

**California Ocean Protection Council
Joint Science Advisory Team/Management Team Meeting**

Hosted by California Ocean Science Trust

Friday, September 30, 2011

50 California Street, Suite 2600

San Francisco, CA

10:00 a.m. – 5:00 p.m.

OPC-SAT Members Present: R. Ambrose, M. Carr, D. Cayan, F. Chavez, K. Coale, C. Costello, J. Field, S. Gaines, G. Griggs, F. Gulland, M. Hall-Arber, S. Johnson, K. McLeod, S. Murray, K. Nielsen, J. Paduan, J. Schubel, J. Stachowicz, W. Sydeman, and S. Weisberg

Ocean Science Trust (OST) Staff Present: M. Colton, T. Freidenburg, T. Hale, E. Knight, E. Kramer-Wilt, S. McAfee, A. McGregor, R. Meyer, and L. Whiteman

Ocean Protection Council (OPC) Management Team Members Present: B. Baird, CA Natural Resources Agency, A. Mace, OPC; M. McEnespy, OPC/State Coastal Conservancy; S. Schuchat, OPC/State Coastal Conservancy; and M. Small, OPC/State Coastal Conservancy

Guests: L. Crowder, Center for Ocean Solutions/Stanford University; S. Flores, OPC; K. Lee, David and Lucile Packard Foundation; M. Maxon, White House Office of Science and Technology; B. Moseley, Kearns and West; E. Saarman, PISCO/UC Santa Cruz; and S. Yee, CA Natural Resources Agency

OPC-SAT Members Absent: A. Boehm, T. Haymet, M. Moline, and H. Scheiber

SUMMARY ACTIONS

- 🍏 **ACTION:** The MPA Monitoring Enterprise team will report back to the SAT on the progress in the Expert Judgment process in a year.
- 🍏 **ACTION:** The SAT agreed to provide any specific language changes on the OPC strategic plan to A. Mace Wednesday, Oct. 5. *The revised document will be re-circulated to the SAT prior to being presented for final adoption by the Council on December 16.*
- 🍏 **ACTION:** OST to look into opportunities to increase SAT interaction with the Council and/or other policy-makers through social events or co-locating OPC and SAT meetings.

MEETING SUMMARY

1. Welcome & Introductions

S. McAfee, Science Advisor and OPC-SAT co-chair, welcomed the OPC and the SAT on behalf of the Executive Committee (G. Griggs, M. Carr, and A. Boehm). S. McAfee opened the meeting by explaining the meeting theme, *Knowledge to Action: Theory to Practice*, and noted that today's agenda included speakers with expertise in this realm from a variety of different perspectives and levels (federal - Maxon, foundations - Lee, academic – Meyer), as well as specific action items for the SAT to complete before the day's end (strategic plan). S. McAfee acknowledged BCDC for providing the room, and OST staff for their hard work.

2. Dr. Kai Lee, Program Officer, Conservation and Science, the David and Lucile Packard Foundation – Introduction: *Linking Knowledge to Action*

M. Carr gave a brief introduction including K. Lee's educational training, research, and publications.

K. Lee began by discussing how the Packard foundation focuses on trying to fund useful knowledge. Monitoring Enterprise (ME) is one of their grantees. ME is critical because it is thinking through and developing rigorous monitoring in a way that also informs policy-making.

K. Lee went on to discuss the model (Rachel Carson) of how scientists raise alarms that the public then picks up and puts forward to politicians. This model remains in effect and is how oil and gas reform, the Endangered Species Act, etc. came about. K. Lee noted that it has also been a source of frustration. K. Lee proposed a new model based on “a coalition of the willing” where instead of the scientists trying to inform policy-making, the users identify science as a need. In this new model the scientists would work with the users and the managers, and OST as the boundary organization would ensure that the science is rigorous while meeting the needs of the users and managers. The goal is to bring together knowledge that is salient, legitimate, and credible, and the boundary organization must constantly manage the inherent tension between these attributes.

In providing grants, the Packard Foundation looks specifically for grantees that link knowledge to action. When applying for funds, potential grantees must be able to answer:

- **Ripe Situation:** Can knowledge be influential?
- **Spanning Boundary:** Do the OST and other projects have the ability to span a boundary?
- **Capacity:** Do they have the capacity to work with decision makers and stakeholders?
- **Joint Production:** Can there be joint production? i.e. Can the scientist and the users work together?
- **Behavioral Changes:** Will the project make a difference?

3. MPA Monitoring Enterprise – *Advancing Ecosystem Condition Assessments through Expert Judgment: Drs. L. Whiteman and T. Freidenburg*

M. Carr introduced the MPA Monitoring Enterprise (ME) as one of the premier programs in long-term monitoring.

L. Whiteman provided an overview of the ME's new expert judgment project. The ME is currently in the initial stages of developing a process to examine and assess ecosystem health using expert judgment. L. Whiteman noted that this presentation is intended to be a starting point for conversation with the SAT.

The ME sits at the boundary of science and policy, and is exploring how best to use different approaches, tools, and technologies to span this boundary. L. Whiteman noted a recent shift in policy towards broader goals, e.g. the MLPA goals. In addition, there is a requirement to report out results not just to other scientists, but a broad audience with very different levels of understanding. The ME is currently in the process of deciding how to most effectively report out their results, and have discovered that there are a variety of tools that all have similar underlying principles – one being that of expert judgment. However, there is very little consistency in the process by which experts are brought together, how they are used, degree of detail etc.

L. Whiteman stated that the project is still in early stages, and they are currently exploring the bounds of the project, including the scope, the specific questions, the formulation of the process, and how to apply it. Currently a “science heavy” steering committee has been formed, they are looking to balance that. Ultimately, the project seeks to use real world case studies to apply expert judgment, and improve it (or the process of it) as a tool that may be applied to balance legitimacy, salience, and credibility.

L. Whiteman and T. Freidenburg then fielded a number of questions, including:

- ***Bridging the gap between policy makers and experts***

The ME is focusing on grounding these efforts by delineating a clear management intersection. Perhaps a pilot project to see if the final products are useful to managers.

- ***Goals of the project***

The ME is currently evaluating the goals of the MLPA to determine which could be used to measure impact. In addition, the ME team is already in conversations with the DFG about how to put together a report that is useful for them. The group noted that it is crucial to identify the specific management questions to inform at the outset.

- ***Communicating/Outreach with the public, policy-makers, and the media***

Each MPA has a baseline approach where data is collected by different groups including academics, citizen science groups, volunteers, etc. In addition, the ME is building an online community platform where information can be shared among groups and citizen scientists known as OceanSpaces. In addition, the ME will address up front the risk of subjectivity in expert judgment. At this time, they are still thinking through the best way to do this. One possibility is a workshop where one group of scientists is given a full set of information and another group is given a smaller set, then analyze how results vary between the two groups. The ME is working

with Resource Media to think through how to work with media to communicate the ME's message.

Finally, S. McAfee noted that the collaboration and support of policy-makers is critical. If the policy-makers do not have the capacity or interest then this experiment is over before it starts. K. Lee noted that OST is a really interesting experiment in public/private collaboration.

ACTION: The ME team will report back to the SAT on the progress of the expert judgment project in a year.

4. Dr. Mary Maxon, Assistant Director, Biological Research, White House Office of Science and Technology Policy (OSTP) – Presentation and Discussion: *Science/Policy in the White House*

G. Griggs introduced M. Maxon. In his introduction, G. Griggs noted that our group (SAT) is unique because we are in a role that very few scientists fall into, and that M. Maxon is in an even more unique position. M. Maxon career has included stints in the laboratory, the private sector, the non-profit sector, and now science advisor to the President in the White House Office of Science and Technology Policy - <http://www.whitehouse.gov/administration/eop/ostp> (OSTP).

M. Maxon opened with pointing out that there are very different philosophies between policy-makers and scientists. Scientists are comfortable with updating, changing, or rejecting hypotheses. Science is also a merit-based system where as policy is more of a loyalty-based system.

M. Maxon summarized the responsibilities of the OSTP:

- Ensure that policies of the Executive Branch are based on sound science
- Provide scientific and technological advice on policy
- Ensure that the scientific and technological work of the Executive Branch are coordinated

M. Maxon commented on what the President of the United States (POTUS) has done for science - including putting more Nobel laureates than past administrations in the President's Council of Advisors on Science and Technology - <http://www.whitehouse.gov/administration/eop/ostp/pcast> (PCAST), and more scientists on a variety of councils, committees, etc. Further, POTUS calls on PCAST for advice on a variety of projects, including science and technology on the influenza vaccination production enterprise following the 2009 H1N1 pandemic, sustaining environmental capital, and protecting society and the economy. In addition, POTUS has added money to science and technology in the recovery/stimulus package, doubled budgets of basic science agencies, made research and experimentation tax credit permanent, and lifted public + private investment in research and development to more than or equal to GDP.

In her tenure as Assistant Director, Biological Research, M. Maxon has worked on many initiatives including:

- Stem cell guidelines
- Visa procedures for scientists and technologists
- Streamlining reporting on federal grants

- Scientific integrity, guidelines, policies
- Bioethics

M. Maxon went on to discuss that Washington right now is very focused on job creation. However, OSTP has a role in many of these initiatives. First, POTUS had developed the American Innovation Strategy. Second, one of M. Maxon's projects is developing the American Bio-economy Blueprint, which will be done by January 2012. M. Maxon's other work includes long-term projects such as the health/status of the nation's biological research enterprise, and the PhD workforce. M. Maxon also must be available on a daily basis to respond to immediate requests that have a very short turn around time like briefings for POTUS, NSA, and regulatory reform.

M. Maxon also fielded a number of questions, highlights included:

- *Issues surrounding PhDs and immigration*

The US graduates 49,500 PhDs every year, 50% of them are foreigners. Part of the issue is that we train people and force them to leave afterwards. Recommendations to change the immigration policy have been presented to POTUS.

- *Effectiveness of science integration*

M. Maxon noted that she has seen decisions influenced by science, and those where the science was completely ignored. M. Maxon commented that ultimately the power lies with the constituents. If the public called for science, it would influence the politicians. M. Maxon also stated that another factor is the public perception of some issues as "scientific" and others as "non-scientific." M. Maxon went on to state that PCAST just published a report endorsed by POTUS on K-12 education.

- *Role of outside experts*

M. Maxon stated that when time allows, they do their best to get a diverse set of opinions from leaders in the field. However, some requests have such a very short turnaround time that they must rely on impartial information resources that can be obtained instantly, such as the National Academy of Sciences.

- *Role of media*

One area M. Maxon felt that the media could do much better is by not representing all experts as equal. In many instances, the media places all experts as equal, but this is not the case on a lot of large issues (e.g. if climate change is real or not). M. Maxon then closed with one final piece of advice, which is to focus education efforts on freshmen politicians. They have the least on their plates and are looking for issues to lead.

5. LUNCH

During lunch the group honored B. Baird, who is leaving the Natural Resources Agency.

6. Strategic Planning – Focal Area Reports and Group Discussion

S. McAfee introduced the session and turned it over to A. Mace. A. Mace then provided the OPC update and led the SAT discussion on the OPC strategic plan.

OPC Update:

- The Council has asked for more guidance on marine renewable energy. There will be a workshop in October on how the regulatory and permitting process works for ocean energy, which the OPC will then forward to the CA Energy Commission. OPC will also consider these recommendations in December.
- OPC has commissioned a scoping study on developing an information management system that will balance ecosystem and user needs. This will also be presented at the December meeting as well.
- The CA Sustainable Seafood Initiative, which the OPC has been developing over the past year, will also be on the December meeting agenda. Mace envisions a major role for the SAT and colleagues as the Initiative will require some kind of pre-assessment process of CA fisheries.
- The Governor has been seeking the advice from the chair of the IPCC to host an extreme events workshop in California in December. The OPC has a tremendous opportunity to participate by helping coordinate an agenda piece on sea-level rise and storminess along the coast. A. Mace noted that D. Cayan will be holding a related side event on this topic to bring scientists together at Scripps Institution of Oceanography, tentatively scheduled in November. A. Mace also noted that there will also be a follow up event tentatively in January or February to highlight and discuss the findings of the upcoming National Academies report on sea-level rise.
- A. Mace noted that the newest member of the Council is Matt Rodriguez, the new head of CalEPA under Governor Brown. A. Mace also noted that Geraldine Knatz (Port of L.A.) and Linda Adams (CalEPA) will soon term out, but the Governor has yet to announce any new appointments. Finally, A. Mace also stated that the Lt. Governor and State Controller alternate on the Council, thus Lt. Governor Gavin Newsom will rotate off the Council in January, and State Controller, John Chiang, will return in 2012.

Strategic Plan Discussion:

**Below is a summary of the discussion, for additional details of the focal areas or related powerpoint presentations, contact OST staff.*

Focal Area 1: Climate Change

Focal Area Lead: Dr. Gary Griggs

G. Griggs began with noting that we are a science advisory team, not a policy advisory team. G. Griggs then went on to summarize via powerpoint, the climate change working groups' suggested changes:

- Reorganization of the focal area overview – more like an executive summary that summarizes what is coming in the rest of the focal area, as well as stronger scientific information to justify Issue choices etc.
- Revised goal statement: the group offered two options.
- Addition of Issue or language to overview discussing geo-engineering techniques to reduce carbon.

- Suggested changes for Issue 1:
 - Strengthen scientific information in the overview, including reference for numbers associated with impacts on the coast.
 - Link the Issue of sediment management (currently in the land sea interaction focal area) to the climate change focal area, in particular the need for increasing understanding of impacts on marine ecosystems, and effects on the marine layer (including ecosystems and human communities along coast) such as health impacts of a changing coastal zone.
- Suggested changes for Issue 2:
 - Stronger justification of Objective and Actions, because important ones appear to be left out. Stand outs include harmful algal blooms and hypoxia.

The management team responded by noting that they are very limited in staff capacity and financial resources. It was agreed upon early that if other state entities were addressing a particular issue, then they would not place a focus on those areas. However, the management team agreed that they could make more explicit how selections were made.

Discussion then revolved around the full plan, and how it is an attempt to merge a strategic plan with an action plan. Regarding the bulleted metrics throughout the plan, it was noted that they are an attempt by the OPC to hold itself accountable to the public. However, the OPC management team acknowledged there may be a better way to present the metrics, such as in post-Objective narratives. A. Mace also noted that turnaround time is very tight. SAT feedback must be provided by October 5 to be considered in the next version. Finally, A. Mace noted that the SAT (and OPC steering committee) will get to review the final draft in advance of the December 16 OPC meeting where the Council is expected to adopt the final plan.

Focal Area 2: Sustainable Fisheries and Marine Ecosystems

Focal Area Lead: Dr. Christopher Costello

C. Costello opened with summarizing the working groups' suggestions, which included a number of specific wording changes. C. Costello also promised to send specific wording changes to A. Mace by the stated deadline.

- Overall the group thought this section was very well written.
- The group recommended that the Issues be renamed and re-ordered.
- The group did not think the language on aquatic invasive species fit, or was adequate.
- Recommended defining what is meant by "coastal communities." A. Mace responded by noting that they do not want to set up expectations that cannot be filled. E. Knight mentioned that in the agency assessment process (MRIPP), some social science information needs were identified on this topic that she would be willing to follow-up on.
- Noted the importance of partnering with federal agencies and the Pacific Regional Fisheries Management Council, especially with respect to funding or supporting long term monitoring during tight budget times.

Focal Area 3: Land Sea Interaction

Focal Area Lead: Steve Weisberg

S. Weisberg began by noting that the group would not have picked these Issues. While the working group understands that the OPC has constraints, the justifications for why each Issue was chosen, remained unclear.

- The group noted an imbalance of metrics between the issues. Issue 7, or marine debris, seemed particularly extensive and detailed compared to the others. A. Mace noted that marine debris is an issue where there is no clear lead and the OPC can make a discernable difference, whereas water policy and quality has many agencies that already have jurisdiction and mandates. The SAT then noted that although there may be mixed jurisdiction, there is no clear linkage, direction, or goal between them and the OPC could play a leadership role in getting these agencies to work toward a common goal together. The SAT noted that this leadership role applies to the Water Policy section as well.
- The working group noted that Issue 6, or Water Policy, seemed to be more about water quantity, but did not think it needed to be limited to that. They suggested addressing both issues through agency coordination without naming specific quality or quantity issues.

Focal Area 4: Industrial Uses

Focal Area Lead: Jeff Paduan

J. Paduan began by noting that the working group agreed with the three Issues chosen. However, they thought the language of the Issue areas themselves could have been strengthened. In general, J. Paduan said that the group felt the overview language was far stronger in terms of intent than the Issue language was.

- The working group recommended stronger language that more clearly defined the role of OPC.
- Recommended adding language to recognize that there is a great deal of regulatory uncertainty to the permitting process, and that this can inhibit technology that might minimize impacts. A. Mace stated that the OPC does not want to promote any particular activity; rather they want to promote best management of any particular activity.
- Recommended expanding the Issue of Aquaculture beyond just offshore aquaculture (which the section seems geared toward) to alongshore aquaculture and such topics as biofuels.
- Noted that in Desalination, there was far too much discussion of once-through-cooling and that some parts of the section were not scientifically defensible. A. Mace clarified that this section is getting heavily revised.

Focal Area 5: Cross-cutting section, Science-Based Decision-Making

Focal Area Lead: Karen McLeod

K. McLeod opened by stating that there is a strong leadership opportunity here for the OPC with this focal area in particular. First, the OPC must clarify how greater access to- and sharing of data will lead to better decision-making. While the working group understands that greater data

sharing is critical, the group recommended that the OPC should add or expand the language to clarify their vision of what good science-based management looks like.

- The working group recommended either expanding on the existing goal, or adding another goal to capture the implications of using more and better data in decision-making.
- Noted that there is too much language on improving understanding, and not enough linking this understanding to actions.
- Noted that the OPC could be a leader in articulating the appropriate balance between protecting oceans and creating jobs to support the economy. A. Mace responded that the OPC is very focused on their role of coordination and affecting how agencies use information – while it may not sound very visionary it will be a major change if it can happen in the next five years.

The discussion then concluded with the issue of the term CMSP and permitting, and what role if any the OPC should play. Permitting is already happening in many ways and other regions and the foundations view California as behind on the issue. The science-based decision-making section may be a place that the intent and value of the steps that the State is taking could be better clarified.

ACTION: The SAT will get any additional comments and specific language changes to A. Mace and OPC staff by Wednesday Oct. 5.

7. Introduction: New OST Science Integration Fellow, Dr. Ryan Meyer

R. Meyer was introduced by S. McAfee. R. Meyer then discussed his educational background and career path in the study of science integration. R. Meyer discussed how he has worked in other countries in addition to the U.S., including India and Australia, but is particularly excited to join the OST team because the model of science integration here is so unique. R. Meyer's work with OST will span the organization, including the MPA Monitoring Enterprise and the expert judgment project, and defining a process to identify and prioritize agency information needs (the MRIPP project).

8. Wrap-up and Discussion

S. McAfee then ended the meeting with an OST update.

OST Update:

- OST will release the report, "*Plastic Debris in the California Marine Ecosystem: A Summary of Current Research, Solution Efforts and Data Gaps,*" on Monday, October 3. The report may be downloaded at OST's website here: <http://calost.org/science-initiatives/?page=marine-debris>
- OST is currently looking into working with COMPASS or Aldo Leopold to offer communications training to the SAT.
- Department of Fish and Game has reached out to OST to see if there is a role for the OST and the SAT to put together a team to do a risk analysis and technological study in relation to scientific permitting in MPAs.

- Finally, F. Chavez asked about opportunities to interact directly with the Council.

ACTION: A. Mace and S. McAfee agreed to look into opportunities through social events or co-locating OPC and SAT meetings.

S. McAfee then introduced W. Sydeman who announced the initiation of work on a climate change and fisheries publication to inform state managers looking to understand what is currently known about how climate change may impact California fisheries. A working group will be convened, but any SAT member is welcome to participate (*for more information contact W. Sydeman and/or E. Knight*).

The Executive Committee, or S. McAfee, G. Griggs, and M. Carr, then adjourned the meeting by thanking everyone again for their hard work. *Reception and dinner was then held at LaFitte in San Francisco.*
