may be needed to comply with regulatory requirements.

A Sea Grant fellow within the CDFW Aquaculture Program will assist the Coordinator in fulfilling these duties, employing a range of creative input and administrative contributions, from policy level to direct interaction with producers and other constituents. A variety of projects and activities are in motion within the California aquaculture industry that call for an expanded team approach among the Aquaculture Program and CDFW's many regional and functional organizational units, in addition to the many federal, state, and local agencies with whom the Program and industry interact.

A sample of the Aquaculture Program's current issues and projects, and the fellow's ideal complementing skills includes:

- **The California Aquaculture Permit Guide and Virtual Permit Counter** – an interactive online guidance tool to help constituents and agency personnel navigate the aquaculture permitting process will be undergoing revision and updating from its previous printed form; contributions from the fellow may come in many forms depending on skillsets.
- **Marine Aquaculture Programmatic Environmental Impact Report** - review and coordination of agency and public comments, and the further refinement of the management and regulatory framework for marine aquaculture activities in intertidal, near-shore, and offshore environments.
- **Aquaculture Development Committee** – the multi-agency/academic/industry body employed to help provide vision and guidance to the development (or the obstacles to the development) of commercial aquaculture in California. Participation in and assistance in organizing meetings and documentation of its proceedings will be an important activity and mechanism to learn about current aquaculture activities and the molding of visions for its future development.
- **Aquaculture Program Communications & Outreach (AquacultureMatters.ca.gov)** – online tools (including website, blog, and social media) are in the process of upgrades. Communicating information that is of importance to industry constituents, state and federal agencies, legislative, and many other targeted audiences will need effective execution under close collaboration and management with other program team members.
- **California Shellfish Initiative** – a collaborative effort to expand shellfish culture resources (both commercial and native restoration activities) in the state, taking into account the many stakeholder interests involved. A broad, statewide discussion that started in mid-2013 will evolve into localized, regional planning and policy efforts continuing into the future. Communication, collaboration, and planning skills are key to the Initiative's success.
- **Humboldt Bay Pre-Permitting Project** – wherein expanded shellfish leases are being added to the local harbor district's portfolio of approved growing areas for sublease to producers. Interagency and public coordination and CEQA planning are the centerpieces of this effort.
- **Ventura Shellfish Enterprise** – following a similar model (as Humboldt) of pre-permitting lease areas for sublease to individual shellfish growers, the Ventura Port District will be assembling lease and permit applications, and environmental impact analyses, in cooperation with this office and other partnering entities, as it seeks approvals to establish a cooperative base for mussel farming, landing, and marketing. Skills in interagency and grower coordination will be strengthened through this experience.
- **Sacramento Perch Applied Genetics** – collaborative work with other Department fisheries managers, private aquaculturists, and genetics researchers aimed at restoring Sacramento Perch (a species of special concern in CA). There is an opportunity to contribute to proactive conservation effort that will build on foundation of genetics work starting now.

Activities may include: site visits; participation in meetings and discussions on policy and planning; expanding program communications to agencies and constituents; developing and revising guidance documents and informational leaflets; assisting, commenting, and planning within the CEQA process; assisting with the planning, administration, and expansion of state water bottom leases; and assistance with spatial data sharing, planning, and the integration of GIS tools & techniques for managing aquaculture activities within existing and newly-developing statewide database resources.

Successful candidates must be able to work independently, but in a coordinated, engaged, and communicative fashion with the Department's aquaculture team and its counterparts in other agencies and the industry. The team's work is heavy on communication, interaction, and policy, with little emphasis on direct scientific research. However, the ability and desire to conduct bibliographic, legal, and administrative research is a vital contribution to the Program's efforts. Superior listening and writing skills, and a desire to interact with constituents across a broad spectrum of experience will make the fellowship more rewarding for everyone.



CA Department of Fish & Wildlife - Marine Region Sea Grant Fellow Opportunity #1 Invertebrate Management Program

Host Location

Marine Region - CA Department of Fish & Wildlife
4665 Lampson Ave. Suite C
Los Alamitos, CA. 90720

Supervisors and Point of Contact for Prospective Fellows and Finalists

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Tom Mason
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Position Description

The California Department of Fish and Wildlife (CDFW) is a state trustee agency that maintains native fish, wildlife, plant species and natural communities for their intrinsic and ecological value and their benefits to people. This includes the diversified use of fish and wildlife for recreational, commercial, scientific and educational uses.

The Marine Region of the CDFW in conjunction with the California Fish and Game Commission manages and regulates the use of marine species and habitats within the coastal waters of the state. The Marine Life Management Act (MLMA) guides CDFW in the conservation and sustainable use of California's living marine resources. The MLMA states that Fishery Management Plans (FMPs) "shall form the primary basis for managing California's sport and commercial marine fisheries." The underlying tenant and a key component to sustainably managing fisheries is the ability to adaptively manage based on the most current information available. Two FMPs are currently in different stages of development, the Red Abalone FMP and California Spiny Lobster FMP. In 2016, CDFW plans to start the process of updating the 2001 MLMA Master Plan, which will guide the development of future FMPs.

CDFW is now in the process of transitioning current abalone fishery management from the Abalone Recovery and Management Plan (ARMP) to a fishery management plan under MLMA for the northern California red abalone fishery. The purpose of this transition from the ARMP to an MLMA FMP is to achieve the long term ARMP management goals while bringing the management framework into full compliance with the policies and goals of the MLMA.

The Lobster FMP is in the later stages of development as it was developed through a stakeholder public process from 2012-2014 and recently underwent a scientific peer-review process. The draft FMP will be delivered to the Fish and Game Commission in December 2015, which will start the Fish and Game Commission's regulatory process to adopt and implement the Lobster FMP.

The FMP development process may vary from fishery to fishery but in general it entails the following:

- Holding pre-scoping meetings with constituents to develop framework and direction for implementing a new management approach under an FMP
- Identifying existing natural history and population dynamics information
- Identifying fishery information (both recreational and commercial)
- Analyzing habitat information including ways to minimize any adverse effects
- Developing fishery research protocols
- Developing measures for conservation and management of the fishery
- Developing harvest control rule(s) to ensure the continued sustainability of the resource and its fishery
- Holding public input meetings to gather comment on a draft FMP document
- Review of the science framework for the long term management strategy
- Completing final adjustments to the FMP
- Guiding the FMP through its adoption by the Fish and Game Commission

The Sea Grant fellow will assist CDFW staff with the Abalone and Lobster FMP development processes. Assisting CDFW staff with these FMPs will provide the fellow with experience related to both early and late stages of the FMP development process. The fellow may assist in the Abalone FMP public process design and implementation; preparation for and participation in public meetings; compiling public meeting outcomes; and incorporating required amendments in the FMP document. For the Lobster FMP, the fellow will assist staff with guiding the Lobster FMP through the Fish and Game Commission adoption and regulatory process.

Additionally, the fellow may have an opportunity to assist CDFW staff and outside contractors with updating CDFW's *MLMA Master Plan: A Guide for the Development of Fishery Management Plans*. The fellow may also assist program staff in ongoing abalone and lobster management duties which include report card return data entry and analysis; assistance in running statistical models designed to evaluate the status of the fishery; and assisting with abalone recovery tasks. The fellow might also prepare reports or PowerPoint presentations for CDFW staff and the Fish and Game Commission. The abalone and lobster FMP projects have email notification list and webpages on the CDFW website. If the fellow has experience or interest in public outreach there are opportunities to contribute in this area.

Through this fellowship the fellow will gain experience in what information is required to develop fishery management plans (which are always multi-year projects with lot of parts), and gain insight into state marine fishery management policy, as well as interact with fishermen, fishery scientists, managers, the general public, and decision makers involved with state marine fishery management.

CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904-5200
FAX (415) 904-5400
TDD (415) 597-5885



California Coastal Commission Sea Grant Fellow Opportunity Climate Change Emphasis

Host Location

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Fellowship Supervisors

Susan Hansch, Chief Deputy Director
Alison Dettmer, Deputy Director, Energy and Ocean Resources
Michelle Jespersion, Federal Programs Manager

Point of Contact for Prospective Fellows and Finalists

Susan Hansch, Chief Deputy Director
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Overview

The California Coastal Commission implements the California Coastal Act of 1976 and has regulatory authority to manage development along the coast in balance with the protection of coastal resources, environmentally sensitive habitats, and public access. The Commission is an independent, quasi-judicial state agency whose authority is defined as the coastal zone, a 1.5 million-acre area stretching 1,270 miles along the state's mainland coastline from Oregon to Mexico, and around nine offshore islands (333 miles of island shoreline). The Commission also has the responsibility to work with local governments to establish Local Coastal Programs (LCPs) which, when certified by the Commission, become the basis for coastal permitting at the local level. Furthermore, the Commission has the purview and planning responsibility to assess and address issues of state-wide importance such as sea level rise and coastal erosion, both of which are likely to be exacerbated by climate change.

The Sea Grant Fellow will have a unique opportunity to assist executive, management and policy level staff in the headquarters and district offices of the California Coastal Commission on a variety of coastal and ocean resource protection issues. Working closely with Coastal Commission's Chief Deputy Director, Deputy Director for Energy and Ocean Resources, Federal Programs Manager, technical staff and other senior staff, the Sea Grant Fellow will have the opportunity to work at the leading edge of natural resources and coastal and ocean management and climate change adaptation. The Fellow will have the opportunity to interface directly with senior government officials and leaders in resource management policy throughout California. Fellow work products, potentially including presentations and collaborative work on reports with the Coastal Commission and with other state agencies, especially the Ocean Protection Council (OPC), will be highly visible. The Sea Grant Fellow may work with the OPC to help coordinate/staff efforts to improve interagency collaboration on California's marine protected areas, climate change and other issues to be determined.

Potential Projects

Specific project and program duties will be developed collaboratively with the Fellow and with Coastal Commission staff members currently working on the wide range of climate change issues. Potential project opportunities at this time address a mix of policy and technical needs with a major focus on a range of climate change issues, as follows:

Participation in working groups in partnership with the OPC, such as the

- Coastal and Ocean Climate Action Team Working Group
- Renewable Energy Working Group
- Marine Protected Area Issues
- California Coastal and Marine Geospatial Working Group
- Marine Debris Steering Committee
- Climate Change Adaptation Work

Involvement in a broad range of coastal and ocean issues involved in the Coastal Commission's regulatory work and Local Coastal Program planning work throughout the coastal zone.

Position Description

A Sea Grant Fellow with the Coastal Commission will support the executive and senior policy and technical staff in specific areas such as participating in multi-agency meetings, serving as a communication conduit between the Commission and various OPC sponsored workgroups, drafting Commission recommendations for OPC-coordinated planning documents, and assisting the Commission in developing or enhancing projects including those that are done in cooperation with partners. Specifically, the role of the Fellow may include support on large-scale team projects and they will also likely have several smaller projects which will be theirs to develop and manage.

Potential tasks associated with managing projects include: setting specific goals and objectives and developing plans to achieve success; working closely with the management team; frequently communicating with Commission executive, management and technical staff, partner agencies, and coordinating with project stakeholders, partners, or grantees; organizing and/or participating in related meetings and workshops; participating in site visits; ensuring that outcomes of projects are communicated to the public, relevant agencies, and institutions; problem solving; and working to maintain broad project or program support.

Given the wide range of projects and initiatives undertaken by the Coastal Commission along the entire California coast, a successful Sea Grant Fellow at the Coastal Commission must be willing to take on and deliver a broad range of projects. There will be an emphasis on climate change related projects. There will be opportunity for the Fellow to dig more deeply into topics of particular interest and assignments will be customized to match the unique skills of the selected Fellow. The Sea Grant Fellow must be able to work well under minimal supervision or guidance. Possessing an entrepreneurial spirit and strong personal initiative and ability to work well in a collaborative style with others would be a great plus.

The Coastal Commission senior management has broad experience and success in hosting Fellows and giving them a wide breadth of experience in coastal management issues. The Coastal Commission has a team of staff members focusing on climate change issues. This offers an excellent opportunity for team work and peer collaboration for a Sea Grant Fellow.

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California Coastal Commission Sea Grant Fellow Opportunity Coastal Engineer, Geologist, or Oceanographer

Host Location

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Fellowship Supervisors and Points of Contact for Prospective Fellows and Finalists

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Overview

The California Coastal Commission implements the California Coastal Act of 1976 and has regulatory authority to manage development along the coast in balance with the protection of coastal resources, environmentally sensitive habitats, and public access. The Commission is an independent, quasi-judicial state agency whose authority is defined as the coastal zone, a 1.5 million area stretching 1,270 miles along the state's mainland coastline from Oregon to Mexico, and around nine offshore islands (333 miles of island shoreline). The Commission also has the responsibility to work with local governments to establish Local Coastal Programs (LCPs) which, when certified by the Commission, become the basis for coastal permitting at the local level. Furthermore, the Commission has the purview and planning responsibility to assess and address issues of state-wide importance such as sea level rise and coastal erosion, both of which are likely to be exacerbated by climate change.

The Sea Grant Fellow will have an opportunity to assist executive, management, and policy staff in the Commission offices with the technical and engineering aspects of a variety of coastal and ocean issues. Working closely with Coastal Commission's Chief Deputy Director, Senior Coastal Engineer, technical staff and other senior staff, the Sea Grant Fellow will have the opportunity to work at the leading edge of natural resources and coastal and ocean management and climate change adaptation. The Fellow will have the opportunity to interact directly with senior technical staff and leaders in resource management policy throughout California. Fellow work products, potentially including presentations and collaborative work on reports with the Coastal Commission and with other state agencies, will be highly visible.

Potential Projects

Specific project and program duties will be developed collaboratively with the Fellow and with Coastal Commission staff members currently working on these issues. Potential project opportunities at this time address a mix of policy and technical needs, as follows.

Participation in intra-agency and inter-agency working groups, such as

- Coastal Sediment Management Work Group
- Tsunami Policy Work Group
- Sea Level Rise Mapping Partners Meeting

- Beach Erosion and Coastal Hazards Working Group
- San Dieguito Lagoon Coastal Processes Technical Panel
- Climate Change Adaptation Work

Involvement in a broad range of the Coastal Commission's regulatory and LCP planning work throughout the coastal zone.

Position Description

A Sea Grant Fellow with special expertise in Coastal Engineering, Coastal Geology and/or coastal processes with the Coastal Commission will support the executive and senior policy and technical staff in specific areas such as participating in multi-agency meetings, reviewing, commenting on and drafting comments on the technical components of regulatory, enforcement and planning documents, and assisting the Commission in developing or enhancing projects including those that are done in cooperation with partners. Specifically the role of the Fellow may include support on the above mentioned large-scale projects and they will also likely have several smaller projects that will be theirs to develop and manage.

Key focus areas could include concerns related to: increased flooding, wave attack and erosion that could result from rising sea level and climate change; shoreline protection and effective options for soft protection; beach nourishment; living shorelines and adaptive protection options; tsunami risk and options for protection and response; sediment management; and, coastal hazards.

Potential tasks associated with the analysis and development of projects include: review of site plans, grading plans, erosion and wave up-rush studies, slope stability and other engineering, geology, and technical reports; communicating with local planners, project applicants, technical consultants and others; review, analysis and summary technical reports; coordinating with stakeholders, partners, or technical consultants; organizing and/or participating in meetings and workshops; participating in site visits; problem solving; and maintaining broad project or program support.

A successful Sea Grant Fellow at the Coastal Commission must be willing to take on and deliver a broad range of projects. The Sea Grant Fellow must be able to identify and analyze an array of technical issues associated with Commission regulatory and planning efforts and communicate information clearly in both writing memos and reports, as well as through oral and visual presentations. The Sea Grant Fellow must be able to work well under minimal supervision or guidance. Assignments will be customized to match the unique skills of the selected Fellow. However, since there are few academic programs that provide all the necessary skills for this Coastal Engineering/Coastal Geology/coastal processes position, the Fellow must also know when they are working outside their sphere of understanding and be willing to ask for help or direction early in the work effort. An undergraduate degree in civil or environmental engineering or geology, and a masters or Ph.D. in coastal, environmental or ocean engineering; geology, environmental or engineering geology; physical oceanography; or related disciplines is desirable.

The Coastal Commission's senior management has broad experience and success in hosting Fellows and giving them a wide breadth of experience in coastal management issues.



**Delta Science Program Sea Grant Fellow Opportunity
Independent Science Board**

Host Location

980 Ninth Street, Suite 1500
Sacramento, California 95814

Fellowship Supervisor

Lauren Hastings
Delta Adaptive Management Science Advisor
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Point of Contact for Prospective Fellows and Finalists

Marina Brand
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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 ISB is comprised of nationally and internationally renowned scientists with backgrounds in ecology, biology, biogeochemistry, geology, and economics and is mandated 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 Delta ISB 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 Supervisor, Lead Scientist, Chair and Co-chair of the Delta ISB to develop a mentoring plan for the year. This plan will be based on the needs of the Delta ISB and the interests and background of the Fellow and is intended to maximize the

"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."

Fellow's opportunities. Among the opportunities for the Fellow is assisting with the Delta ISB's legislatively mandated reviews. 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 first thematic review focused on habitat restoration activities and on how adaptive management and climate change are incorporated into these activities. The report, completed in 2013, can be found at: <http://deltacouncil.ca.gov/sites/default/files/documents/files/HABITAT%20RESTORATION%20REVIEW%20FINAL.pdf>. The Board recently completed its second review: "Flows and Fishes in the Sacramento-San Joaquin Delta: Strategic Research Needs in Support of Adaptive Management." The report is available here: <http://www.deltacouncil.ca.gov/science-board/delta-isb-products>. Subsequent reviews will focus on how climate change and adaptive management are being incorporated into programs focused on 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 the Board as a whole and with individual members to research governmental and non-governmental agencies and organizations that implement programs related to:
 - Climate Change/Adaptive Management – Water Supply Reliability
 - Climate Change/Adaptive Management – Water Quality
 - Climate Change/Adaptive Management – Levees
 - Climate Change/Adaptive Management – Delta as an Evolving Place

Opportunities will exist to synthesize information obtained from research and site visits with governmental and non-governmental staff in anticipation of assisting in the preparation of the Delta ISB's report 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.



Delta Science Program
Delta Stewardship Council

Delta Science Program Sea Grant State Fellow Opportunity Science Plan

Host Location

Delta Science Program, Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA

Fellowship supervisor

Sam Harader, Program Manager

Point of contact for California Sea Grant, prospective fellows, and finalists

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Sacramento, CA
(916) 445-5838
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Overview

The mission of the Delta Science Program (DSP) is to provide the best possible unbiased scientific information to inform water and environmental decision making in the Bay-Delta system. The DSP is an honest broker of Bay-Delta science connecting scientists, managers, policy- and decision-makers and diverse stakeholders. The DSP was established by the 2009 Delta Reform Act to support, synthesize, coordinate and communicate unbiased and authoritative scientific knowledge directly relevant to Bay-Delta actions. Housed within the Delta Stewardship Council, the DSP supports the Council's adaptive management of the Delta Plan and use of best available science. The DSP provides forums for increasing mutual understanding, collaboration, learning, identifying common interests, and resolving scientific conflicts. The DSP facilitates the development, sharing and use of best available science and adaptive management in the Bay-Delta and works with others to connect collaborations among Bay-Delta stakeholders and agencies at multiple organizational levels and across disciplines using various media. A Sea Grant fellow with the DSP will have the unique opportunity to work at the interface of science and policy on some of California's most challenging natural resource management issues.

Position Description

Initially, the Sea Grant fellow will meet with the Supervisor, Lead Scientist, and other DSP staff as appropriate to develop a mentoring plan for the year. This plan will be based on the interests and background of the Sea Grant fellow and is intended to maximize the Sea Grant fellow's opportunities.

Working closely with DSP staff and the Lead Scientist, the Sea Grant fellow will have the opportunity to interact with California policy makers, national and international scientific experts and gain exposure to how science is conducted, reviewed and used to inform policy in the Bay-Delta and Suisun Marsh. The DSP is working on several efforts focused on, 1) coordinating Bay-Delta science, 2) applying principles of adaptive management for ecosystem restoration and water management decisions in the Bay-Delta and Suisun Marsh, 3) synthesizing scientific

information, 4) facilitating independent scientific peer review, and 5) communicating scientific information to policy and decision-makers, scientists and the public.

Potential tasks and responsibilities related to the DSP's efforts include: implementing elements of the Delta Science Plan; developing science communication products for the Delta Stewardship Council; working with interdisciplinary teams on science synthesis and communication; engaging and coordinating with multiple agencies and stakeholders; assisting with scientific peer reviews and workshops; contribute to the development of a Delta Science Action Agenda that integrates science activities across multiple agencies and programs; producing written and verbal science communication materials for policymakers, managers, and the public.

Potential Projects

Specific projects will be identified with the fellow based on their expertise and interests. The fellow's work will support functions of the DSP. Potential projects include:

- ◆ Documenting how science is being used in Delta ecosystem restoration and water management decisions
- ◆ Developing and implementing performance measures for the Delta Science Plan
- ◆ Working with interagency groups developing models and decision support tools
- ◆ Synthesizing information on stressor impacts on the Bay-Delta ecosystem
- ◆ Developing science communication products for a wide range of audiences



Delta Science Program Sea Grant Fellow Opportunity Water Supply Adaptive Management and Communications

Host Location

980 Ninth Street, Suite 1500,
Sacramento, California 95814

Fellowship Supervisor and Point of Contact

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(916) 445-5031

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). Under the guidance of the Delta Lead Scientist, a Delta Science Plan (Plan) was completed in December 2013 (<http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Science-Plan-12-30-2013.pdf>). 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. Also see Appendix C of the Delta Plan (http://deltacouncil.ca.gov/sites/default/files/documents/files/AppC_Adaptive%20Management_2013.pdf) for further discussions on adaptive management and best available science.

Position Description

The Fellow will work under the direction of the program manager for the Delta Science Program's Water Supply Adaptive Management and Communications Unit and initially, will meet with the program manager, Lead Scientist, and other Science Program staff as appropriate to develop a mentoring plan for the year. This plan will be based on the interests and background of the Sea Grant Fellow and is intended to maximize the Sea Grant Fellow's opportunities.

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The Water Supply Adaptive Management and Communications unit has two primary tasks: 1) develop a Water Supply Adaptive Management Framework to address watershed-scale water management actions, and 2) improve science communications to more effectively inform policy and management decisions and build the Delta science community. Based on the Fellow's interests, the Fellow will have the option of working only on the Water Supply Adaptive Management Framework, only on Communication tasks, or a blend of tasks associated with the Water Supply Adaptive Management Framework and Communications tasks.

1. Water Supply Adaptive Management Framework

Currently, two staff within this unit are working on developing a framework that will address how adaptive management can be integrated into water management decision-making. This framework will complement the ecosystem restoration framework that is being developed concurrently in another unit. Development of the framework requires research as well as outreach to other federal and State agencies and affected stakeholders.

Potential Assignments

The Fellow will collaborate with staff to develop the water supply adaptive management framework and will help to propagate the knowledge and information gained through the process to policy and decision makers, managers, and the public. Specific topics would include but are not limited to:

- Water supply challenges facing California and specifically the Sacramento-San Joaquin Delta
- Understanding the water supply and ecosystem protection relationships surrounding the Delta
- Case studies on water supply adaptive management and how they can be applied (adapted) to California and the Delta
- Investigation of water supply "reliability", possibly through surveys
- Studies on social, political and economic challenges and opportunities in applying adaptive management to water supply reliability issues

The fellow may write a section in the framework reflecting his/her work.

2. Communications

One of the goals of the Communications Unit is to translate complex scientific information into a form readily understood by the non-scientist. This is done through monthly Brown Bag seminars, quarterly science synthesis symposia in conjunction with UC Davis, and the Bi-annual Bay Delta Science Conference, to mention a few. This unit is also finalizing a communication plan for the Delta Science Program.

Potential Assignments

- Contribute to the development of the Science Program's Communication Plan
- Develop a science synthesis symposium in association with the U.C. Davis Coastal and Marine Sciences Institute on an issue of importance to the Bay-Delta; lead development of a synthesis paper for publication in an open access scientific journal
- Develop 3-5 Brown Bag seminars centered on a specific theme of importance to management of the Bay-Delta system; synthesize the information for the Council's eNewsletter or other venue
- Synthesize research results from the 2013 Delta Science Fellows solicitation in a format accessible to the non-scientist and present at a Delta Stewardship Council meeting
- Contribute short essays to the Council's online eNewsletter



Planning Division
Delta Stewardship Council

Delta Stewardship Council Sea Grant State Fellow Opportunity Planning Division

Host Location

Planning Division - Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA

Fellowship supervisor

Kevan Samsam, Supervising Engineer

Point of contact for prospective fellows and finalists

Marina Brand, Program Manager
980 Ninth Street, Suite 1500
Sacramento, CA
(916) 445-5838
marina.brand@deltacouncil.ca.gov

Overview

California's Delta is the largest estuary on the West Coast and is the hub of the state's major water supply systems. The Delta Stewardship Council, a state agency established by the 2009 Delta Reform Act, is charged with achieving the coequal goals of water supply reliability for California and ecosystem restoration in the Delta in a manner that protects the unique values of the Delta as an evolving place. The Council's Planning Division provides integration of environmental, engineering, and land use planning expertise to support and coordinate implementation of the Delta Plan, a comprehensive, long-term management plan for the Delta based on the best available science. The Delta Plan is implemented through cooperation among affected agencies and is also enforceable through the Council's regulatory authority, which requires state and local actions that significantly affect the coequal goals to be consistent with the Delta Plan. A Sea Grant fellow with the Council's Planning Division will have the unique opportunity to work at the interface of policy, planning and science on some of California's most challenging and important natural resource management issues.

Position Description

Initially, the Sea Grant fellow will meet with the Supervisor and other Planning Division staff as appropriate to develop a mentoring plan for the year. This plan will be based on the interests and background of the Sea Grant fellow and is intended to maximize the Sea Grant fellow's opportunities.

Working closely with Planning Division staff, the Sea Grant fellow will have the opportunity to interact with California policy makers, national and international scientific experts and gain exposure to how policies and plans are developed and implemented in the Bay-Delta and Suisun Marsh. The Planning Division is working on several efforts focused on, 1) developing policy principles to guide the Council's evaluation of water conveyance, storage and operations, 2) developing a new Delta Levee Investment Strategy, 3) supporting efforts to integrate flood management and habitat restoration into multi-benefit projects, 4) evaluating efforts to enhance recreation and tourism that are compatible with the cultural heritage of the Delta, and 5)

promoting land use decisions that enhance economic vitality while reducing flood risk and preserving agriculture and open space.

Potential tasks and responsibilities related to the Planning Division's efforts include: evaluating public benefits of proposed water storage and conveyance projects; developing priorities for flood risk reduction; accelerating permitting of habitat restoration projects; engaging and coordinating with multiple agencies and stakeholders; assisting with regulatory coordination workshops; producing communication materials for policymakers, managers, and the public.

Potential Projects

Specific projects will be identified with the fellow based on their expertise and interests. The fellow's work will support functions of the Planning Division. Potential projects include:

- ◆ Researching statewide water conservation and groundwater management efforts
- ◆ Evaluating major water supply, ecosystem restoration and flood protection projects
- ◆ Developing and implementing performance measures for the Delta Plan
- ◆ Developing GIS visualization tools to facilitate stakeholder participation in habitat restoration and flood management planning



GAVIN NEWSOM
LIEUTENANT GOVERNOR

Office of Lt. Governor Newsom Sea Grant Fellow Opportunity

Host Location

Office of Lt. Governor Newsom
California State Capitol, Rm 1114
Sacramento, CA 95814

Fellowship Supervisor: Kevin Schmidt, Policy Director

Point of Contact for Prospective Fellows and Finalists

Kevin Schmidt
Policy Director
Kevin.schmidt@ltg.ca.gov

Fellowship Overview

The Lieutenant Governor serves on, and rotates with the State Controller, as chair of the three-member State Lands Commission, which oversees the control and leasing of millions of acres of state-owned land, including offshore oil resources, as well as use and permitting for all navigable waterways in California. The Commission also manages state land-use planning and revenues, and related interstate issues. During alternate years, when the Lieutenant Governor serves as Chairperson of the State Lands Commission, he also serves as a member of the California Ocean Protection Council.

During his Mayoral term the Lt. Governor implemented the most aggressive local carbon reduction plan in the nation, created the most stringent green building standards, invested in cutting edge renewable programs, and executed the nations first plastic bag ban.

As Lt. Governor he is using his position on the Ocean Protection Council to address sea level rise, support a statewide ban on plastic bags, and develop a climate adaptation plan for the state. He has also secured federal grants to assess the feasibility of a national wave energy facility through his work with Cal Poly Institute for Advanced Technology.

Position Description

The Sea Grant Fellow will have the opportunity to develop long and short-term policy positions for the office of the Lt. Governor. Working closely with the policy director, the fellow will help staff the various commissions and boards that handle coastal issues, and will assist in current projects under development.

The fellow will also be asked to collaborate with NGOs and other state agencies to create a guiding document for the office of Lt. Governor as the state faces further challenges from sea level rise and climate change. The fellow will have the opportunity to pursue issues they find relevant and develop their own projects.

Potential Projects

- Support in the CalWave Effort- Feasibility of a National Wave Energy Test Facility in California.
- Environmental and statistical modeling of sensitive species based on data collected during PG&E WaveConnect.
- Create a statewide policy that addresses the possible use of drones or other technologies to observe whales or sea mammals.
- Through presentation of various policy proposals to the Lt. Governor, create a policy paper that defines the goals and vision of the office as related to coastal and ocean policy.
- Work with Ocean Protection Council, California State Lands, and California Coastal Commission on sea level rise, climate change, and offshore energy.
- Explore the growth and future of mariculture and aquaculture in the State.
- Other projects may be suggested after consultation with Policy Director.



NOAA's Channel Islands National Marine Sanctuary Sea Grant Fellow Opportunity

Host Location

NOAA's Channel Islands National Marine Sanctuary
University of California, Santa Barbara
Ocean Science Education Building
Santa Barbara, California 93106
(805) 966-7107

Fellowship Supervisors

Chris Mobley, Sanctuary Superintendent
Michael Murray, Deputy Superintendent for Programs
Sean Hastings, Resource Protection Coordinator

Point of Contact For Prospective Fellows and Finalists

Sean Hastings
Resource Protection Coordinator
sean.hastings@noaa.gov
(805) 893-6424

Position Description

[Channel Islands National Marine Sanctuary](#) (sanctuary) is part of the National Oceanic and Atmospheric Administration's (NOAA) [Office of National Marine Sanctuaries](#). It is located approximately 23 miles off the coast of Santa Barbara and encompasses 1,470 square miles of state and federal ocean waters surrounding Anacapa, Santa Cruz, Santa Barbara, Santa Rosa, and San Miguel Islands. The sanctuary waters are a fertile combination of warm and cool currents that result in a highly productive marine ecosystem with diverse habitats, a wide array of fish and invertebrates, 27 species of whales and dolphins, 5 species of pinnipeds, and over 60 species of seabirds. Recognized as an important marine protected area at the local, state, national and international levels, the sanctuary's primary goal under the National Marine Sanctuaries Act is to protect its natural and cultural resources.

The Sea Grant Fellow will play a key role in a multitude of policy, research and outreach activities, working closely with the sanctuary superintendent, deputy superintendent and resource protection coordinator. The Fellow will research, write and conduct outreach on a wide array of marine resource management issues and will help foster productive relationships with state and federal agencies, academic institutions, and stakeholders. In this position, the Fellow will gain the diverse skills and professional experience necessary to succeed in a natural resource management career. Former sanctuary fellows and interns have become permanent or contract NOAA employees, received the Knauss and Presidential Management Fellowships, or taken research and leadership positions in the private and non-profit sectors.

Working in the capacity of a Resource Protection Specialist, the Fellow will support two main initiatives:

Reducing the threat of ship strikes on endangered whales: Since 2007, the sanctuary and its [Advisory Council](#) have been working in collaboration with the National Marine Fisheries Service (NMFS), U.S. Coast Guard, and the shipping industry to develop both short and long-term management measures to reduce the ship strike threat to Endangered Species Act listed large whales in the Santa Barbara Channel region. Management recommendations include continued research and monitoring, mariner education and outreach, incentives for changing vessel behavior, and the utilization of marine spatial planning techniques to protect high whale density areas. In 2014/15, the Sanctuary Advisory Council hosted a multi-stakeholder collaborative process and utilized a scientific ocean planning tool, [SeaSketch](#), to explore solutions that address competing human uses (e.g. military activities and commercial shipping) and impacts to Santa Barbara and the marine environment (e.g. air pollution and whale strikes). The group explored possible ship lane adjustments, vessel speed reduction zones, and research and education strategies. The Fellow will help package the working group advice for review and consideration by the Sanctuary Advisory Council and assist with moving the advice forward to broader NOAA, the US Coast Guard and possibly to the U. S. delegation to the International Maritime Organization by 2017.

More information: http://channelislands.noaa.gov/management/resource/ship_strikes.html

Enhancing Sanctuary Enforcement

In 2015, the sanctuary partnered with the California Department of Fish and Wildlife, the California Marine Sanctuary Foundation and the McClintock Lab at UCSB to develop and implement a mobile iOS application (app) on a trial basis to allow marine law enforcement personnel to electronically record enforcement encounters in the Santa Barbara Channel region. The app promotes more economic and efficient use of enforcement assets, encourages cooperation between enforcement agencies, and allows CDFW and partners to better target education and outreach efforts. The Fellow will work with these partners to document lessons learned and to determine the feasibility of implementing an electronic data collection and management system beyond the Santa Barbara Channel.

The Fellow will also participate, present, and assist in meetings with the Sanctuary Advisory Council and its working groups, the sanctuary research and education teams, NMFS, and the shipping industry in order to develop collaborative, innovative policy solutions to these complex marine resource issues. The Fellow would be involved with all aspects of policy development and rulemaking as guided by the National Environmental Policy Act and Administrative Procedures Act.

In addition to the above projects, the Sea Grant Fellow's duties and opportunities will include:

- Supporting bi-monthly [Sanctuary Advisory Council meetings](#) and associated [working groups](#), including agenda preparation, presentations, correspondence, and note-taking.
- Processing and creating marine mammal sightings maps in ArcGIS during large cetacean season from sightings reported on two new whale apps '[SpotterPro](#)' and

[‘WhaleAlert.’](#)

- Participating in sanctuary staff meetings and other planning meetings on the local, regional, and national level, including occasionally providing progress reports and/or presentations.
- Reviewing and responding to the proposed regulatory actions of other agencies to ensure consistency with the sanctuary’s mission and regulations. This may involve producing internal memos of findings based on review of agency documents and drafting comment letters.
- Assisting with the review and development of sanctuary research and salvage permits, including literature review on research methods and potential environmental impacts.
- Contributing to superintendent reports, the sanctuary’s annual operating plan, and other required reports, including compilation, information gathering, and document editing/formatting.
- Representing the sanctuary at select meetings and conferences, to observe, learn, potentially speak/present, and assist with follow-up actions.
- Participating in sanctuary research and monitoring activities and communicating findings to a diverse audience. This will involve occasional trips aboard the sanctuary research vessels, assisting on deck, helping with data acquisition and processing, and summarizing information for presentation.
- Helping to update the sanctuary’s [website](#) and posting to sanctuary [social media](#) accounts.
- Possible opportunities to visit the Office of National Marine Sanctuaries’ West Coast Regional Office in Monterey, CA, and offices of the Greater Farallones, Cordell Bank and Monterey Bay national marine sanctuaries on the central California coast.

A competitive Sea Grant Fellow applicant will have: strong research and demonstrated writing skills; some GIS experience; a personable approach and comfort working with a variety of constituencies in public and occasionally contentious settings; the ability to effectively manage multiple projects; and enthusiasm for ocean stewardship and conservation.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

NOAA Fisheries - Office of Aquaculture, West Coast Region Sea Grant Fellow Opportunity

Host Location and Contact Information:

West Coast Regional Aquaculture Coordinator, California

NOAA Fisheries

650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

Supervisor & Point of Contact for prospective fellows and finalists:

Diane Windham

West Coast Regional Aquaculture Coordinator – California

NOAA Fisheries

(see address above)

(916) 930-3619

diane.windham@noaa.gov

Position Description:

NOAA has a multi-faceted role in aquaculture from supporting cutting-edge science and research to federal policymaking and regulation. The **NOAA Fisheries Office of Aquaculture** fosters sustainable aquaculture that provides safe, sustainable seafood; creates employment and business opportunities in coastal communities; and complements NOAA's comprehensive strategy for maintaining healthy and productive marine populations, ecosystems, and vibrant coastal communities.

NOAA Fisheries plays a central role in developing and implementing policies that enable marine aquaculture and works to ensure that aquaculture complies with existing federal laws and regulations that NOAA enforces under its marine stewardship mission. In the United States, marine aquaculture operates within one of the most comprehensive regulatory environments in the world. Projects that are sited in U.S. waters must meet a suite of federal, state, and local regulations that ensure environmental protection, water quality, food safety, and protection of public health. Science and adaptive management inform NOAA policy, regulatory, and management decisions regarding aquaculture in marine waters. NOAA's aquaculture efforts are led by NOAA Fisheries and include activities at **NOAA Fisheries science centers and regional offices**, NOAA's National **Sea Grant program**, and NOAA's **National Ocean Service**. The Aquaculture Office integrates and coordinates the agency's aquaculture policies, research, outreach, and international efforts. NOAA is working with its federal, state, and tribal partners on a variety of initiatives stemming from the 2011 Aquaculture Policies, the recent National Ocean Policy Implementation Plan, and its mandates under the Magnuson Stevens Act and the National Aquaculture Act, the [National Shellfish Initiative](#) and the [Aquaculture Technology Transfer Initiative](#). Several statewide shellfish initiatives are also in development, including in California.

Since 2008, NOAA has been expanding its aquaculture efforts by establishing Regional Coordinators around the country. This allows NOAA to have a regional presence and allows better attention to and awareness of region-specific issues. The office has Regional Aquaculture Coordinators in the Northeast region, Southeast region, West Coast region (WA/OR/CA), and the Pacific Islands region. California primarily grows Pacific



oysters, Kumamoto oysters, and manila clams for commercial purposes with lesser amounts of Mediterranean mussels, Atlantic oysters, red abalone, rock scallops, and seaweed. Research in the Southwest focuses on abalone recovery at the Southwest Fisheries Science Center and Olympia oyster restoration by various sectors of academia, primarily in the San Francisco Bay area. There is growing interest in research on shellfish bio-remediation/environmental benefits of shellfish culturing.

A Sea Grant fellow within NOAA Fisheries' CA office will assist the Regional Aquaculture Coordinator in a range of duties addressing policy level issues to direct coordination with Federal, State and local regulatory agencies, local stakeholder interests, academia, and the aquaculture industry. In California, a variety of projects are getting underway, and a Sea Grant fellow will have opportunity to be involved with several collaborative/regionally specific projects, as well as internal regional office NOAA activities.

California aquaculture activities and a Sea Grant fellow's ideal complementary skill set include:

- **CA Shellfish Initiative:** a collaborative effort to expand shellfish aquaculture (commercial and native shellfish restoration), to include stakeholder interests with localized regional planning and policy efforts through 2015 and beyond. Skills needed include communication, collaboration, planning, and administrative/detail-oriented.
- **Humboldt Bay Pre-Permitting Project and Coast Seafoods Permit Renewal/Expansion:** the local harbor district is leading an interagency effort to expand shellfish leases in the Bay, and includes interagency meetings, planning stages, and CEQA planning. Same skills as above.
- **Offshore shellfish and finfish projects (including Rose Canyon Fishery finfish proposal, Santa Barbara Mariculture mussel permit, KZO offshore mussel farm, and the upcoming Ventura Shellfish Enterprise):** with growing interest in offshore aquaculture in CA and federal waters; environmental impact analyses, project monitoring and user conflicts present challenging interagency cooperative opportunities requiring skills listed above as well as diplomacy, in an environment that brings together ocean resource utilization, conservation, and scientifically sound monitoring programs. Where appropriate, align with offshore activities in other regions.
- **Coordination on aquaculture projects with the CA Dept. of Fish and Wildlife's State Aquaculture Coordinator:** the State and Federal coordinators must work closely together on all projects, so there is opportunity to work together and benefit from cross-training with both agencies to gain understanding of Federal and State policies and regulations.
- **NOAA West Coast Region Aquaculture web page/aquaculture outreach:** the regional and national webpages are undergoing revision and redesign, in coordination with NOAA's Office of Communication. Updates, project reporting/ "stories", new research and policy/permitting information are among areas to be addressed. Outreach/education opportunities are available. Computer skills, web page experience, social media experience, writing skills needed.

The Sea Grant fellow may participate in agency meetings, site visits, policy discussions and planning, communication to agencies and constituencies, literature reviews, spatial data sharing, and conference calls. A successful candidate must be able to work independently but function as part of a team, with emphasis on communication, interaction, and policy/regulatory information; there is little direct scientific research, but the ability to conduct science literature/bibliographic, legal, and administration research is vital. Strong writing, organizational, and interpersonal/listening skills are also highly valued. Openness to a broad variety of experiences and projects will enhance the fellowship.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Science Center
8901 La Jolla Shores Drive
La Jolla, CA 92037-1508

NOAA/NMFS Southwest Fisheries Science Center Sea Grant Fellow Opportunity

Host Location

NOAA/NMFS Southwest Fisheries Science Center
There are two possible locations for the fellowship:
8901 La Jolla Shores Drive, La Jolla, CA 92037 **OR**
110 Shaffer Road, Santa Cruz, CA 95060

Fellow Supervisors

Lead Scientist of project and Division Director

Point of Contact for prospective fellows and finalists

Cisco Werner
SWFSC Director
cisco.werner@noaa.gov
858-546-7081

Agency Background

The NOAA Southwest Fisheries Science Center (SWFSC; <https://swfsc.noaa.gov>) is one of six federal regional science centers that comprise the science expertise for the National Marine Fisheries Service (<http://www.nmfs.noaa.gov/>). The SWFSC provides national and international leadership and innovation in several key areas of Pacific Ocean fisheries and marine mammal science and management in the California Current, throughout the Pacific Ocean and in the Southern Ocean off Antarctica. The SWFSC has three facilities: the headquarters laboratory is in La Jolla, and satellite laboratories in Santa Cruz and Monterey. SWFSC scientists conduct fisheries, marine biological, economic and oceanographic research, observations and monitoring of living marine resources and their environment. Center scientists also conduct research on the impacts of environmental variability and climate change on marine ecosystems and on fishery and conservation socio-economics. The ultimate goal of these efforts is to ensure that the region's marine and anadromous fish, marine mammal, marine turtle, seabird, and invertebrate populations remain at sustainable and healthy levels, as functioning parts of their ecosystem and enhancing the quality of life for the public.

Position Description

One Fellow will be selected and assigned to work at one of the laboratories based on the project assignment (below) negotiated between the Fellow and host. The Sea Grant Fellow will have the opportunity to work at the interface between fishery science and regulatory actions. In this time of extreme weather events and changing climate, the SWFSC must interpret new science findings into management scenarios that will ensure resilient coastal communities. There are a number of areas where the Sea Grant Fellow could contribute that include management plans for highly migratory species, developing management strategies to implement Ecosystem Based Management (EBM) within the California Current large marine ecosystem or for the Antarctic fisheries, and critical issues regarding Central Valley salmon. The Fellow will work under the direction of the lead scientist to assist with strategies on informing adaptive management options. Initially, the Fellow will meet with the Division Director and the lead scientist to develop a mentoring plan. The plan will be based on the specific needs of the project and the Fellow's interests. The three will meet regularly during the year-long fellowship. The Fellow will be encouraged to participate in conferences, interagency meetings and collaborative projects and is expected to be a significant contributor to the work.



Potential Assignments

- **Development of NE Pacific Ecosystem Based Management** – (EBM) scenarios using results from the California Current Integrated Ecosystem Assessment (<http://www.noaa.gov/iea/regions/california-current-region/>; CCIEA). A Fellow working on this project would be based at La Jolla and also work with staff in Monterey. The Environmental Research Division (ERD) is the lead division working with the Pacific Fishery Management Council (PFMC) on developing a Fishery Ecosystem Plan to manage all species, including protected species, through a comprehensive ecosystem plan. The CCIEA has developed a robust set of environmental, ecological and human dimension indicators that will form the basis of EBM recommendations. NMFS employees are working with the various PFMC subcommittees on recommendations for developing and implementing this plan.
- **Ecosystem-based Management of Antarctic Fisheries** – The Fellow will have the opportunity to participate in collaborative work undertaken by the SWFSC’s Antarctic Ecosystem Research Division (AERD; <https://swfsc.noaa.gov/textblock.aspx?id=551&ParentMenuId=42>) to develop and propose a “feedback management” strategy for the Antarctic krill fishery. In this context, feedback management is defined as adjusting the spatial distribution of krill catches on the basis of monitoring data that quantify the successes (failures) of krill-dependent predators such as penguins and Antarctic fur seals. This effort is intended to support a near-term need for scientific advice by the Commission for the Conservation of Antarctic Marine Living Resources. The Fellow may collaborate in data analysis, report preparation, and communications (to domestic and international stakeholders). A Fellow working on this project would be based at La Jolla.
- **Development of indicators of Bluefin Tuna distribution and abundance in the Eastern Pacific Ocean** – The Fellow will have the opportunity to participate in collaborative work undertaken by the SWFSC’s Fisheries Resources Division (<https://swfsc.noaa.gov/FRD/>), NOAA’s West Coast Regional Office, industry partners, State agencies, and academic researchers to help develop indicators of distribution and abundance of Bluefin Tuna (BFT) in the Eastern Pacific Ocean (EPO). Northern stocks of BFT migrate as juveniles from the Western Pacific Ocean to the EPO and remain for several years prior to migrating back to areas off Japan to spawn. The proportion of BFT that migrate and reside in EPO waters is unknown and limits the utility of EPO abundance and distribution information in the stock assessment model. Industry, as well as the California Department of Fish and Wildlife, have been using spotters and aerial surveys to monitor distribution and abundance in local waters for several years. This information could be compiled to provide minimum stock estimates of BFT off Mexico and US waters that may help to better inform the stock assessment. The Fellow may collaborate in data gathering, data analysis, report preparation, and communications with collaborators including industrial and recreational fisheries. The position will be in La Jolla.
- **Water resources management** – The Fellow will participate in research on economic and social aspects of water use policy in California. In-stream flow and water quality are primary factors affecting habitat quality for protected species of anadromous fish, including endangered Chinook salmon and steelhead in the Central Valley and endangered coho salmon, Chinook salmon, and steelhead trout in California coastal watersheds. The Fellow will be located in Santa Cruz and collaborate with researchers at the SWFSC’s Fisheries Ecology Division (FED; <https://swfsc.noaa.gov/FED/>) on projects such as quantifying the economic impacts of reallocating water between fish habitat and human uses, designing cost-effective policies for anadromous fish habitat restoration, assessing the benefits and costs of water quality and habitat improvement projects, and developing risk management strategies for allocating water to competing uses over multiple time periods.



CA Ocean Protection Council Two Sea Grant Fellow Opportunities

Host location

Ocean Protection Council
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Fellowship Supervisor

Catherine Kuhlman
Executive Director, OPC

Points of contact for prospective fellows and finalists

Abe Doherty
Climate Change Policy Advisor
(916) 653-0540
abe.doherty@resources.ca.gov

Cyndi Dawson
MPA Policy Advisor
(916) 653-5656
cyndi.dawson@resources.ca.gov

Position description

The CA Ocean Protection Council (OPC) was created by state law, the California Ocean Protection Act of 2004, to protect ocean health and we view all of our actions through the lens of climate change. Under changing ocean and coastal conditions that threaten communities, ecosystems and our economy, we have an urgent need to catalyze innovative and bold action to protect ocean and coastal health. The OPC and our partner Ocean Science Trust (OST) are engaging with partners in building a shared vision for ocean and coastal health, as well as what it means to be successful in ensuring ocean and coastal health given climate change:

- *How do we know if our management actions are resulting in a healthy ocean and coast?*
- *What are concrete actions that agencies and researchers can take to reduce the impacts of ocean acidification and hypoxia?*
- *How can we make our fisheries climate ready? How will we know if we are successful with adapting to sea-level rise?*
- *How can we use Marine Protected Areas (MPAs) as living laboratories to understand changing ocean conditions and to offer refuges from stressors?*

OPC was designed to be a convener and problem-solver for difficult questions like these that require bringing together managers, scientists, tribal representatives and other groups to protect what we love about California's coast and ocean. To learn more about our current initiatives, see a recent summary from the [OPC's Executive Director](#) and a [meeting agenda](#).

The OPC will be hosting two Sea Grant fellows for 2016. One of the fellows will be more focused on climate change and the other will be more focused on MPAs.

Climate Change - One of the Sea Grant fellows will work with Abe Doherty, OPC's Climate Change Policy Advisor, Jennifer Phillips, OPC Program Manager whose focus includes ocean acidification and hypoxia, and Catherine Kuhlman, OPC's Executive Director, who is also the ocean and coastal sector lead for implementing the [Governor's Executive Order B-30-15](#) on climate change. This Sea Grant fellow will be working on a variety of initiatives related to coastal and ocean climate adaptation, such as:

- Producing a report on state agency actions that have been taken to implement the coastal and ocean chapter of the [Safeguarding California Plan](#) (due June 2016);
- Helping to manage the [OPC's Local Coastal Program Sea-level Rise Grant Program](#), which has provided \$2.5 million in grants to local governments to conduct sea-level rise vulnerability assessments and update Local Coastal Programs in collaboration with the Coastal Commission;
- Assisting with OPC's efforts to map out, coordinate and suggest comprehensive monitoring, management and adaptation for ocean acidification and hypoxia at the state and federal government level. The fellow will be joining the team as the [West Coast Ocean Acidification and Hypoxia Science Panel](#) wraps up and will play a central role in implementing and carrying out the recommendations of the Panel for the state of California, in close coordination with Oregon, Washington, and British Columbia and our federal partners such as NOAA and EPA.

Marine Protected Areas (MPAs) - One of the Sea Grant fellows will work with Cyndi Dawson, OPC's MPA Policy Advisor to help manage an effort among several state agencies to collaborate more effectively on the long-term management of MPAs created under the auspices of the Marine Life Protection Act. The fellow will play an integral role in facilitating and supporting the work of the MPA Statewide Leadership Team (Team). The Team is comprised of high level leadership from Department of Fish and Wildlife, Fish and Game Commission, State Lands, Coastal Commission, Water Boards, Collaborative Implementation Project, Ocean Science Trust and the West Region Office of National Marine Sanctuaries. The work of the Team is organized in four focal areas of outreach and education, research and monitoring, enforcement and compliance and policy and permitting. The fellow will be tasked with the following:

- Staffing and doing the preparatory work for biannual meetings of the Team known as the "MPA Milestones Meeting" that is led by the Secretary of National Resources and attended by the Directors of all the member agencies;
- Working closely with the local community MPA Collaboratives to ensure their priorities are being integrated into agency decision making; and
- Providing periodic updates to the OPC including drafting resolutions and recommendations.

Supporting the functions of the Council - All OPC staff support the functions of the 7-member council, including agenda setting, policy recommendations, and project development. Potential tasks associated with managing projects include: frequent communication with project stakeholders, partners, or grantees; presenting staff recommendations to the council; drafting and amending contracts and grant agreements; managing project-related invoices; organizing, and/or leading related meetings and workshops; participating in site visits; ensuring outcomes of projects are communicated to the public, relevant agencies, and institutions; seeking out additional funding sources or matching funds; encouraging transparency by working with stakeholders; and working to maintain broad project or program support. **Both fellows would support all the functions, above.** <http://www.opc.ca.gov/>

Thank You Ocean - The Thank You Ocean campaign is a joint partnership between the State of California and the National Oceanic Atmospheric Administration (NOAA) Office of National Marine Sanctuaries to raise awareness about the importance of the ocean and to engage the public in stewardship. The campaign's website focuses on four specific threats to the ocean and uses social media tools to

engage the public in the campaign. Specific activities may include development or review of campaign materials (such as podcasts, web content, and social media), overall project management, and fundraising.

Both fellows with the OPC will be involved in the Thank You Ocean campaign.

<http://www.thankyouocean.org/>

Resources Agency Sea Grant Advisory Panel (RASGAP) - Cat Kuhlman serves as Chair of the Resources Agency Sea Grant Advisory Panel (RASGAP). The Panel is in charge of evaluating proposals for ocean and coastal research by California's two Sea Grant programs. **One fellow with the OPC will be responsible for all aspects of the RASGAP project including managing the membership of RASGAP, leading meeting logistics, review of pre-proposals and proposals, and participation in technical review panels held in San Diego.**

California Ocean Science Trust Sea Grant Fellow Opportunity

Host location

California Ocean Science Trust
Elizabeth Whiteman, Interim Executive Director
1330 Broadway, Suite 1530
Oakland, CA 94618
Phone: (510) 251-8320
Fax: 510-251-8327

Fellowship supervisor(s)

Elizabeth Whiteman, Interim Executive Director
Emily Knight, Senior Program Manager

Point of contact for prospective fellows and finalists

Emily Knight
Senior Program Manager
Emily.Knight@oceansciencetrust.org
(510) 251 - 8318

Synopsis for a California Ocean Science Trust Sea Grant fellow

[California Ocean Science Trust](#) is a boundary organization. We work across traditional boundaries between government, science, and communities to build trust and understanding in ocean and coastal science. Our organization is novel. We are an independent non-profit, but linked directly to the State in that we were established pursuant to the California Ocean Resources Stewardship Act of 2000. Through our innovative approaches, we empower broad participation in policy and management decisions with useful, reliable science.

Our [projects](#) span the gamut of topics, from ocean acidification and sea-level rise, to advancing science in fisheries management, to monitoring marine protected areas (MPAs). Our work is guided by the priorities of California, which through the California Ocean Protection Council (OPC), is committed to healthy, resilient, and productive ocean and coastal ecosystems. We work closely with the OPC to ensure state actions on ocean and coastal issues are informed by the best available science

Our approach

In taking on new projects, we see ourselves as process experts – employing a variety of tools such as interviews, focus groups, and expert judgment among others – to understand the institutions involved, different ways of looking at the issues, and the range of relevant science. We then actively shape projects to bring different communities together around the science so that participants can see a role for themselves and engage constructively. Furthermore, all of Ocean Science Trust’s projects are interrelated – continually contributing to and drawing from each other while at the same time generating their individual momentum.

Sea Grant fellow opportunities

The Ocean Science Trust Sea Grant fellow will gain diverse educational and career experience. Our fellows engage in a variety of projects, based on a balance between our organizational needs and the fellow’s background and interests. The fellow will work most closely with the senior program manager, but will collaborate to varying degrees with the full [Ocean Science Trust team](#). Ocean Science Trust is a collaborative, team-oriented atmosphere, welcoming the ideas and contributions of all staff to shaping projects and our organization as a whole.

The Sea Grant fellow will be treated as a full member of our team, and have the opportunity to contribute to, and possibly lead, any range of projects. Through these activities, the fellow will have numerous opportunities to interact with high-level scientists, managers, policymakers, and other partners in the NGO and stakeholder communities, as well participate in meetings and workshops.

Some examples of work within some of our key focal areas the fellow could participate in include:

- **Working with the Ocean Protection Council Science Advisory Team (OPC---SAT):** Ocean Science Trust coordinates all activities of the OPC-SAT. They are a team of 24 interdisciplinary scientists from California and beyond that provide scientific and technical advice to the State, and act as a conduit to the broader scientific community on behalf of decision-makers. Through semi-annual OPC-SAT workshops, we work to seed collaborative initiatives between scientists and decision-makers across priority issues in California, including fisheries, climate change, and ocean and coastal health. To learn more, visit their [organizational page on OceanSpaces](#).
- **Promoting Resilience and Adaptive Capacity:** We are strengthening our work to support the State with the science needed to adapt to a changing climate. Integral to this will be the OPC-SAT. We will be engaging the OPC-SAT to develop a process for updating California’s statewide sea-level rise guidance. We will also be working with the California Department of Fish and Wildlife (CDFW) and the Fish and Game Commission to convene an OPC-SAT working group to assess vulnerability of California’s fisheries to climate change. Taking the broad view, through these projects we aim to launch a new science-policy conversation about climate adaptation.
- **Implementing the Findings of the [West Coast Ocean Acidification & Hypoxia Science Panel](#):** Another critical component of our climate change work is advancing decision-makers’ understanding at the state, regional, and federal levels of changing ocean chemistry, and how it is impacting species, industries, ecosystems, and communities. As we look toward the conclusion of the Panel itself, we will be working closely with the OPC to integrate the Panel’s findings into management and policy in California, and ensure they remain at the center of a growing regional and federal dialogue.

- **Leveraging State Investments: Putting the MPAs to Work:** Ocean Science Trust pilots an innovative, sustainable monitoring program that takes the pulse of ocean ecosystems. Through our baseline and long-term monitoring projects, we are leveraging the MPAs not just to understand MPA performance, but also to evaluate management actions and inform future decisions across jurisdictions and mandates, including fisheries and climate change stressors.
- **Building a Shared Vision for Ocean and Coastal Health:** California's ocean and coastal health is the goal that motivates our projects. As we advance the science of climate change on multiple fronts, and assess ecosystem health through MPA monitoring, Ocean Science Trust and other state agencies are recognizing the emerging opportunity to come together and build a science-based vision for ocean and coastal health that helps to clarify what we're collectively working toward.

Past Ocean Science Trust Sea Grant fellows have had the opportunity to participate in a wide range of topics depending on their expertise and interests, and have often assumed leadership roles. We also greatly value professional development at Ocean Science Trust, and will mentor the fellow by drafting and pursuing professional goals, offering assistance in resume building, and ensuring the fellow is provided networking opportunities.



2016 State Coastal Conservancy Sea Grant Fellow Opportunity Climate Ready Program

Host location and contact information:

State Coastal Conservancy
1330 Broadway, Floor 13
Oakland, CA 94612-2530

Fellowship Supervisor: Mary Small

Point of contact for prospective fellows and finalists:

Mary Small
Deputy Executive Officer
510-286-4181, mary.small@scc.ca.gov

Position description(s)

General Overview: Established in 1976, the State Coastal Conservancy (SCC) is the non-regulatory coastal management agency for California. The SCC uses collaborative approaches and works in partnership with local and other public agencies, nonprofit organizations, and private landowners to protect and restore coastal lands, waterways, and watersheds, to improve public access and recreational opportunities, and to sustain local economies. The SCC works along the entire coast, within coastal watersheds, and throughout the nine-county San Francisco Bay Area. In 2012, the legislature and governor empowered the SCC with a new authority to prepare for and mitigate the effects of climate change. This broad mandate allows the Conservancy to support others or directly undertake planning and implementation of on-the-ground projects, and to undertake initiatives such as the following:

- Protect (through acquisition) and improve (through restoration and management) the quality and resiliency of coastal wetlands, streams, watersheds, and near-shore ocean waters;
- Reduce potential impacts of climate change on natural and human communities by supporting development of science-based local and regional planning, and implementation of projects that address extreme weather events, sea level rise, storm surge, beach and bluff erosion, flooding, and other threats to coastal communities, infrastructure, and natural resources;
- Improve public access and recreational opportunities to and along the coast and bay shores by building trails and stairways, acquiring land and easements, and supporting development of campgrounds and hostels;
- Work with local communities to revitalize urban waterfronts; and
- Protect agricultural lands and working landscapes.

The SCC's "climate" fellow will support and help lead its "Climate Ready" program which directly targets the critical work of protecting important coastal resources and habitats from the current and future impacts of climate change and of reducing greenhouse gas emissions. This work is either initiated by Conservancy or through competitive grant rounds and its scope scans all phases of adaptation planning and project construction. In the last three years, the Conservancy conducted three grant rounds awarding a total of \$7.3 mill for 42 projects, 23 of which support planning or implementing actions that address resiliency to sea level rise. Much of the Conservancy's work involves collaborating with scientists and other professionals to apply the latest science to on-the-ground coastal resource protection and restoration.

Specific Scope of Work

Supervised by the SCC's Deputy Director, the "climate" CSG fellow's tasks will be varied and may include any or all of the following:

- Provide technical, scientific and administrative support to the work of the SCC's climate change committee and as needed, to any multi-agency collaborative that the SCC participates in such as the Bay Area Ecosystem Climate Change Consortium, the Climate Action Team, and the Alliance for Regional Collaborative for Climate Adaptation;
- Support development and maintenance of a dynamic science-informed Climate Ready program by updating and improving the inventory and tracking the progress of the SCC's climate projects, refining programmatic priorities to reflect emerging issues and new science; and supporting communication about the SCC's climate work and science and management issues related to climate change by contributing to emails, the SCC's website, planning and educational forums, conferences, and other means;
- Develop and/or manage pilot climate studies or adaptation projects. This may involve preparing one or more staff recommendations for SCC board approval, preparing the grant agreement(s), working with grantee(s) to finalize work plans and project budgets, and overseeing completion of work tasks;
- Co-lead or help manage a Climate Ready or Proposition 1 grant round;
- Review and rank grant applications submitted for funding on a rolling basis;
- Support and lead work for the California Collaborative on Coastal Resilience (CCCR) in cooperation with the California Coastal Commission, State Lands Commission, and the Ocean Protection Council. Currently, this involves co-leading the Humboldt County Resiliency Plan, but may involve initiating an additional regional resiliency planning process;
- Develop one or more white papers associated with SCC climate work, such as finding and information associated with a planned sand dunes conference; and
- Work collaboratively with other Sea Grant Fellows and agency staff to support Coastal Conservancy funded grants for the update of Local Coastal Program (LCP) to address sea-level rise and related climate change impacts.

The SCC is committed to fostering and developing the fellow's professional goals as much as possible, and will tailor the suite of tasks accordingly.



State Coastal Conservancy Sea Grant Fellow Opportunity South Coast Program

Host location and contact information:

State Coastal Conservancy
1330 Broadway, Floor 13
Oakland, CA 94612-2530

Fellowship Supervisor(s): Megan Cooper, Joan Cardellino

Point of contact for prospective fellows and finalists:

Megan Cooper
Deputy Program Manager, South Coast
510-286-4172, mcooper@scc.ca.gov

Position description(s)

General Overview: Established in 1976, the State Coastal Conservancy (SCC) is the non-regulatory coastal management agency for California. The SCC uses collaborative approaches and works in partnership with local and other public agencies, nonprofit organizations, and private landowners to protect and restore coastal lands, waterways, and watersheds, to prepare for and mitigate the effects of climate change, to improve public access and recreational opportunities, and to sustain local economies. The SCC works along the entire coast, within coastal watersheds, and throughout the nine-county San Francisco Bay Area. This broad mandate allows the Conservancy to support others or directly undertake planning and implementation of on-the-ground projects, and to undertake initiatives such as the following:

- Protect (through acquisition) and improve (through planning, restoration and management) the quality and resiliency of coastal wetlands, streams, watersheds, and near-shore ocean waters;
- Address the potential impacts of climate change on natural and human communities by supporting development of science-based local and regional planning, and implementation of projects that address extreme weather events, sea level rise, storm surge, beach and bluff erosion, flooding, and other threats to coastal communities, infrastructure, and natural resources;
- Improve public access and recreational opportunities to and along the coast and bay shores by building trails and stairways, by acquiring land and easements, and supporting the development of low-cost accommodations along the coast, including campgrounds and hostels;
- Work with local communities to revitalize urban waterfronts; and
- Protect agricultural lands and working landscapes.

Specific Scope of Work: The SCC fellow will help carry out work which involves collaborating with scientists and other professionals to apply the latest science to on-the-ground coastal resource protection and restoration. Specifically, the fellow will be placed in the SCC's South Coast Program to help support the [Southern California Wetlands Recovery Project \(WRP\)](#), a broad-based partnership of 18 state and federal agencies working in concert with scientists, local governments, and environmental organizations. In the coming year, the WRP will undertake the following actions, which the fellow will work to support:

- Participate in a large science collaborative process to determine how to incorporate information about past, present, and predicted future conditions (such as historical ecology and climate change research) into a framework/tool that guides conservation goals.
- Update the *Regional Strategy*, which will involve defining, and assessing ecosystem services, and incorporating products from the science collaborative process.
- Continue to develop an in-lieu fee program, including preparation of site-specific mitigation plans.
- Coordinate and provide staff support for meetings of the various branches of the WRP including the Board of Governors annual meeting, Science Advisory Panel regional meetings (two to three per year), Wetlands Managers Group monthly meetings, and County Task Force meetings as needed.
- Assist in the development of the Headwaters to Ocean (H2O) Conference, an annual professional conference that draws together scientists, resource managers, public stakeholders and decision-makers around the topic of coastal management.
- Increase the WRP's public visibility by managing social media and web outreach.

The fellow will have the opportunity to work with leading wetland scientists, practitioners, and managers. Tasks may include helping to determine management and science needs, facilitating movement of a very diverse group toward those goals, reviewing and writing technical papers, participating in meetings, conducting site visits, undertaking GIS work, and managing contracts and budgets.

Although helping to staff the work of the WRP will be the fellow's primary task, s/he will likely also take on other SCC projects such as public access (e.g., trail and open space planning and construction), urban waterfronts (e.g., projects that bring together public access, economic, and fisheries elements), habitat restoration, or climate change adaptation (e.g., "living shorelines" projects that use nature-based solutions to address erosion and provide/maintain habitat). Tasks may include project development, project and contract management, presentations to the SCC Board and others, and leadership in communications (e.g., website, social media). The SCC is committed to fostering and developing the fellow's professional goals as much as possible, and will tailor the suite of tasks accordingly.



Southern California Coastal Water Research Project (SCCWRP) Sea Grant Fellow Opportunity

Host Location

Southern California Coastal Water Research Project (SCCWRP; www.sccwrp.org)
3535 Harbor Blvd., Suite 110
Costa Mesa, CA 92691

Supervisors and Point of Contact for Prospective Fellows and Finalists

Stephen B. Weisberg, Ph.D.
Executive Director
714-755-3203
steve@scsccwrp.org

Martha Sutula, Ph.D.
Principal Scientist, Biogeochemistry Department
714-755-3222
marthas@sccwrp.org

Position Description

The Southern California Coastal Water Research Project Authority (www.sccwrp.org), an inter-governmental coastal research agency, is seeking a Seagrant Fellow to conduct research and help develop policy on the effects of anthropogenic nutrients on stream algal ecology to support the development of nutrient criteria.

SCCWRP is a leading U.S. environmental research institute that works to develop a scientific foundation for informed water-quality management in Southern California and beyond. Since its founding as a public agency in 1969, SCCWRP has been a champion of sound interdisciplinary approaches to solving complex challenges in water management. SCCWRP's staff of more than 40 researchers investigates not only how to more effectively monitor and protect Southern California's ocean and coastal watersheds, but also how to bridge the gap between water-quality research and the management community that relies on this science. Through a 14-member governing board – known as the SCCWRP Commission and made up of wastewater dischargers, stormwater agencies and water-quality regulators from across Southern California – SCCWRP builds consensus and develops real-world management solutions, paving the way for collaborators and stakeholders to coalesce around shared, long-range research goals.

SCCWRP is the scientific lead on a California State Water Resources Control Board program (hereto referred to as "Water Board"; www.swrcb.ca.gov) to develop nutrient criteria for the state's surface waters, focused on wadeable stream and estuaries (www.waterboards.ca.gov/water_issues/programs/nutrient_objectives/development/). SWRCB staff favor a "bioconfirmation" approach, in which endpoints for ecological response indicators (e.g., algal abundance and community metrics, dissolved oxygen) are used in tandem with nutrient targets to establish goals for waterbodies. Water Board staff also favors the idea of allowing for watershed-based nutrient management where urban or agricultural land uses may make it difficult to meet proscribed targets. There are many important policy issues in the implementation of a watershed nutrient management approach that Water Board staff is considering how to address.

To kick start discussions on the policy issues associated with such an approach, SCCWRP is assisting the San Diego Regional Water Quality Control Board and stakeholders of the Santa Margarita River to develop a watershed approach to establishing nutrient targets, where the river tributaries and the downstream estuary have been designated as impaired for nutrient overenrichment. The goal of this project is to establish nutrient targets for Santa Margarita River and Estuary, utilizing field data

collection, statistical analyses, and computer modeling tools to develop a watershed-based nutrient management strategy. The project provides an opportunity to work through policy issues associated with the implementation of “watershed approach” to nutrient management.

SCCWRP is seeking a Sea Grant Fellow to support research activities and the translation of science to policy applications for both the Santa Margarita River Watershed project and the [Statewide Nutrient Objective Program](#). We anticipate that the position will consist of field research and associated data analyses to support Santa Margarita River Watershed science approximately 50% of the time. The remainder of the time will be focused on supporting the State Water Board, the San Diego Regional Water Board, and stakeholder discussions of the policy implications of this science and can be tailored to the Seagrant Fellow’s interest. Examples of this can include developing white papers on technical options underlying implementation issues, interviewing Regional Board staff to understand barriers to ideas or existing precedents, and conducting literature reviews of innovative watershed nutrient management approaches. In addition, the Sea Grant fellow would be trained and mentored in SCCWRP’s approach to facilitation at stakeholder meetings, both for Santa Margarita River Watershed and for the Statewide Wadeable Stream Nutrient Objectives Program.

The preferred candidate will have, at minimum, a Masters degree in stream or coastal ecology or biogeochemistry with excellent oral and written communication skills and the ability to work independently. Experience with quantitative data analyses, interest and demonstrated experience in field work and laboratory analyses is a plus.



CA State Lands Commission Sea Grant Fellow Opportunity Division of Environmental Planning and Management

Host Location

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

Fellowship Supervisors

Environmental Program Managers within the Environmental Planning and Management Division

Point of contact for prospective fellows and finalists

Cy Oggins
Environmental Planning and Management Division Chief
cy.oggins@slc.ca.gov
(916) 574-1880

Agency Background

The [California State Lands Commission](#) (CSLC) is an independent and dynamic state agency that works on the cutting edge of integrating science into policy decisions. One of the CSLC's major roles is to act as the landlord for lands within its jurisdiction. When California became a state in 1850, it acquired approximately four million acres of land underlying the State's navigable and tidal waterways. These "sovereign lands" include the beds of California's navigable rivers, lakes, and streams, as well as the State's tide and submerged lands along the State's 1,100+ miles of coastline and offshore islands, from the mean high tide line to three nautical miles offshore. The CSLC holds these lands in trust for the people of California under the Public Trust Doctrine.

Part of the CSLC's trust responsibility includes reviewing and approving or denying lease applications for uses of or activities on sovereign lands (e.g., major energy projects, artificial reefs, piers, etc.). Activities on sovereign lands must be appropriate public trust uses, including commerce, fishing, navigation, environmental preservation, and recreation. The CSLC is the main agency tasked with protecting public access and overseeing public trust uses. Valid public trust uses often conflict with each other; the CSLC works to manage those conflicts and ensure that the Public Trust Doctrine is upheld on sovereign land. In this way, the CSLC, along with its sister state agencies, decides on appropriate uses for California's ocean and proactively plans for future issues and conflicts.

The three-person Commission is comprised of the Lieutenant Governor, State Controller, and the Director of Finance. One Fellow will be supervised by [Division of Environmental Planning and Management \(DEPM\)](#) managers. DEPM is the lead division for California Environmental Quality Act (CEQA) review and compliance; spearheading projects that facilitate interagency coordination; adaptation to climate change and sea-level rise; and forward-thinking decision-making. DEPM staff also coordinates extensively with staff in other CSLC divisions, including: Executive, Legal, External Affairs, Mineral Resources Management, and Land Management.

Position Description

DEPM's Sea Grant Fellow will have the opportunity to work on complex and challenging marine and coastal issues. Accordingly, the Fellow will likely have a variety of short-term and long-term projects throughout the fellowship year. Some projects might be open-ended or investigatory; others could emerge as a function of DEPM's CEQA management role and have specific products and deadlines, such as drafting comment letters and reviewing environmental analysis documents. The Fellow will also be

welcome to participate in conferences, interagency meetings, and collaborative projects with other Fellows as opportunities arise. Our 2012-15 Sea Grant Fellows worked on and participated in the following projects and activities:

- Participated in the State Coastal Leadership Group on Sea-Level Rise and the California Collaborative on Coastal Resilience's Humboldt Pilot Project;
- Assisted with the update of the CSLC's lease application to address sea-level rise and developed a webpage to help applicants account for it;
- Represented the Commission in collaborative working groups, including the Marine Protected Areas Statewide Leadership Team, the California Seafloor and Coastal Mapping Steering Committee, and the Marine Resources Companion Plan Development Team for the 2015 State Wildlife Action Plan update;
- Attended training to explore and assess the latest coastal and marine spatial planning tools and techniques for potential utility to the Commission;
- Reviewed and provided feedback on Sea Grant research proposals;
- Drafted and presented to State Lands Commissioners reports on marine renewable energy and marine debris;
- Assisted with the review and update of the CSLC's low energy Offshore Geophysical Permit Program;
- Wrote memoranda on discrete regulatory and CEQA issues and drafted comment letters on draft environmental impact reports and draft environmental impact statements for major projects off the California coast;
- Attended Commission meetings, legislative hearings, and relevant coastal and marine conferences;
- Presented at the Headwaters to Ocean Conference; and
- Volunteered for the Thank You Ocean campaign.

Specific project and program duties will be developed collaboratively among the Fellow, Division Chief, and Environmental Program Managers, and will be based on the CSLC's needs that arise during the fellowship, as well as the Fellow's interests. The Fellow, if he or she desires, will likely have the opportunity to continue or collaborate on the current (2015) Sea Grant Fellow's projects, with guidance from recent Fellows who are now full-time staff at the CSLC. Examples of topics that our staff works on include:

- Sea level rise and climate change
- Marine renewable energy
- Aquatic invasive species
- Offshore oil development and terminals
- Marine spatial planning
- Granted lands
- Underwater Infrastructure
- Artificial Reefs

Desirable Qualifications

- Ability to work both independently and with diverse interdisciplinary teams that require clear communication;
- Ability to apply and develop expertise in natural resources and coastal management issues;
- Ability to translate science into layman's terms;
- Ability to work toward consensus positions with governmental, private, and public interest groups; and
- An interest in CEQA and other natural resource laws, rules, and regulations (e.g., National Environmental Policy Act (NEPA), California Coastal Act, California Ocean Protection Act, Federal and State Endangered Species Acts, etc.).



CA State Lands Commission Sea Grant Fellow Opportunity Legal, Environmental Planning, and Mineral Resources Management Divisions

Host Location

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

Fellowship Supervisors

Staff Counsel within the Legal Division in close coordination with Environmental Program Managers within the Environmental Planning and Management Division and Engineering staff within the Mineral Resources Management Division

Point of contact for prospective fellows and finalists

Cy Oggins
Environmental Planning and Management Division Chief
cy.oggins@slc.ca.gov
(916) 574-1880

Agency Background

The [California State Lands Commission](#) (CSLC) is an independent and dynamic state agency that works on the cutting edge of integrating science into policy decisions. One of the CSLC's major roles is to act as the landlord for lands within its jurisdiction. When California became a state in 1850, it acquired approximately four million acres of land underlying the State's navigable and tidal waterways. These "sovereign lands" include the beds of California's navigable rivers, lakes, and streams, as well as the State's tide and submerged lands along the State's 1,100+ miles of coastline and offshore islands, from the mean high tide line to three nautical miles offshore. The CSLC holds these lands in trust for the people of California under the Public Trust Doctrine.

Part of the CSLC's trust responsibility includes reviewing and approving or denying lease applications for uses of or activities on sovereign lands (e.g., major energy projects, artificial reefs, piers, etc.). Activities on sovereign lands must be appropriate public trust uses, including commerce, fishing, navigation, environmental preservation, and recreation. The CSLC is the main agency tasked with protecting public access and overseeing public trust uses. Valid public trust uses often conflict with each other; the CSLC works to manage those conflicts and ensure that the Public Trust Doctrine is upheld on sovereign land. In this way, the CSLC, along with its sister state agencies, decides on appropriate uses for California's ocean and proactively plans for future issues and conflicts.

The three-person Commission is comprised of the Lieutenant Governor, State Controller, and the Director of Finance. The Fellow will be supervised primarily by Staff Counsel within the CSLC's Legal Division, in coordination with a Division of Environmental Planning and Management (DEPM) manager and Mineral Resources Management Division (MRMD) petroleum engineering staff. DEPM is the lead division for California Environmental Quality Act (CEQA) review and compliance as well as scientific investigation and coastal policy development; MRMD is responsible for the safe and environmentally responsible development, regulation, and management of all energy and mineral resources including oil and gas.

Position Description

This Sea Grant Fellow will have the opportunity to work on investigatory projects throughout the fellowship year involving complex and challenging marine and coastal issues related to:

- Natural oil and gas seeps;
- Legacy oil wells and other coastal hazards;
- Natural Resource Damage Assessment (NRDA);
- Coastal oil behavior.

For example, the area along the northern Santa Barbara Channel is one of the most prolific hydrocarbon seepage areas in the world with the most intense seepage in the Coal Oil Point seep field just west of the city of Santa Barbara. Seepage of oil and emissions of natural gas and volatiles from oil are significant sources of ocean, beach, and air pollution in Santa Barbara County (see: www.sbcountyplanning.org/energy/information/seepspaper.asp). In addition, the CSLC staff coordinates, through responsible parties, the planning and field activities for removal of dangerous remnants of coastal structures, piers, wells and pilings, many related to legacy oil and gas development, to eliminate to the extent possible, the hazard these remnants present to the public (see: www.slc.ca.gov/Programs/Coastal_Hazards/SB_Hazards.pdf).

Project work is likely to include:

- Reviewing seep-related studies and articles, including a 2007 seep study focusing on the Santa Barbara Channel, and assisting in any updates to studies as necessary;
- Researching and performing a case study of legacy oil wells in Summerland, Santa Barbara County;
- Developing educational materials and conducting outreach to Santa Barbara county communities on the history, extent, activity, changes, and impacts associated with local seeps and legacy oil wells and other hazards;
- Participating in NRDA interagency meetings and/or NRDA policy development; and
- Coordinating with staff from other agencies and entities, such as the Ocean Protection Council, Ocean Science Trust, California Coastal Commission, California Department of Fish and Wildlife, Santa Barbara County Energy Division, etc.

The Fellow will be welcome to participate in the Commission's Prevention First symposium and other conferences, as well as interagency meetings, and collaborative projects with other Fellows as opportunities arise. Among other meetings and events, our 2012-15 Sea Grant Fellows drafted and presented reports to State Lands Commissioners; attended Commission meetings, legislative hearings, and relevant coastal and marine conferences; and represented the CSLC in collaborative working groups, including the State Coastal Leadership Group on Sea-Level Rise, Marine Protected Areas Statewide Leadership Team, California Seafloor and Coastal Mapping Steering Committee, and Marine Resources Companion Plan Development Team for the 2015 State Wildlife Action Plan update. Specific project and program duties will be developed collaboratively among the Fellow, Division Chiefs, and various team supervisors.

Desirable Qualifications

- Ability to work both independently and with diverse interdisciplinary teams that require clear communication;
- Ability to apply and develop expertise in natural resources and coastal management issues;
- Ability to translate science into layman's terms;
- Background in Chemistry, Engineering, or other related discipline;
- Willingness to travel frequently for field visits in the coastal Santa Barbara County region and CSLC's Long Beach Office; and
- An interest in natural resource laws, rules, and regulations.



California Department of Parks and Recreation
Natural Resources Division
Sea Grant Fellow Opportunity

Host location

Natural Resources Division, California State Parks
1416 9th St, Room 923
Sacramento, CA 95814
Phone: 916-653-6725

Name of fellowship supervisor

Laurie Archambault
Environmental Program Manager laurie.archambault@parks.ca.gov
916-651-3743

Point of contact for prospective fellows and finalists

Tara Ursell
Environmental Scientist
tara.ursell@parks.ca.gov
916-653-3254

Position Description

California State Parks' Natural Resources Division (NRD) provides general policy direction and technical assistance for natural resource management. In addition, NRD administers major funding programs for natural resources management and ecological restoration throughout the State Park System and coordinates with other state and federal agencies on issues of statewide significance. Currently, California State Parks protects and manages 98 coastal park units that span a substantial portion of the state's coastline. With expected impacts from Sea-level Rise (SLR) and an increase in extreme events along the California coast, identifying and addressing management priorities for coastal State Park units is becoming increasingly critical for the protection of coastal resources.

The 2016 Sea Grant fellow will have a unique opportunity to inform State Parks policy and program development and assist in the development of natural resource management solutions, with a focus on coastal parks. The Sea Grant fellow will work closely with NRD headquarters, and district staff, and will coordinate with the Ocean Protection Council (OPC) as an integral team member on a leading edge of natural resource management in State Parks. The fellow will also have the opportunity to interface directly with senior government officials and leaders in natural resource management policy. Sea Grant fellow work products include presentations and reports that may be shared throughout the department and with external entities.

Potential Projects and Duties

Specific project and program duties will be developed collaboratively with the Sea Grant fellow. Listed below are several project opportunities that address a mix of policy and technical needs:

Refine strategies and policies to better address climate change

Evaluate existing State Parks policies and management directives in light of expected climate change and SLR impacts. Work with the NRD Environmental Program Manager to prepare policy revisions for consideration by State Parks leadership.

Contribute to on-going studies

Work with the State Parks staff and external partners to produce a report describing potential SLR impacts to coastal State Park units. Depending on the status of this project at the time the fellowship commences, the fellow may be responsible for preparing sections of the report, such as background summaries of the state of the science, key findings from technical analyses, and recommendations for the department's response to SLR-related coastal vulnerabilities.

Communicate and coordinate with department staff and other partners

Prepare and deliver presentations to State Parks leadership and staff. Presentations may address Parks-focused studies and issues (including findings from the SLR report described above). Presentations may include findings from additional studies for particular regions or coastal topics. Engage directly with department staff to increase awareness and understanding of relevant resources for coastal resource management.

Collaborate with and serve as liaison to the OPC. Participate in meetings and coordinate with program staff at the California Natural Resources Agency, California Coastal Conservancy, California Energy Commission, other state and federal agencies, and NGOs regarding coastal issues. Disseminate applicable information to appropriate audiences, including State Parks HQ and district staff.

Work with coastal State Park districts to identify local priorities and opportunities to address the impacts of climate change. Assist field and district staff in conveying these priorities to regional and State partners.

Collaborate with State Parks' Interpretation and Education Division, the OPC, and others to develop communication strategies and public information related to global climate change and climate change adaptation strategies.

Analyze and integrate data to address SLR and other global climate change impacts

In collaboration with the OPC, Coastal Commission and others, recommend data sets and analytical approaches to assist district and field staff with addressing local land management decisions. Provide land managers with assistance incorporating SLR data in project development and grant applications. As appropriate, develop or revise existing guidance documents to ensure system-wide access to information about data products.

Compile existing research and establish a State Parks-focused research agenda

Compile and communicate relevant scientific research to State Park HQ and district staff. Work with department staff and external partners to identify and develop research questions that would advance the department's understanding of coastal processes and resource management.

Participate in adaptation science conferences related to biological diversity, coastal adaptation, land management, and recreation management.

Assist on other coastal issues

Work with NRD and district staff on other coastal issues as needed, including but not limited to those related to estuary management.



State Water Resources Control Board Sea Grant Fellow Opportunity

Host location

State Water Resources Control Board - Division of Water Quality
Cal/EPA Building
1001 I Street, 15th Floor
Sacramento, CA 95814

Fellowship supervisor and point of contact for prospective fellows and finalists

Dr. Maria de la Paz Carpio-Obeso
Senior Environmental Scientist, Ocean Unit
MarielaPaz.Carpio-Obeso@waterboards.ca.gov

Position Description

The State Water Resources Control Board was created by the legislature in 1967. Our mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. <http://www.waterboards.ca.gov/>. The Ocean Unit is under the Surface Water Branch of the Division of Water Quality http://www.waterboards.ca.gov/about_us/org_charts/display.php

Under the general direction of the manager of the Ocean Unit, the Sea Grant Fellow (Fellow) will perform complex analysis involved in the development and implementation of State policies and plans for the protection of ocean and coastal waters. In performing these duties, the Fellow shall interact with interested agency staff, stakeholders and the general public in a courteous and helpful manner. The Fellow is responsible for the quantity, quality, and timeliness of work assigned.

The Ocean Unit is very dynamic with various activities and projects under the Division of Water Quality. These will include developing amendments to the California Ocean Plan related to nutrients and blue-green algae, implementation of special protections for Areas of Special Biological Significance (ASBS), implementing the Once-through Cooling Policy (OTC), implementing the desalination and trash Ocean Plan amendments, protecting and monitoring beach water quality; performing studies on vessel waste discharges, and participation in NOAA Mussel Watch Program.

The California Ocean Plan is the water quality control plan for near-coastal ocean waters, and includes water quality standards and programs of implementation to protect water quality http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2012.pdf

The Ocean Unit also works on other statewide plans and policies. These include setting sediment quality objectives for enclosed bays, estuaries and inland waters http://www.waterboards.ca.gov/water_issues/programs/bptcp/sediment.shtml and implementation of California's Once-Through Cooling Policy. The Once-Trough Cooling

Policy addresses the impacts on marine and estuarine life of cooling water intakes at electrical power generating facilities, implementing section 316 (b) of the Clean Water Act.

In working on Ocean Plan amendments and other water quality plans and policies the Fellow's duties may involve all phases of the public planning process, including participation in scientific studies, California Environmental Quality Act (CEQA) scoping, discussion with interested parties to identify possible alternatives for action, preparation of environmental documentation, public hearings, response to public comments, recommendations to the Board, and preparation of the administrative record for any changes that the Board adopts.

The Fellow also will perform other duties, as assigned, to support the Ocean Unit and Division of Water Quality.