

Ocean Protection Council Science Advisory Team Workshop

Bracing for a changing world

April 18th, 2016

10:00AM – 5:00PM

Hosted by California Ocean Science Trust
Elihu M. Harris State Building, Room 1
1515 Clay St, Oakland, CA

The Ocean Protection Council Science Advisory Team (SAT) is composed of 26 esteemed scientists, convened to serve the science policy needs of California. Funding for the SAT is provided largely by the Ocean Protection Council (OPC) with a contribution from the Ocean Science Trust and embodies the partnership between these two organizations. The mission of the SAT is to ensure that the best available science is applied to state decision-making including OPC policy and funding decisions. The impact and relevance of the SAT has grown substantially over the last five years. From ocean acidification and hypoxia, to sea-level rise and sustainable fisheries, the team has worked closely with Ocean Science Trust to advance science-informed actions on a wide array of priorities identified by the OPC and their agency partners. With the SAT welcoming five relatively new members, and new leadership at OPC and Ocean Science Trust, now is the time to reflect upon our progress, refine our vision and expand the value of the SAT to the State. The public is also welcome to attend.

At this workshop, the SAT, Ocean Science Trust, the OPC and other state decision-makers will come together to:

- Refine our common understanding of the value and role of the SAT, and its relationship to the OPC and Ocean Science Trust;
- Share ideas for how to strengthen the SAT as an advisory body to the State and as a conduit to the broader scientific community; and
- Demonstrate the SAT's value by building upon the work of the West Coast Ocean Acidification & Hypoxia Science Panel, which released its [final products](#) in early April.

1) 10:00 AM Welcome & Introduction

Welcoming remarks

Michael DeLapa, Interim Executive Director, California Ocean Science Trust

Opening remarks

Deborah Halberstadt, Executive Director, California Ocean Protection Council, Deputy Secretary for Oceans and Coastal Policy, California Natural Resources Agency

Run through of the day's agenda

Francisco Chavez, Co-chair of the Science Advisory Team, Senior Scientist, Monterey Bay Aquarium Research Institute

- Agenda overview
- SAT member introductions
- New executive committee member election: results & announcement of new co-Chair elect



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2) 10:30 AM SAT Initiatives: Our work as a team and looking forward

Presentation: Understanding the SAT: Role, contributions, and future directions

Ryan Meyer, Senior Scientist, Ocean Science Trust

Mark Carr, Co-chair of the Science Advisory Team, Professor at the University of California Santa Cruz

Over the last five years, the SAT has expanded its impact and relevance to the State across a broad range of issues. This period of growth is an opportunity to reflect upon and discuss the SAT's history, progress, and the process by which the SAT responds to State priorities and raises science needs.

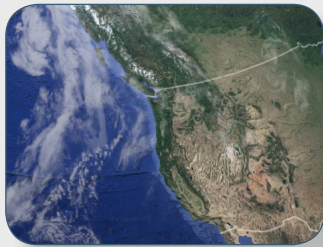


Discussion: Building upon our achievements

Ryan Meyer, Senior Scientist, Ocean Science Trust

Mark Carr, Co-chair of the Science Advisory Team, Professor at the University of California, Santa Cruz

During this discussion, we will share ideas and build a common vision for how to elevate the value of the SAT to the State. We will also explore the structure and function of working groups, communications, and how the SAT can meaningfully elevate emerging issues to the State.



3) 11:45 AM Brief updates from working groups

Moderated by Francisco Chavez, Co-chair of the Science Advisory Team, Senior Scientist, Monterey Bay Aquarium Research Institute

Climate change and fisheries working group

Leila Sievanen, Associate Scientist, Ocean Science Trust

Francisco Chavez, Co-chair of the Science Advisory Team, Senior Scientist, Monterey Bay Aquarium Research Institute

Harmful algal blooms working group

Errin Ramanujam, Associate Scientist, Ocean Science Trust

Department of Fish and Wildlife scientific collecting permit task force

Mark Carr, Co-chair of the Science Advisory Team, Professor at the University of California, Santa Cruz

Mitigation working group

Benet Duncan, Associate Scientist, Ocean Science Trust

Marisa Villarreal, Project Scientist, Ocean Science Trust

Rich Ambrose, Science Advisory Team, Professor at the University of California, Los Angeles

-- 12:30 PM LUNCH --

4) 1:30 PM Managing in the face of changing ocean conditions

Ocean acidification can seem like an insurmountable problem, raising the question: other than reduce global emissions, what can we do? To confront this challenge, the West Coast Ocean Acidification and Hypoxia Science Panel (the Panel) released its Major Findings, Recommendations, and Actions upon three years of scientific synthesis and discussion. The Panel's Recommendations and Actions are organized according to three themes:

- 1) Address local factors that can reduce OAH exposure
- 2) Enhance the ability of biota to cope with OAH stress
- 3) Expand and integrate knowledge about OAH



Agenda item outcome

In this agenda item, Ocean Science Trust, OPC, the SAT, and decision-makers from across the State will go through the Panel's Recommendations and Actions under each theme, and share ideas about how best to move forward. We expect a range of ideas to be expressed, and propose that a SAT 'changing ocean conditions' working group emerge from this agenda item to work with Ocean Science Trust to sort through ideas and generate recommended next steps. Together, Ocean Science Trust and the working group will then present the next steps to the SAT and OPC following the workshop.

Presentation and Q & A: Advancing the work of the West Coast Ocean Acidification & Hypoxia Science Panel

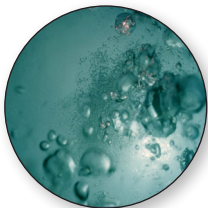
Steve Weisberg, Science Advisory Team and the West Coast Ocean Acidification & Hypoxia Science Panel, Executive Director, Southern California Coastal Water Research Project

Discussion: Advancing the work of the West Coast Ocean Acidification & Hypoxia Science Panel

Moderator: Steve Weisberg, Science Advisory Team and the West Coast Ocean Acidification & Hypoxia Science Panel, Executive Director, Southern California Coastal Water Research Project

Theme #1 Discussion: Address local factors that can reduce OAH exposure

1. Recommendation: Revise water quality criteria



The Panel concludes that existing water quality criteria are not scientifically appropriate for assessing ocean acidification (OA) conditions. However, before water quality managers can take such steps, scientific consensus is needed about which parameters are most appropriate to protect ecosystems and beneficial uses.

2. Recommendation: Advance approaches that remove CO₂ from seawater



There is considerable interest in protecting and restoring aquatic vegetation as a means to reduce CO₂ in coastal aquatic ecosystems. Further, their conservation and restoration could become eligible for carbon offsets in California's carbon trading program. However, important uncertainties remain about when, where and how broadly such actions will remove carbon and lessen OA exposure.

3. Recommendation: Reduce local pollutant inputs that exacerbate ocean acidification and hypoxia



The Panel emphasizes the need to understand where local pollutant inputs are likely to exacerbate ocean acidification and hypoxia (OAH). But this also raises a broader need not just in California, but across the West Coast, to establish a nexus between land-based inputs – including local air emissions and pollution – and coastal OAH. A key feature might be to understand where there are hot spots and sweet spots to focus further investment by decision-makers.

Theme #2 Discussion: Enhance the capacity of biota to cope with ocean acidification and hypoxia stress

1. Recommendation: Reduce co-occurring stressors on ecosystems



Managers must consider actions in the context of multi-stressor effects – not just OAH, but also physical disturbances to nearshore habitats, warming temperatures, toxic contaminants, biological invasions, and harvest. Starting with existing frameworks (e.g., marine managed areas and fisheries), the Panel calls for integrating OA effects into management of ocean and coastal ecosystems and biological resources.

2. Recommendation: Advance adaptive capacity of marine species and ecosystems



Managers can support adaptive capacity – the ability of marine ecosystems and species to adjust and persist in the facing of changing environmental conditions – by managing for resilience. Options include adaptation measures that seek to lessen the impacts of OAH, and mitigation approaches that can reduce exposure to co-occurring stressors. The Panel recommends starting with understanding where existing protected areas also protect areas vulnerable to OAH.

-- COFFEE & RESTROOM BREAK --

Theme #3 Discussion: Expand and integrate knowledge about ocean acidification and hypoxia



The Recommendations associated with theme 3 are meant to be West Coast-wide in scale. However, there is a critical discussion to be had about how California can best contribute to expanding scientific engagement to meet evolving management needs at the regional level through:

1. A coordinated research strategy
2. Build out of a West Coast monitoring program
3. Potential creation of a science task force to continue advising the region

5) 4:30 PM Workshop wrap up

Concluding thoughts and next steps

Francisco Chavez, co-chair of the Science Advisory Team, Senior Scientist, Monterey Bay Aquarium Research Institute



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