

The Ocean Protection Council Science Advisory Team: Responsibilities and Working Procedures

Table of Contents

About This Document	2
The California Ocean Protection Council	2
The Ocean Protection Council Science Advisory Team (OPC-SAT).....	2
Responsibilities of the OPC-SAT	3
OPC-SAT Membership	3
Expectations of OPC-SAT Members	3
OPC-SAT Leadership	3
The Role of the OPC-SAT	4
OPC-SAT Working Procedures	5
OPC-SAT Work Modes	5
OPC-SAT Expert Taskforces	7
OPC-SAT Advisory Committees	9
OPC-SAT Expert Panels.....	10
Individual OPC-SAT Member Engagement.....	12
Meetings of the OPC-SAT	13
Appendix I: Current OPC-SAT Membership (as of November 2017)	14

California Ocean Protection Council



Science Advisory Team

About This Document

The role of the Ocean Protection Council Science Advisory Team (OPC-SAT) is to provide scientific advice to the California Ocean Protection Council. The purpose of this document is to describe the responsibilities and working procedures of the OPC-SAT, how the OPC-SAT participates in its activities, forms collaborative groups and expert panels, and reviews and approves its work products.

The California Ocean Protection Council

Created pursuant to the [California Ocean Protection Act](#) (COPA), the California Ocean Protection Council works to ensure that California maintains healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations. The California Ocean Protection Council utilizes the OPC-SAT to provide independent scientific advice on state policy and management. More information is available at <http://www.opc.ca.gov/>.

The Ocean Protection Council Science Advisory Team (OPC-SAT)

COPA required the California Ocean Protection Council (OPC) to establish a “science advisory team of distinguished scientists to assist it in meeting the purposes of the [California Ocean Protection Act].” Thus, in its [2006 – 2011 Five-Year Strategic Plan](#) [under Governance], the OPC called for the establishment of what came to be known as the OPC-SAT. Members are identified through a public nomination process. Members of the OPC-SAT may be appointed to three-year terms with the possibility of renewal.

Administering the OPC-SAT

[California Ocean Science Trust](#), a non-profit organization dedicated to linking science with decision-making, convened the OPC-SAT on behalf of the OPC in February 2008. Ocean Science Trust has been administering the OPC-SAT and its work modes on behalf of the OPC since that time, and currently has a grant from OPC to continue that work through May 31, 2019. Ocean Science Trust’s Executive Director also serves as Science Advisor to the OPC, and is Co-chair of the OPC-SAT.

Responsibilities of the OPC-SAT

OPC-SAT Membership

OPC-SAT members are appointed by the OPC following a public nomination process. OPC-SAT members are expected to have:

- **Scientific expertise** in an area or field of study germane to providing scientific advice, guidance, and recommendations to the OPC, state agencies and representatives, and other clients on priority coastal and ocean issues.
- **Strong scientific credentials** as evidenced by a record that includes scientific publications and reports, serving as an investigator on research grants and contracts, scientific presentations, and participation in scientific organizations. Consistent with this record, members are expected to have demonstrated strong written and oral communication skills and analytical ability.

OPC-SAT members should represent a diversity of experience levels, institutions, and academic fields, including traditional ecological knowledge. OPC-SAT members are to be appointed based on their scientific expertise and credentials, and not to represent or serve as advocates for any particular entity or stakeholder group.

OPC-SAT members are appointed to three-year terms, which can be renewed. Term renewals are made by OPC after determining that a member up for renewal: 1) has been active in OPC-SAT matters and indicates a willingness to continue to be active in the future, 2) has the appropriate professional expertise and professional interests to contribute to OPC-SAT efforts to address on-going and prospective OPC and State needs related to ocean and coastal issues. The term renewal process is described in the *OPC-SAT Appointment Procedures & Leadership Structure* document.

Expectations of OPC-SAT Members

OPC-SAT members are expected to actively engage in activities to the best of their ability and consistent with their area of expertise. They are expected to attend meetings, respond to requests in a timely manner, and participate in various forums via webinar, telephone and email. The time commitments of OPC-SAT members will vary, depending on their expertise and the number and nature of requests for OPC-SAT work from the OPC. OPC-SAT members serve without compensation. However, members may receive honoraria for participating in working groups and scientific and technical reviews. OPC-SAT members are also reimbursed for all reasonable expenses related to participation, including travel and other direct costs.

OPC-SAT Leadership

The leadership body of the OPC-SAT is the Executive Committee, which consists of the OPC Science Advisor (currently the Executive Director of Ocean Science Trust), the Executive Director or Deputy Director of the Ocean Protection Council, plus three-members elected by the OPC-SAT. The Executive Committee works with the OPC and Ocean Science Trust (or other administering entity) to guide

activities of the OPC-SAT, including developing plans for OPC-SAT involvement in the synthesis and development of scientific information requested by the OPC.

The Role of the OPC-SAT

The OPC-SAT collectively provides the expertise needed to assist the OPC – the State’s cabinet-level ocean policy body – in meeting the purposes of the California Ocean Protection Act (COPA). Specifically, COPA called for the establishment of the OPC-SAT in order to:

- review and evaluate results of research or investigations to provide information for the Council’s activities;
- convene to identify, develop, and prioritize subjects and questions for research or investigation; and
- provide an independent and timely analysis of reports and studies, identifying areas of scientific consensus or uncertainty, using the best available science by drawing on state, national, and international experts.

Mission of the OPC-SAT

The OPC-SAT provides scientific analysis and advice to the OPC and works to ensure that OPC policy and funding decisions are informed by the best available science.

Essentially, the OPC-SAT provides a critical venue to bring state leaders and scientists together around pressing ocean and coastal challenges. The OPC-SAT may take on a range of topics with emphasis on state priorities to address issues impacting coastal and marine ecosystems in California. To carry out its work, the OPC-SAT has several core functions; these include:

- 1. Identifying emerging environmental challenges and scientific issues:** The OPC-SAT plays a strong role in identifying and apprising the OPC of emerging ocean and coastal environmental challenges and issues facing the State. In addition to calling attention to issues on the horizon, the OPC-SAT helps the OPC and state agencies to evaluate and more accurately define ocean and coastal-related problems.
- 2. Providing advice and translating scientific knowledge on state priorities and challenges:** As it works across state agencies to improve coordination and collaboration, the OPC is positioned to identify state priorities and challenges. The OPC-SAT is a venue for decision-makers and scientists to come together to discuss and evaluate priority issues, synthesize and translate the best available scientific knowledge, and inform and advise the State on how best to move forward.
- 3. Evaluating the scientific underpinnings and technical merit of proposals, projects, and documents:** The OPC-SAT may be called upon to evaluate the scientific accuracy and content of a variety of state proposals, projects, and documents. Depending upon the scope of the need, the OPC-SAT may provide everything from informal scientific input to more structured scientific and technical reviews.

- 4. Serving as a conduit to the broader scientific community:** The OPC-SAT works to assist the OPC in expanding the range of disciplines and experts the State may access to make the best science-informed decisions. A key characteristic of the OPC-SAT is that on nearly all issues and initiatives they undertake OPC-SAT members involve experts external to the OPC-SAT.

OPC-SAT Working Procedures

OPC-SAT Work Modes

The OPC-SAT and its members provide science advice and guidance on coastal and ocean issues by engaging in four principal work modes: Expert Taskforces, Advisory Committees, Expert Panels, and as Individuals. Ocean Science Trust works with the OPC-SAT Executive Committee, the OPC, and other partners as appropriate to: develop a work scope; design and implement a process for conducting work; identify the nature of the work product or products; determine the appropriate review and approval procedures and timelines for each work mode, and produce the graphics and presentation of the final work products.

Table 1. Summary of OPC-SAT Work Modes & Associated Procedures

Work Mode		Formation Source	Formation Procedure	Work Scope	Work Product	Members	Review	SAT Endorsement	Example
Expert Taskforces	Working Groups	SAT; SAT EC; OPC; OST	OST invites members recommended by SAT EC, Chair/Co-Chairs, SAT members and relevant external sources	Synthesis, analysis, translation, guidance on specific issues	Report (Synthesis; Consensus statements; White papers)	SAT and non-SAT	Internal Working Group members and Management and Policy review coordinated by OST; External Review (where appropriate)	Endorsement of final draft	Scientific collecting permits; Harmful algal blooms; Aquatic vegetation; Sea level rise
	Review Teams	State agency requests; SAT; SAT EC; OPC; OST	OST invites members recommended by SAT EC, Chair/Co-Chairs, SAT members and relevant external sources	Reviews of management plans, scientific reports, proposals, environmental impact reports, methodologies, etc.	Summary report; Public memo; Written reviews	SAT and non-SAT	Internal Review Team members and Management and Policy review coordinated by OST; External review (where appropriate)	Endorsement of final draft	Abalone density methods review; Spiny lobster FMP review
	Standing Groups	SAT; SAT EC; OPC; OST	OST invites members recommended by SAT EC, Chair/Co-Chairs, SAT members and relevant external sources	Input on a general issue/theme of long standing interest with multiple involvements over time	Review; Written product or presentation; Verbal input	SAT and usually non-SAT	Internal Standing Group members and Management and Policy review coordinated by OST; External review (where appropriate)	Endorsement of final draft	None to date
Advisory Committees		SAT; SAT EC; OPC; OST	OST invites members recommended by SAT EC, Chair/Co-Chairs, SAT members and relevant external sources	Input and advice on specific issues on an as needed basis	Verbal communication; review of product	SAT and usually non-SAT	N/A	N/A	Fisheries peer review guidance
Expert Panels		SAT; SAT EC; OPC; OST	Framed during full SAT workshop; OST invitations to members recommended by SAT EC, Panel Chair/Co-Chairs, SAT members and relevant external sources	Address science needs related to a broad reaching management or policy issue	Varied according to needs; Includes written products and presentations	SAT and non-SAT	Internal Expert Panel members coordinated by Panel Chair/Co-Chair according to written Framework of Consent; Management and Policy review; External review usually performed	Preview provided to SAT members	West Coast OAH Science Panel
Individual SAT member engagement		OST or OPC with SAT Executive Committee advising	OST invitations to SAT members	Review; Input to products developed by non-SAT sources	Review; Input; Event (e.g. workshop, briefing)	SAT members	N/A	N/A	Requests for reviewers or participants

OPC-SAT Expert Taskforces

Working on new initiatives in small (usually < 10 members) Expert Taskforces is the most common OPC-SAT work mode, often involving both OPC-SAT and non-SAT members. There are three types of Taskforces:

1. **Working Groups:** Working Groups are formed when requests arise requiring the production of literature reviews, consensus statements, technical “white” papers, or scientific reports. By forming Working Groups, the OPC-SAT is able to divide work among its members and tackle the diversity of science needs related to ocean and coastal management issues. A Working Group brings together experts from within and outside the SAT with the ability to access and analyze the best available scientific information on the selected topic, and then synthesize the information into a product that conveys its findings.
2. **Review Teams:** Review Teams are created when government entities or organizations require scientific and technical review of documents or plans. Review Teams are able to analyze the efficacy and accuracy of a diverse array of products, including scientific and technical reports, management plans, research and grant proposals, environmental impact reports and assessments, and other documents, models, methods and study protocols. Review Teams produce reports or summary memos of their comments, findings, and recommendations.
3. **Standing Groups:** OPC-SAT members work in Standing Groups when the requested focus is on issues of high and likely longstanding interest to the State. Standing Groups differ from Working Groups in two major ways: they are formed around a general issue or theme instead of a specific problem or task, and their work is projected to consist of multiple involvements over a longer time period. Depending upon the need, Standing Groups may provide verbal input, make presentations, or produce formal written documents.

Procedures for Convening and Administering OPC-SAT Expert Taskforces¹

1. **Developing Taskforce Work Scope.**
 - a. Ocean Science Trust works closely with the OPC and other decision-makers as needed to produce a scoping document that articulates the topic to be investigated, the need, the expected product(s) or outcome(s), and how that product(s) or outcome(s) will be used in decision-making.
 - b. Ocean Science Trust then develops a general work plan and associated budget, and identifies sources of funds (if needed).
2. **Establishing Taskforce Membership and Taskforce Chair(s).**

¹ For more details see OPC-SAT Convening Expert Taskforces (Working Groups, Review Teams and Standing Groups) document.

- a. Ocean Science Trust works with the OPC-SAT Executive Committee to determine the needed scientific expertise to undertake the Taskforce’s work. Usually, Ocean Science Trust will first work with the OPC-SAT Executive Committee to identify and invite a Chair(s) for the Taskforce. Ocean Science Trust then works with the Chair(s) and OPC-SAT Executive Committee and queries the full OPC-SAT and other scientific networks for recommended experts until there is a robust and diverse list of candidates for the Taskforce.
- b. Using this list, the OPC-SAT Executive Committee discusses and identifies with Ocean Science Trust and the Taskforce Chair(s) potential Taskforce members from the list of candidates. Identified candidates are then invited by Ocean Science Trust to participate on the Taskforce. All candidates for task force membership must be acceptable to Ocean Science Trust, the Taskforce Chair, and the OPC-SAT Executive Committee. A prioritized list of additional potential participants is also prepared and used by Ocean Science Trust as needed if individuals decline or are unable to participate. The final decision on prioritization of these candidates lies with the OPC-SAT Executive Committee.
- c. In some instances, as needed Ocean Science Trust will first query the full OPC-SAT and other scientific networks for recommended experts before working with the OPC-SAT Executive Committee to identify and determine the Taskforce Chair(s).

3. Developing the Taskforce Work Product(s).

- a. Depending on the type of Taskforce, the work product(s) can take a variety of forms based on the need. Ocean Science Trust works with the OPC, other partners as appropriate, and the Taskforce Chair(s) to identify work product type (e.g., scientific publications, technical guidance documents, “white” papers, and oral presentations and communication among others).
- b. Ocean Science Trust works with the Taskforce Chair(s) to establish a process for developing work products (e.g., in-person workshops, webinars, and writing sessions, etc.). Ocean Science Trust and the OPC also continue to work with decision-makers and other audiences throughout the period during which the Expert Taskforce is engaged to ensure that the format, content, and timing of the work product fulfills envisioned and evolving decision-maker needs.

4. Implementing Procedures for Review and Endorsement² of the Taskforce Product(s).

- a. Taskforce review: For final draft product(s), Ocean Science Trust will work with Taskforce Chair(s) to implement procedures to ensure that all Taskforce members are comfortable with the final product, including:
 - i. the time and space for significant product revisions;

² For more details see OPC-SAT Review and Endorsement of Work Products document.

- ii. the appropriate place in the product for expression of majority and minority viewpoints (should differences of opinion persist); and
 - iii. the guidelines for authorship, acknowledgements, and citation format.
- b. Management and policy review: Before products are finalized, Ocean Science Trust will provide a draft to OPC staff, and potentially other decision-makers as needed, for review to ensure that management and policy needs are addressed and that the science content is clearly communicated. This review is not to challenge or change the scientific content of the work product.
- c. External peer review: Ocean Science Trust works with the Taskforce Chair(s) and the OPC-SAT Executive Committee to determine if external peer review of the taskforce work product should be undertaken, and if so, the appropriate level of and process for external peer review, including timelines, by additional scientific, management, or other experts. The Taskforce Chair, all Taskforce members, and the OPC-SAT Executive Committee will receive comments from external reviewers. The Taskforce Chair will then take the lead and work with the Taskforce members in evaluating comments and implementing any necessary changes to the work product.
- d. Work products of Expert Taskforces are products of the OPC-SAT, thus the full OPC-SAT is given the opportunity to review and ultimately endorse the final Taskforce product.

OPC-SAT Advisory Committees

OPC-SAT Advisory Committees are formed to verbally engage with decision-makers on important topics or products generated by others – whether by the OPC, state agencies, or other entities – that would benefit from scientific discussion and guidance. Like Working Groups, Advisory Committees focus on specific issues of interest to the State. However, they differ from Working Groups in that Advisory Committees are not expected to produce a formal written product. Often, decision-makers need access to information rapidly, and Advisory Committees are designed to provide a clear, go-to group of experts to meet this need in a timely manner.

Procedures for Convening and Administering OPC-SAT Advisory Committees

The procedures for developing a work scope and membership determination are the same for Advisory Committees as for Expert Taskforces. However, the work of Advisory Committees is mostly informal and carried out through verbal conversations or short written responses with decision-makers. Advisory Committees do not ordinarily produce formal, written work documents that require review or approval by the full OPC-SAT.

OPC-SAT Expert Panels

Another OPC-SAT work mode is the Expert Panel. This work mode is used when there is a need to bring together a large team of scientists (often >15 members) to address complex challenges that require interdisciplinary and geographically diverse perspectives well beyond those represented solely by the expertise of OPC-SAT members. For example, challenges like ocean acidification and hypoxia – which are already impacting California’s coast and ocean – are regional and global in nature and far-reaching in effects, thereby requiring broad geographic perspectives and diverse disciplinary viewpoints. Although the work products generated by Expert Panels are not considered to be formal OPC-SAT products, the OPC-SAT may serve as the launching pad for the Panel and engage in the process to develop a work scope and identify its members. In addition, because the Expert Panel is considered an associated work mode of the OPC-SAT, Ocean Science Trust provides the Executive Committee and the full OPC-SAT with regular updates on its progress, and a preview of its work products.

Procedures for Convening and Administering Expert Panels³

1. Forming an Expert Panel.

- a. Following a public request from the OPC to convene an Expert Panel, Ocean Science Trust consults with the OPC-SAT Executive Committee and the OPC to identify an OPC-SAT member(s) to serve as a Panel Chair, or most often Co-Chair with a non-OPC-SAT participant.
- b. Ocean Science Trust hosts an in-person public workshop of the OPC-SAT, including OPC staff, and additional agencies, organizations, and experts as necessary, to discuss the need for the Panel, gather information required to begin development of the work scope, identify criteria for membership, and the necessary areas of expertise among Panel participants. Workshop proceedings, where these activities are carried out, are made available to the public.

2. Developing an Expert Panel Work Plan.

- a. Ocean Science Trust works with the OPC to develop a work plan that articulates the topic to be investigated, the need, management and policy goal(s), and a vision for how the Panel can address the presented challenge and advance decision-making. The work plan will be made available to the public, and can be amended over time should the needs of decision-makers, and the Panel’s understanding of those needs, evolve.
- b. Ocean Science Trust will also develop an associated budget, identify sources of funds (if needed), and create timelines and milestones for Expert Panel work.

3. Establishing Expert Panel Membership and Structure.

- a. Ocean Science Trust works with the OPC-SAT Executive Committee and the Panel Chair(s) to further hone the areas of scientific expertise needed for the Panel work.

³ For more details see OPC-SAT Convening Expert Panels document.

Ocean Science Trust queries the full OPC-SAT and other scientific networks to solicit recommendations for Panel members until there is a robust and diverse list of candidates.

- b. The OPC-SAT Executive Committee, the Panel Chair(s), the OPC, and Ocean Science Trust identify potential participants; all candidates for panel membership must be acceptable to the OPC, Ocean Science Trust, the Panel Chair(s), and the OPC-SAT Executive Committee. A prioritized list of additional potential participants is also prepared and used by Ocean Science Trust as a backup plan for any individuals unable to participate. The final decision on prioritization of these candidates lies with the Panel Chairs. Invitations are then issued by Ocean Science Trust to the selected individuals until the Panel membership is complete.
- c. Ocean Science Trust works with the Panel Chair(s) to establish a Panel Executive Committee. The purpose of the Executive Committee is to guide execution of the work plan and to develop plans for Panel work product(s).

4. Developing Panel Work Product(s).

- a. The Expert Panel product(s) will be tailored to decision-maker needs. Products may take a variety of forms (e.g., scientific publications, technical guidance, and “White” papers, among others). The Panel Executive Committee creates and approves a process for developing all products, such as formation of subgroups, or identification of individual panelists to lead various elements of product development. Panel work may include a range of activities, including webinars, interviews, surveys, and in-person meetings.
- b. Ocean Science Trust works closely with the OPC, and other decision-makers and partners as necessary, to review content, cultivate audiences for the Panel’s work, create landing places within management circles to advance findings, ideas, and/or recommendations, and ensure strong communication and interaction between the Panel and decision-makers.

5. Implementing Procedures for Review and Approval of Panel Product(s).

- a. External peer review is to be undertaken for most panel products. Ocean Science Trust works with the Panel Executive Committee to determine the appropriate level and process for external peer review by additional scientific, management, or other experts. The selected review process will be designed according to the nature of the Panel product(s) (e.g., technical “white” paper, scientific synthesis, or guidance document), but will be developed to ensure appropriate expert review is undertaken.
- b. The Panel Chair(s), all Panel members, and the OPC-SAT Executive Committee will receive comments from external reviewers.
- c. For final draft product(s), Ocean Science Trust will work with the Panel Executive Committee to develop a written *Framework for Panel Consent* as part of the process for review and approval of its products. *The Framework for Panel Consent* will address:

- i. procedures for full Panel review of all products, including the time and space for significant product revisions, to ensure that all Panel members are on board with the Panel's findings, conclusions, and recommendations;
 - ii. establishment of point Panel members to work with Ocean Science Trust to address comments received during product review. The Panel Chair(s) will take the lead and work with Panel members in evaluating comments and implementing any necessary changes to the Panel's work product.
 - iii. appropriate place(s) in any given report for majority and minority viewpoints to be expressed (should differences of opinion persist);
 - iv. guidelines for authorship, acknowledgements, and citation format; and
 - v. the mechanism to achieve full approval of the final Panel product.
- d. Management and policy review: Before products are finalized, Ocean Science Trust will provide a draft to OPC staff, and potentially other decision-makers as needed, for review to ensure that management and policy needs are addressed and that the science content is clearly communicated. This review is not to challenge or change the scientific content of the work product.
- e. While the Expert Panel work(s) are not products of the OPC-SAT, the full OPC-SAT will be given the opportunity to preview and comment on the Panel's final product(s). The OPC-SAT will also be acknowledged in the final Panel products for their role in developing and launching Expert Panels. Ocean Science Trust will also engage the OPC-SAT Executive Committee, the OPC, and Panel leadership as needed to discuss the final draft product(s) and develop next steps as appropriate.

Individual OPC-SAT Member Engagement

OPC-SAT members may also be engaged as individuals to collaborate or advise on state needs, or recommend additional experts for projects being undertaken, for example, by the OPC, Ocean Science Trust, state agencies, NGOs, stakeholder groups, etc. OPC-SAT members may collaborate with these partners on a variety of activities, such as:

- writing proposals;
- organizing symposia, workshops, conferences, or events;
- proposing conference sessions;
- advising on a program area or project;
- providing input and/or review of reports or other products; and
- serving on advisory panels, committees, or working groups coordinated by other scientific entities.

Entities often reach out directly to individual OPC-SAT members to request scientific services. Ocean Science Trust may help to facilitate links with other ongoing initiatives, shape the scope of projects to align outcomes with state management and policy needs, and/or provide support for such activities and services. Support may take many forms, including workshop or event sponsorship, staff assistance, and coordination. If products are generated, they are not OPC-SAT products; hence, products resulting from individual OPC-SAT member engagement do not require full OPC-SAT review or approval.

Meetings of the OPC-SAT

The OPC-SAT as a whole meets in-person and remotely via two primary modes: (a.) OPC-SAT in-person workshops, and (b.) OPC-SAT webinars.

- 1. OPC-SAT Workshops:** The OPC-SAT comes together as a whole at least once per year in an in-person workshop. OPC-SAT workshops are open to the public, and bring together OPC-SAT members, OPC leadership and staff, agency decision-makers, other experts, and partner organizations as needed to share information and updates, discuss priorities, launch new initiatives, or hold technical workshops on specific questions.
- 2. OPC-SAT Webinars:** OPC-SAT webinars may be used as a substitute for an in-person workshop, but most often focus on a particular topic, OPC-SAT initiative, and/or work product, including information releases and other key milestones. OPC-SAT Webinars may be used to collect review comments and prepare for approval or to approve OPC-SAT work products. Invited participants at these webinars include OPC-SAT members, OPC staff, and other relevant parties as needed (e.g., non-SAT members, agency staff, NGOs, stakeholders, and other partners).

Appendix I: Current OPC-SAT Membership (as of November 2017)

The OPC-SAT currently consists of 24 members and includes experts in natural and social science, law, and tribal perspectives and interests in coastal and ocean resource management:

1. Richard F. Ambrose Professor, Department of Environmental Health Sciences, University of California, Los Angeles
2. Alexandria B. Boehm, Professor, Department of Civil and Environmental Engineering, Stanford University
3. Mark Carr, Professor, Department of Ecology and Evolutionary Biology, University of California, Santa Cruz
4. Daniel R. Cayan, Researcher, Climate Atmospheric Science and Physical Oceanography, Scripps Institution of Oceanography, University of California, San Diego
5. Francisco Chavez, Senior Scientist, Biological Oceanographer, Monterey Bay Aquarium Research Institute
6. Kenneth Coale, Professor *Emeritus*, Marine Biogeochemistry, Moss Landing Marine Laboratories
7. Christopher Costello, Professor of Environmental and Resource Economics, Donald Bren School of Environmental Science, University of California, Santa Barbara
8. Holly Doremus, James H. House and Hiram H. Hurd Professor of Environmental Regulation, Co-Director, Center for Law, Energy & the Environment, Director, Environmental Law Program, University of California, Berkeley
9. Briannon Fraley, Interim Chief Executive Officer, Self Governance Director, Tolowa Dee-ni' Nation
10. Steve Gaines, Professor and Dean, Donald Bren School of Environmental Science, University of California, Santa Barbara
11. Gary Griggs, Professor of Earth Sciences, Institute of Marine Sciences, University of California, Santa Cruz
12. Madeleine Hall-Arber, retired, Professor and Anthropologist, Sea Grant, Massachusetts Institute of Technology (formerly)
13. Elliott Hazen, Research Ecologist, NOAA Southwest Fisheries Science Center, Environmental Research Division

14. Gretchen Hofmann, Professor and Chair, Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara
15. Sam Johnson, Research Geologist, U.S. Geological Survey
16. Barry Wayne McCovey Jr., Fisheries Biologist, Yurok Tribal Fisheries Program
17. Steven N. Murray, Professor of Biology and Interim Provost and Vice President for Academic Affairs *Emeritus*, California State University Fullerton
18. Karina J. Nielsen, Professor and Director, Romberg Tiburon Center for Environmental Studies, San Francisco State University
19. Jeffrey D. Paduan, Dean of Research, Professor of Oceanography, Naval Postgraduate School
20. Jerry Schubel, President and Chief Executive Officer, Aquarium of the Pacific
21. John J. Stachowicz, Professor, University of California, Davis
22. Chuck Striplen, Environmental Scientist, North Coast Regional Water Quality Control Board
23. William Sydeman, President and Senior Scientist, Farallon Institute for Advanced Ecosystem Research
24. Stephen Weisberg, Executive Director, Southern California Coastal Water Research Project
25. Liz Whiteman, Executive Director, Ocean Science Trust