

BRIEFING BOOK

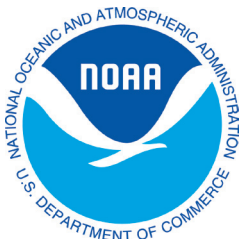
CALIFORNIA SEA GRANT

La Jolla, CA
July 21-22, 2015





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Program Management and Organization

Leadership

California Sea Grant is a unique partnership that unites the resources of the federal government, the State of California and universities across the state to create knowledge, products and services that benefit the economy, the environment and the citizens of California. The program encompasses research, extension, education and communication to address critical coastal issues and science-based decision making.

The CASG management team sets policies and coordinates the program's activities in one of the most populous and diverse coastal states in the nation. The team meets approximately monthly, and uses telephone and email discussions to deal with urgent business that arises between meetings. The members of the management team and their responsibilities are:

Director, James Eckman, is responsible for overall execution of the program, supervises management team members, handles proposal processing/review and award recommendations for annual awards from NOAA core funds, is a delegate for the national Sea Grant Association, and networks and promotes the program within the state and nationally. Since the departure of former CASG Associate Director Shauna Oh at the end of 2014, Eckman is also responsible for administering the marine science and policy graduate and postdoctoral fellowships and the evaluation process for all noncore research proposals submitted to the program.

Administrative & Fiscal Officer, Rose Madson, oversees administrative operations, budgetary and fiscal monitoring and compliance issues for CASG. She supervises and leads the fiscal and programming support staff in carrying out the operational and fiscal services for CASG faculty and programs. She is responsible for applying NOAA and National Sea Grant fiscal policies and budget analysis as well as overseeing all program expenditures for NOAA and other sources of funds.

Communications Coordinator*, Deborah Seiler, who joined the program in fall 2014, is responsible for program communications, disseminating scientific information from funded research, and supporting outreach and education efforts to promote marine science literacy. **Seiler leads the two-person communications team, and briefs the formal management team on communications' activities. She is not a member of the formal management team.*

Extension Director, Richard Starr**, leads a team of highly trained academics who identify important coastal and marine issues and conduct integrated research, outreach and education projects. He facilitates collaborations among CASG Extension Academics (SGEP), California universities, state agencies, the National Sea Grant network, the National Sea Grant Office (NSGO), and CASG's NSGO program officer to address local, regional, national, and international issues. Also, Starr conducts his own extension projects. ***There is an ongoing search to recruit a permanent Director of Extension.*

Advisory Board

The CA Sea Grant Advisory Board (SGAB) advises the CASG Director and the UCSD Vice Chancellor for Marine Sciences (Scripps Institution of Oceanography Director). The SGAB plays an important role in guiding the CASG leadership team in program operation and direction. SGAB members bring broad expertise, experience, advice, and diverse perspectives to the program and include senior officials and leaders from business and industry, the state university system, and state government. SGAB members historically have served three-year terms but many have been reappointed to additional terms based upon the needs of CASG and its stakeholders. The SGAB meets as frequently as necessary, on average about once a year. In addition, in between formal meetings, the Sea Grant Director communicates with SGAB members via email about important developments in the program and encourages round-table discussion and feedback via this medium.

The current membership is:

- **Doug Bartlett, Professor**, Scripps Institution of Oceanography at University of California, San Diego. La Jolla, CA
- **Andy Cameron, Professor**, California Institute of Technology. Pasadena, CA
- **Gary Cherr, Professor**, University of California, Davis Bodega Marine Laboratory. Bodega Bay, CA
- **Toby Garfield, Director of Environmental Research**, NOAA Southwest Fisheries Center. La Jolla, CA
- **Garry Griggs, Professor and Director of Marine Sciences**, University of California, Santa Cruz. Santa Cruz, CA
- **Jim Harvey, Director of Moss Landing Marine Labs**, San Jose State University. Moss Landing, CA
- **Randy Lovell, State Aquaculture Coordinator**, California Department of Fish and Wildlife. Sacramento, CA
- **Amber Mace, Deputy Director**, California Council on Science and Technology. Sacramento, CA
- **Diane Pleschner-Steele**, DB Pleschner & Associates. Buellton, CA
- **Craig Shuman, Marine Region Manager**, California Department of Fish and Wildlife. Santa Barbara, CA
- **Steve Weisberg, Executive Director**, Southern California Coastal Water Research Project (SCCWRP). Costa Mesa, CA

Program Setting & Support

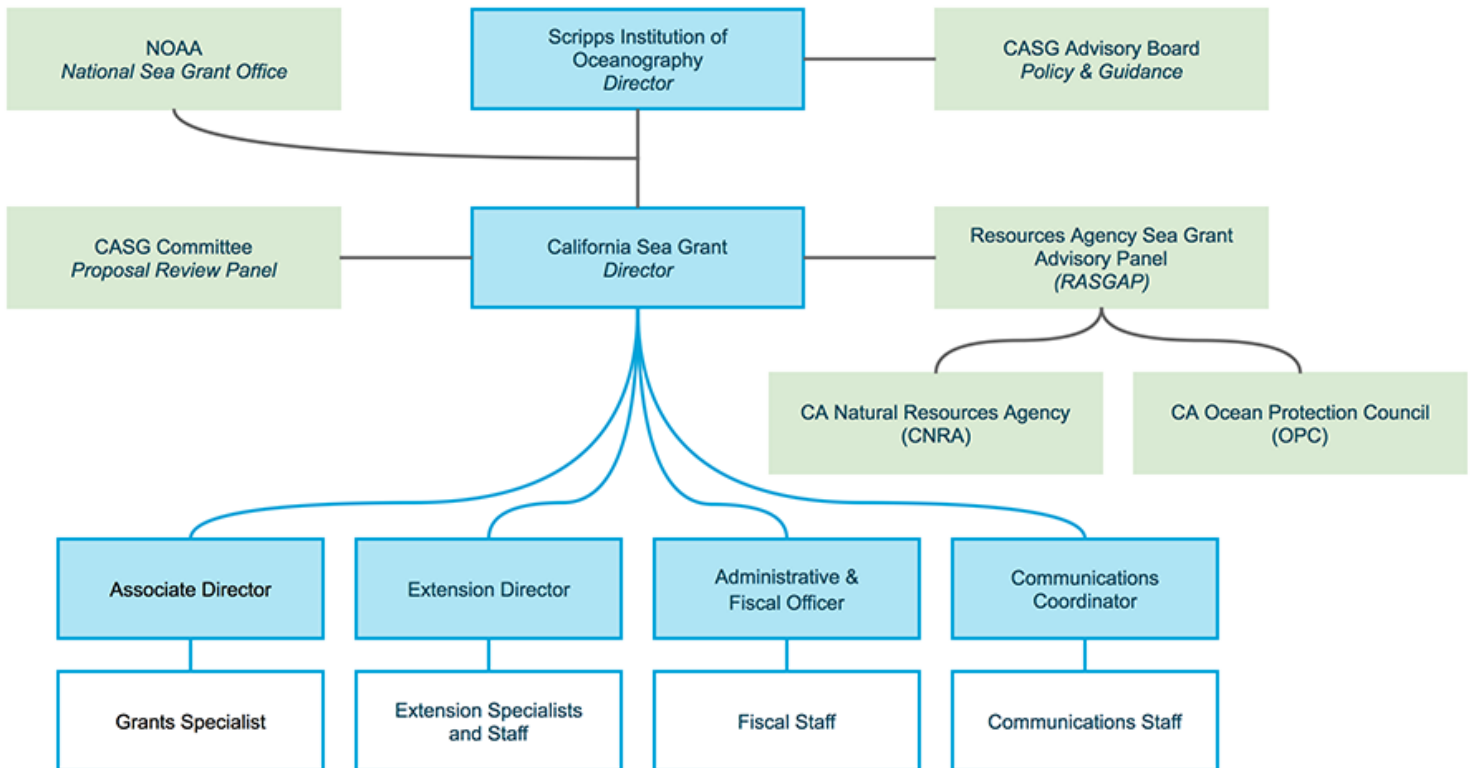
California Sea Grant is a statewide program that annually funds marine research, extension and education at more than 20 public and private institutions throughout the state.

California Sea Grant is based at Scripps Institution of Oceanography (SIO), University of California, San Diego. CASG reports to the UCSD Vice Chancellor for Marine Sciences, Dr. Margaret Leinen who also serves as Director of SIO. The program's administration and communications staff members are located on the campus of SIO, UCSD. The Director for Extension is located at Moss Landing Marine Laboratories, where he maintains an adjunct faculty position.

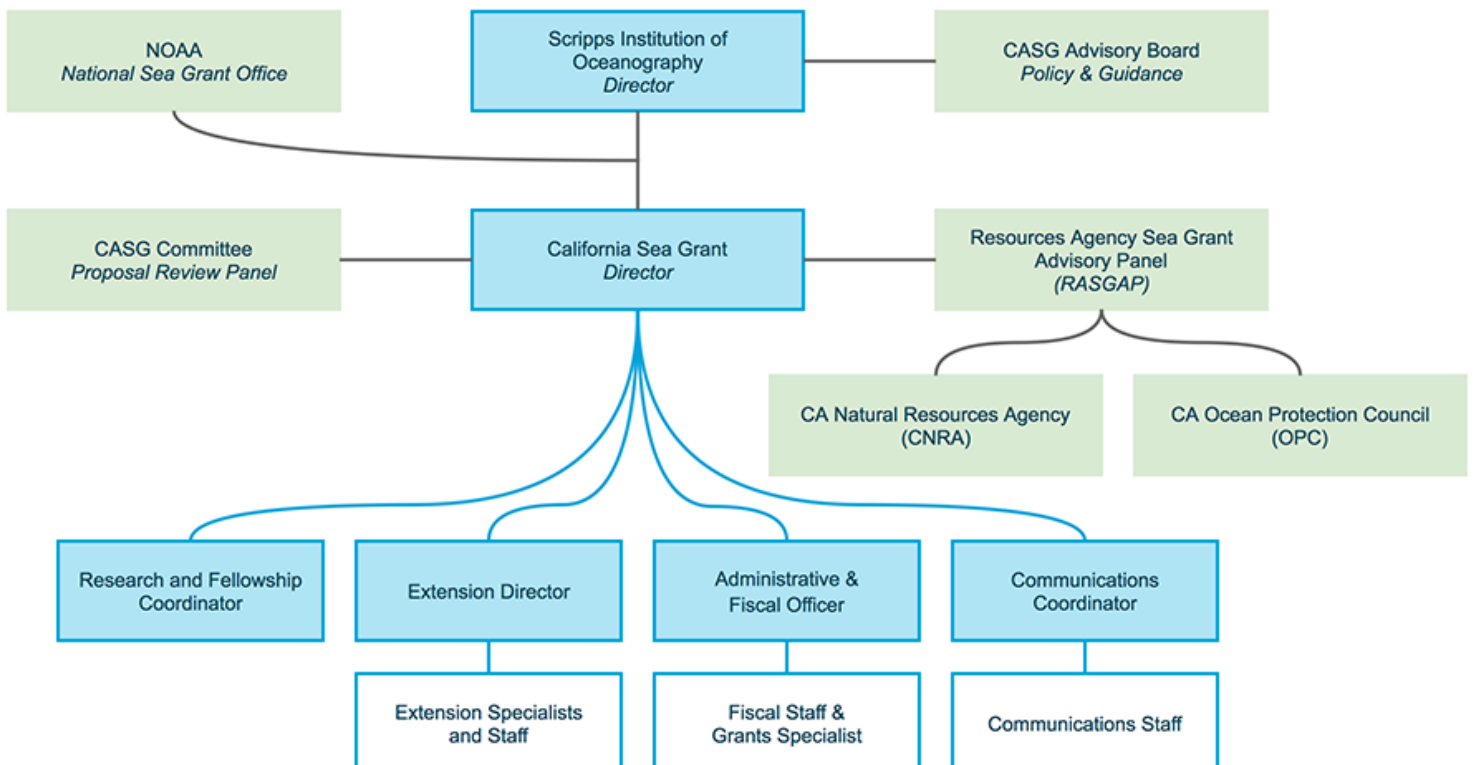
All eight full-time CASG Extension Specialists, each of whom is a UCSD academic employee, are strategically located at or near marine science institutions along the coast of California: Eureka (near Humboldt State University), Santa Rosa, UC Santa Cruz, Moss Landing Marine Laboratories (operated by the California State University system), UC Santa Barbara, California Polytechnic State University, San Luis Obispo (operated by the California State University system), and the Scripps Institution of Oceanography at UC San Diego.



PAST ORGANIZATION CHART



CURRENT ORGANIZATION CHART



Recruiting Talent

Setting Investment Priorities – CASG management strives to wisely invest and account for the public funds it receives and also be alert to emerging trends and opportunities. The program invests in research, extension and outreach based largely on Strategic Focus Areas identified in the national and state strategic plans, which have been carefully integrated. The program has an external Advisory Board and is regularly reviewed and evaluated by a national review panel assembled by the NSGO. This review solicits external comments from stakeholders and provides feedback to program management to encourage its continual improvement. Advice and feedback are incorporated into future program strategic plans and funded activities.

CASG regularly reviews its strategic plan and priorities to ensure that it maintains its vision and focus, and continues to play a leadership role in coastal and marine resource research, extension and outreach to benefit California, the West Coast region and the nation. To make the program more responsive to research priorities that may be in need of special and immediate attention CASG manages its core research proposals and awards under an “alternating year plan.” For proposals submitted in odd-numbered years we solicit proposals for “Standard Core Awards” of 1-2-year’s duration that would conduct research falling under any area of relevance to California Sea Grant, as defined by the primary goals listed in our strategic plan under one of our three Strategic Focus Areas. For proposals submitted in even-numbered years we solicit requests for comparatively small, 1-year “Special Focus” awards that are targeted toward specific topics. The topics of Special Focus awards are selected in each biennial cycle based on consultation with CASG’s Advisory Board and partners in key state agencies. Using this approach CASG can target emerging opportunities and priorities within the state, or can elect to promote new talent emerging in key research arenas.

Pre-proposals and proposals submitted under both Standard Core and Special Focus award competitions are subject to the same process of rigorous review.

Proposal Review – Preliminary proposals and full proposals submitted to CASG are evaluated via a review process designed to ensure the highest standards of integrity, and to ensure funded projects have both scientific novelty and relevance to program, state and national interests. Each year a call for preliminary project proposals (preproposals) is widely distributed via web-publication and email.

The California Sea Grant Committee (CSGC, membership identified on following page), comprised of academic scientists with expertise in areas funded by the program, conducts the initial review of preliminary proposals. At this stage, screening is based on the project’s innovative approach, uniqueness of the idea, importance, quality of science, and appropriateness to Sea Grant. Each preproposal is considered on its own merits without regard for campus or institutional affiliation. The Resources Agency Sea Grant Advisory Panel (RASGAP, membership identified below) conducts an additional review of preliminary proposals. This

panel is codified in California state law with the purpose of advising and assisting CASG (as well as the USC Sea Grant program). Input from RASGAP is directed toward identifying and meeting priorities for funding according to the needs identified by state resource protection and management agencies.

Based on input from RASGAP and CSGC, the CASG Program recommends a subset (typically $\approx 25\%$) of preproposals be submitted as full proposals.

Each full proposal is reviewed by a minimum of three scientists expert in the topic of the proposal. Supported by these external, expert reviews the CSGC meets a second time to evaluate full proposals. Criteria for selection at this step include: (1) rationale; (2) scientific merit and impact or outreach quality; (3) innovativeness; (4) programmatic justification; (5) practical impact and user relationships; (6) relationship to Sea Grant priorities; (7) qualifications and past record of investigators or past record of program components; and (8) strength of outreach program including educational activities. Merit reviews, user collaboration, expected impact (scientific and practical), and letters of support from potential users help determine whether these criteria are met. The RASGAP panel also reviews full proposals, and provides a resource protection- and management-relevant view of proposal value.

When all the input is received from the external mail reviewers, the CSGC, and RASGAP, the California Sea Grant Management Team and Director of California Sea Grant make the final recommendations regarding approval of proposals for funding. The National Sea Grant Office is then sent those recommendations for final review and approval.

Competitive Research Results – Projects, Institutions, and Investigators (Core Funds)

	2011	2012	2013	2014
Preliminary Proposals				
Number of preliminary proposals	112	26	141	44
Number of institutions (for PIs and Co-PIs)	14	17	50	20
Full Proposals				
Number of full proposals	38	10	32	41
Number of institutions (for PIs and Co-PIs)	13	9	19	19
Number of reviews received (Number of reviewers contacted)	114	30	103	192
New and Continuing Projects and Recruitment of PIs				
New projects	13	7	12	9
Continuing projects	4	16	1	14
Number of PIs and Co-PIs funded	19	22	16	23
Number of new PIs and Co-PIs funded	6	7	5	7
Number of institutions (for PIs and Co-PIs)	10	14	10	10

Resources Agency Sea Grant Advisory Panel (RASGAP)

- Hannah-Beth Jackson, California State Senate
- Debbie Aseltine-Neilson, California Department of Fish and Wildlife
- Katcho Achadjian, California State Assembly
- Jennifer DeLeon, State Lands Commission
- Steven Murray, California State University Fullerton
- Nann Fanguie, University of California Davis
- Clif Davenport, California Department of Conservation
- Don Disraeli, California fish and seafood industries
- Charles Lester, California Coastal Commission
- Reinhard E. Flick, California Department of Parks & Recreation
- Margy Gassel, California Office of Environmental Health Hazard Assessment
- Mariela de la Paz Carpio-Obeso, State Water Resources Control Board
- James Moffett, University of Southern California - Department of Biological Sciences
- Dirk Rosen, Marine Applied Research & Exploration

California Sea Grant Committee (CSGC)

- Dr. Joel Fodrie, University of North Carolina (Research Interests: Fish & bivalve ecology and population dynamics; Estuarine trophodynamics)
- Dr. Patrick Gaffney, University of Delaware (Research Interests: Marine genomics and molecular ecology)
- Dr. John T. Hyde, NMFS Southwest Fisheries Science Center (Research Interests: Fisheries and fishery genetics)
- Dr. Rachel Noble, University of North Carolina (Research Interests: Water quality and marine microbial ecology, Environmental microbiology)
- Dr. Steve Rumrill, Oregon Department of Fish & Wildlife (Research Interests: Invertebrate reproductive biology, Life-history ecology, Ecosystem functions in marine and estuarine environments, Marine benthic ecology)
- Dr. Tammi Richardson, University of South Carolina (Research Interests: Phytoplankton ecology and oceanography)

Stakeholder Engagement

Leadership by Staff on Boards and Committees

The CASG staff members and Extension team participate and play leadership roles in a broad range of community and government organizations.

Carrie Pomeroy, *California Sea Grant Extension Specialist*

- California Dungeness Crab Task Force
- California Salmon Council
- Monterey Bay National Marine Sanctuary
- Seafood for the Future Advisory Board, Aquarium of the Pacific

Jennifer O’Leary, *California Sea Grant Extension Specialist*

- Central Coast Biological Society
- Society for Conservation Biology

Joe Tyburczy, *California Sea Grant Extension Specialist*

- Humboldt Bay Initiative (leader of Climate Change Working Group)
- Humboldt Sea Level Rise Adaptation Planning Working Group
- Eelgrass Management Working Group

Paul Olin, *California Sea Grant Extension Specialist*

- Aquaculture Development Committee
- Aquaculture Task Force to MAFAC
- California Shellfish Initiative
- California Salmon Council
- National Sea Grant Aquaculture 10-year Strategic Vision Committee

Shauna Oh, *Associate Director of CASG (left program Dec 2014)*

- Sea Grant Research Coordinators Delegation
- Sea Grant Education Network
- Program Mission Committee (SGA)
- West Coast Governor’s Agreement Fellowship Selection Committee
- Collaborative Fisheries Research West Executive Board
- California’s Coastal Sediment Management Workgroup
- California and the World Ocean (CWO) Meeting Committee Member
- MPA Baseline Program Management Team Member
- Sea Grant Association (Program Mission Committee; Network Advisory Council; eSG Implementation Committee)

James E. Eckman, *California Sea Grant Director*

- Science Advisory Committee, Southern California Coastal Ocean Observing System (SCCOOS)
- National Sea Grant Office Allocations Committee III

Partners and Stakeholders

CASG values its strong and varied partnerships with organizations and stakeholders whose missions and interests overlap with those of our program. The following pages list key partnerships and stakeholder organizations. Below are examples of how the program works collaboratively with its partners:

• **Developing Alternative Marketing Arrangements for Commercial Fishermen**

As part of a Sea Grant Social Science Research project to characterize and assess the social implications of alternative marketing arrangements (AMAs), Extension Specialists Carrie Pomeroy and Carolynn Culver led a collaborative effort with commercial fishermen, seafood buyers, colleagues from several Sea Grant programs, agency staff, and other scientists to collect, analyze and synthesize information about AMAs on the US East and West coasts. The project included interviews with more than 120 fishery participants. A key product of the research was the development of the Market Your Catch website [<http://marketyourcatch.msi.ucsb.edu>], which launched in May 2015 as a tool to better enable West Coast fishing communities to determine whether and how they might use various types of AMAs.

• **Beach & Sea Creature Hazards Video Series**

CASG partnered with Project Wipeout and Hoag Hospital (Orange Co., CA) to produce a beach injury prevention video, providing a marine science segment delivered by an Extension Specialist. Talley delivered a segment to educate beachgoers about potential sea creature hazards. The mission of Project Wipeout, as part of a non-profit community hospital, is to save lives and prevent injuries at beaches, both locally and nationwide, by developing and distributing beach safety information.

• **Halibut Assessment**

Sport fishing for Pacific halibut in northern California has become increasingly popular and important to anglers and local businesses, but faces major reductions in season to comply with the allocated catch for this region. Extension Specialist Joe Tyburczy partnered with the Humboldt Area Saltwater Anglers, faculty from Humboldt State University (HSU), the California Department of Fish and Wildlife, and other North Coast stakeholders to sponsor and support biological and economic research to help inform management decisions about the Pacific halibut sport fishery. The results were likely influential in the decision by the Pacific Fishery Management Council to increase the California’s share of the non-tribal quota for Area 2A (Washington, Oregon, California) from 1 percent in 2014 to 4 percent in 2015.

- **California Collaborative Fisheries Research Program**
Extension Specialist Rick Starr formed a California Collaborative Fisheries Research Program (CCFRP) in partnership with fishery participants, state and federal fishery scientists, NGO staff, harbor masters and university scientists. CCFRP is the longest running collaborative research data collection program in California and has measured over 57,000 fish and logged over 24,000 volunteer hours on board Commercial Passenger Fishing Vessels. The program has been used to evaluate near shore finfish stocks, monitor MPAs, conduct the first assessment of Rockfish Conservation areas, and ground-truth predictive fishery maps. The project has demonstrated that fishery participants and scientists can collaborate successfully to provide resource managers with accurate information, thus allowing members of the fishing community to help in the assessment of fishery resources and play an active role in the evaluation of marine policy.
- **Working Waterfronts**
Extension Specialist Theresa Talley has successfully fostered the creation of a new fishermen's market and corresponding legislation through her collaborative work with the San Diego fishing community, public, businesses, scientists, regulators and managers. The Tuna Harbor Dockside Market LCC opened in August 2014, and has been garnering average monthly sales of 6700 lb of seafood to 1400 customers. Talley also served on the Fishermen's Market Working Group lead by County of San Diego Dept. of Environmental Health, which drafted legislation that rewrites the California State Food Code to include Fishermen's Markets as a food facility and is currently in review (AB266 Atkins).
- **Santa Barbara Area Coastal Ecosystem Vulnerability Assessment**
California Sea Grant has worked with scientists from USGS, USC Sea Grant and Scripps Institution of Oceanography to better understand how climate change may affect the Santa Barbara area's coastal ecosystems – including beaches, wetlands, and watersheds. As the SBA CEVA project nears completion, the PIs have been conducting workshops, lectures and advising throughout Southern California to inform local climate resiliency plans. They are currently providing comments to inform: City of Santa Barbara draft Climate Action Plan (CAP) biological vulnerability section, City of Santa Barbara General Plan, City of Goleta CAP (update), Santa Barbara County CAP and adaptation plans, Gaviota Coast Plan, and City of Carpinteria's Coastal Land Use Plan



Key Partnership and Stakeholder Organizations

International

CORDIO
Inha University
James Cook University
Japanese Fisheries Research Agency
JHT Associates
Kenya Wildlife Service
Korea National Fisheries Development Institute
Korea National Maritime University
Korea Sea Grant
McGill University
Mokpo National Maritime University
NOAA - Korea Joint Projects Administration - Aquaculture
Pontificia Universidad Catolica de Chile
SSA, Inc.
Tanzania Marine Parks Authority
University of British Columbia
University of Victoria
US - Japan Natural Resources Panel on Aquaculture

Federal

Cordell Bank National Marine Sactuary
Elkhorn Slough National Research Reserve
Environmental Protection Agency
Monterey Bay National Marine Sanctuary
NASA Jet Propulsion Labratory
National Fish and Wildlife Foundation
National Sea Grant Advisory Board
National Sea Grant Law Center
National Sea Grant Library
National Sea Grant Office
NMFS Beaufort Labratory, SC
NMFS NWR
NMFS Santa Rosa, CA
NMFS SWFSC
NMFS SWFSC Santa Cruz, CA
NOAA Coastal Services Center-West Coast Regional Office
NOAA MPA Center
NOAA National Marine Fisheries
NOAA National Weather Service
NOAA Office of Aquaculture
NOAA Office of Ocean and Coastal Resources Management
NOAA Office of Protected Resources
NOAA's Monterey Bay and Channel Islands National Marine Sanctuary Programs
Pacific Fishery Management Council
Pacific States Marine Fisheries Commission
US Bureau of Reclamation
US Department of Agriculture
US Fish and Wildlife Service
US Geological Society
West Coast Governor's Alliance

Sea Grant Programs

Alaska, South Carolina, MIT, North Carolina, Oregon, Maine, New Hampshire, Washington, USC

State

Bodega Marine Lab
CA Coastal Commission
CA Coastal Conservancy
CA Department of Fish and Wildlife
CA Department of Fish and Wildlife- Marine Region
CA Department of Water Resources
CA Fish and Game Commission
CA Natural Resources Agency
CA Ocean Protection Council
CA Ocean Science Trust
CA Salmon Council
CA State Lands Commission
CA State Parks
Cal Poly - Center for Coastal and Marine Sciences
Cal Poly San Luis Obispo
California State Science Fair
CalTech
CSU - Council on Ocean Affairs, Science & Technology (COAST)
CSU Monterey Bay
Delta Science Program
Dungeness Crab Task Force
Dungeness Crab Working Group
Humboldt State University
Institute for Applied Marine Ecology, CSUMB
Middlebury Institute of International Studies (MIIS)
Moss Landing Marine Laboratories
MPA Monitoring Enterprise
Oregon Department of Fish and Wildlife
Pacific Shark Research Center
San Francisco State University
San Jose State University
San Jose State University Research Foundation
Stanford University
UC Berkeley
UC Cooperative Extension
UC Davis
UC Los Angeles
UC Riverside
UC San Diego
UC Santa Barbara
UC Santa Barbara Marine Science Institute
UC Santa Cruz
University of Alaska
University of Miami
University of North Carolina
University of Rhode Island
University of San Diego
University of Washington

Local

Briggs School
City of Arcata
City of Eureka
City of Monterey
City of Monterey Harbor Office
City of San Diego, Public Utilities Department
County of San Diego Dept. of Environmental Health
County of San Diego Office of Supervisor Cox
E.O. Green Junior High School
Fremont Intermediate School
Haydock Intermediate School
Humboldt Bay Harbor RC&D
McAuliffe Elementary School
North Coast Water Quality Control Board
Ocean View Junior High School
Parkview Elementary
Port San Luis Boatyard
Rio Vista Middle School
San Francisco Bay Conservation and Development Commission
Santa Barbara Harbor
Sierra Linda School
Sonoma County Water Agency
Unified Port of San Diego
Wiyot Tribe

Industry or NGO

Bait & Switch Sportfishing
Bodega Bay Sportfishing Center
Boys & Girls Clubs of Santa Monica
California halibut commercial fishery participants
California lobster fishermen
CalTrout
Camp Sea Lab
Capitola Boat and Bait
Carlsbad Aquafarm
Catalina Sea Ranch
Center for Ecosystem Management and Restoration
Center for Ocean Solutions
Central Coast Biological Society
Central Coast Sportfishing
Chris's Fishing Trips, Inc.
Coastside Fishing Club
Conservation International
David & Lucille Packard Foundation
Diablo Canyon Power Plant
Ducks Unlimited
Ecology and Environment, Inc
Environmental Defense Fund
ESRI
Fishing communities of AK, CA, MA, ME, OR, NC, SC, WA
FishWise

Food and Beverage Association of San Diego
Friends of the Dunes
H.T. Harvey & Associates
Hog Island Oyster Company
Hubbs Sea World Research Institute
HuliCat Sportfishing
Humboldt Area Saltwater Anglers
Humboldt Baykeeper
Marine Applied Research and Exploration
Monterey Abalone Company
Morro Bay Commercial Fisherman's Association
Morro Bay Fisheries Quota Fund
Morro Bay National Estuary Program
New Captain Pete Sportfishing
NorCal Kayak Anglers
North Atlantic Marine Alliance
Northern Hydrology & Engineering
Northwest Atlantic Marine Alliance
Ocean Discovery Institute
Ocean Science Trust
Pacific Science Center
Pacific Watershed Associates
Patriot Sportfishing
Philips Publishing Group
Point Blue (formerly PRBO)
Puget Sound Restoration Foundation
Randy's Fishing and Whale Watching Trips
Redwood Community Action Agency
Salty Lady Sportfishing
San Diego Zoo Institute
San Francisco Community Fishing Association
San Luis Obispo Science and Ecosystem Alliance
Santa Barbara commercial fishermen
Santa Barbara Mariculture
Santa Monica Seafood
Sea Grant Association
Taylor Shellfish
The Cultured Abalone
The Maritime Alliance
The Nature Conservancy
The New Sea Angler
Tigerfish Sportfishing
Tower Foundation
Trinity Associates
Tuna Habor Dockside Market, LCC
UCLA Discovery Center
United Water Conservation District
USC Sea Grant Summer Science Program
Virg's Sportfishing

Collaborative Network/NOAA Activities

State Agency Partners

CASG has been successful in partnering with several state agencies to apply our unique capability to combine coastal and marine research, education and outreach to benefit the communities, industries and people of California. The program has been invited to collaborate with state agencies to administer research programs of mutual interest that are designed to meet specific state priorities using designated funds.

California's Ocean Protection Council (OPC), established in 2004, sets forth the state's marine research and conservation goals. Since 2007, CASG has worked with the OPC to determine where priorities and expertise converge. By working together, the two organizations have reduced the overhead and management costs of collaborative marine research and outreach. The result is that CASG has been administering dedicated OPC funds to assist the state by managing priority research and outreach projects, and in supporting researchers state-wide to collect baseline data needed to implement California's Marine Life Management Act and Marine Life Protection Act, and establish "initial conditions" throughout the statewide network of marine reserves.

Another significant area of activity for CASG has been the creation and administration of the Delta Science Fellows Program. Beginning in 2003, the Delta Science Fellows Program (previously known as the CALFED Science Fellows Program) has paired graduate students and postdoctoral researchers with Bay-Delta agency scientists and senior research mentors. Fellows work on collaborative data analysis and research projects applicable to the California Bay-Delta system. The Science Program has funded 65 Fellows, totaling over \$9.3 million dollars. The program's goals are to invest in knowledge that will fundamentally advance the understanding of the complex environments and systems within the Bay-Delta system, to aid policy-makers and managers, and to train the next generation of research scientists for water issues in California.

In cooperation with state agency partners CASG has developed and implemented a state fellowship program. Modeled after the Knauss Fellowship program, our state fellowship program places recent Masters and Ph.D. graduates from marine and environmental programs, plus some J.D. graduates, with hosts in state agencies. Fellows work for one year with their host agency applying modern knowledge of science and law to development and implementation of policy in California. This program is extremely popular with our state agency partners. Since its inception in 1988 CASG has placed 106 Fellows. Most recently approximately 10-12 agencies are involved in our program each year.

CASG is working to supplement the wild Russian River coho population in the hope of restoring it to a sustainable size. Since 2001, a collaborative partnership including SGEP Specialist Paul Olin and the US Army Corps of Engineers, the National Oceanic and Atmospheric Administration Fisheries Service, the Califor-

nia Department of Fish and Wildlife, the Sonoma County Water Agency, and the University of California Cooperative Extension, has been breeding coho salmon from local genetic stock and releasing them as juveniles into historic coho streams in the Russian River watershed. UC Cooperative Extension and Sea Grant's role in the Coho Program is to monitor wild and program coho salmon in the stream environment to evaluate the efficacy of the program, and to work with program partners to apply advances in scientific knowledge to its management. In recent years, Sea Grant has verified the successful range expansion of Coho salmon in the Russian River watershed.

NOAA Partnerships

In addition to the support it receives from the National Sea Grant Office, CASG partners with other programs within NOAA. The CASG Director serves on the Scientific Advisory Board of NOS' Southern California Coastal Ocean Observing System (SCCOOS).

CASG has recently partnered with the Office of Coastal Management (OCM), part of NOS, the Gulf of the Farallones National Marine Sanctuary, and the San Francisco Bay National Estuarine Research Reserve to place a 2-year Sea Grant Extension Fellow with these agencies. This fellow is working as the principal coordinator for sea-level rise prediction and adaptation programs being developed by these agencies. The fellow will also work to export NOAA capabilities in this arena with other partners and stakeholders in the San Francisco Bay area who have interests in understanding, predicting and adapting to sea level rise.

Joint and Regional Sea Grant Projects

CASG frequently works with other Sea Grant programs, as previously listed. Below are examples of collaborations:

- California, University of Southern California, Oregon, and Washington Sea Grant programs jointly coordinated research efforts that brought together researchers from across the West Coast region to address specific social science and human-dimension issues of regional importance that align with the goals of the National Sea Grant College Program. Together, the four programs funded 6 research projects in 2 rounds.
- Joe Tyburczy, CASG Extension Specialist, worked closely with project lead Ed Melvin of Washington Sea Grant and partner researchers from NOAA, Oregon State University, Oregon Sea Grant, and other federal, tribal, and fishing-industry partners. The collaborative research project received the 2015 Presidential Migratory Bird Stewardship Award, recognizing the work to prevent migratory seabird mortality in the U.S. West Coast Groundfish longline fishery and for outstanding efforts on behalf of bird conservation.

Success in Sea Grant National Competitions

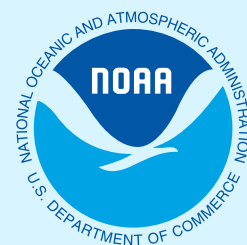
California Sea Grant has been highly successful in national competitions related to aquaculture, aquatic invasive species research and outreach, fisheries research and extension, and regional planning. These are summarized in the following table.

National Competition and Special Projects Funding				
	2011	2012	2013	2014
Special Projects				
Total CASG Projects Funded by NSGC	*	*	*	1
Aquaculture				
CA Proposals Submitted	*	17	1	3
CASG Projects Funded	*	2	0	1
Proposals recieved by NSGO	*	20	10	15
Population Dynamics				
Applications Recieved	3	2	6	8
Applications Forwarded to NSGO	3	2	8	8
Projects Funded	1	1	1	3
Marine Resource Economics				
Applications Recieved	2	2	0	1
Applications Forwarded to NSGO	2	2	0	1
Projects Funded	1	1	0	1
Knauss				
Applications Recieved	15	11	12	11
Applications Forwarded to NSGO	6	6	6	6
Projects Funded	5	3	5	4

*not applicable

NOAA Fellowships

A substantial number of California graduate students have received fellowships in a variety of NOAA national competitions. These include principally the Knauss Marine Policy fellowships and the NMFS-Sea Grant Population Dynamics and Marine Resource Economics fellowships.



Program Changes Resulting from Previous Review

The 2011 Site Review Team provided two (2) recommendations and seven (7) suggestions, which proved quite helpful to steering the program over the past four years. A summary of our response and implementation of recommendations and suggestions is as follows:

2011 Site Review Team Recommendation Program Response

(1) The SRT recommends expanding the capacity of the CASG Extension Program. The SRT urges CASG to reduce its core funding for research and hire more Marine Advisors. Additional alternatives should be identified and evaluated that seek to expand the CASG Extension Program, for example, pursuing partnerships with local governments to leverage funds and incorporating communications and extension into each research proposal.

CASG acted to expand the extension program in a manner that has so far minimally impacted our core-supported research program (as urged by our Advisory Board). First, we initiated an “Extension Fellowship” program. We have now hired two Extension Fellows, each on a 2-year term, selected from the pool of applied-research-oriented scientists just emerging from graduate degree programs. These fellows have worked with key partner agencies on applied problems. Second, we have used the occasion of retirement of two senior Extension Specialists to hire three new, junior-level Specialists on a 75% hard funds/25% soft funds basis. That is, new specialists are asked to generate 25% salary support. This shift in the funding support basis for new specialists allows CASG to hire additional talent. Third, we have created a new, full-time position of Director of Extension. This new hire will have as a primary responsibility developing new relationships and sources of support to further allow expansion of our extension program and staff.

(2) The SRT recommends that CASG and SIO UCSD continue to examine the composition of the Advisory Board and invite members with outwardly looking perspectives (e.g., elected officials from local or state government or representatives from private industry).

The Advisory Board was reconstituted after the departure of previous Scripps Director Tony Haymet and the hiring of Margaret Leinen. Several higher impact members of the previous Advisory Board were retained, and new members were added who represent important state constituencies not previously addressed. Notably, we added an aquaculture expert with strong ties to the California aquaculture industry, a member with strong ties to the California state legislature, and a state-agency official closely tied to the extensive marine protected area program. We also retained a member with strong ties to the commercial fishing industry.

2011 Site Review Team Suggestion Program Response

(1) The SRT suggests that CASG consider requesting a Topical Advisory Team (TAT) to examine and offer suggestions for (a) enhancing the Sea Grant Extension Program, and (b) planning forward-looking strategies to increase the impact of communications efforts.

Plans for expanding and enhancing the Extension Program were already so far advanced (see response to Recommendation 1) that it was considered counter-productive to delay implementation by forming and involving an external TAT. Regarding our Communications program, in 2013 we convened an external review team composed of a small number of local (So Cal) experts in communications, drawn principally from faculty in communications programs at local universities and leading practitioners at not-for-profit organizations. This team provided valuable advice on how to better implement our communications efforts to increase impact. Moreover, after the departure of several long-tenured communications staff we hired two new permanent communications staff members who come from modern communications and public-relations programs. They are significantly improving our exposure, image and capabilities.

(2) The SRT suggests SIO UCSD consider developing a coastal and marine engagement component, and look to CASG Program as the model for this program.

This well-intended suggestion fell outside of the purview of the CASG program to implement. It was presented to and discussed with previous Scripps Director Tony Haymet who chose not to move SIO in this direction.

2011 Site Review Team Suggestion

Program Response

(3) The SRT supports recent suggestions to streamline the application and review process and suggests that CASG eliminate the CASG Committee review of pre-proposals. Additionally, the SRT suggests that CASG consider inviting experts that reflect the strategic growth opportunities to participate on the CASG Committee to provide research proposal reviews that are forward looking in order to achieve the outcomes and impacts in a more narrowly focused strategic plan.

Our attempt to streamline the review process by eliminating the SG Committee review of pre-proposals met resistance from members of RASGAP who routinely request input on the perceived scientific value of pre-proposals. We have continued to rotate membership of the SG Committee to reflect the topical breadth of pre-proposals and proposals submitted to us. This has proved particularly valuable in years we have solicited proposals for topically restricted Special Focus awards.

(4) The SRT was extremely impressed with the success of the CASG State Fellows Program and suggests expanding this model by creating an outreach/engagement fellowship program that embraces the Sea Grant Extension Program philosophy.

As discussed in our response to Recommendation 1, we have implemented an Extension Fellows program to enhance our Extension Program.

(5) In times of decreasing public support for programs, the SRT suggests that CASG, in partnership with SIO UCSD development offices, pursue opportunities for private funding (e.g., private donors, online giving).

There is, unfortunately, a mismatch between the primary need for the SIO development office to support Scripps (i.e., develop support for the institute) and the mandate for CASG to serve the entire state of California. Consequently it is not realistic to expect SIO development to work on behalf of CASG, and former SIO Director Tony Haymet was not enthusiastic about engaging them in this manner. We have, however, recently initiated an online giving opportunity in association with redesign of our websites.

(6) Despite the severing of administrative relationships, the SRT suggests that CA SG continue to collaborate with UC ANR Extension, where appropriate.

Several Extension Specialists maintain cordial working relationships with ANR personnel. In addition, several Sea Grant programs, including CASG, are establishing relationships with the USGS-supported Institutes for Water Resources (IWR), which are based in every state. The California IWR is led by a faculty member at UC ANR, and the CASG Director is in the process of developing a relationship with his program.

(7) The SRT suggests CA SG continue developing its climate work niche, in particular by working with the Regional Integrated Science and Assessment (RISA) Center to fund Climate Extension Advisors.

The CASG Director and members of our Extension Program reached out to RISA to discuss mutual interests and the possibility of support for the CASG Extension Program. Unfortunately, in this strained budget climate, no fruitful arrangements could be made.