CALIFORNIA OCEAN PROTECTION COUNCIL

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Dear Ocean Community,

This has been a seminal year for the OPC. A successful move from Oakland to Sacramento, followed by the recruitment of energetic and knowledgeable staff, has marked this transition. OPC relevance and brand are coming into focus, and is increasingly sought after by state agencies and the public for its policy expertise and role as convener and problem solver. Perhaps most importantly, the value proposition of OPC, alongside its partner OST, has become clear to other states who lack a science informed entity to tackle the complex challenges we are increasingly faced with. As OPC moves into a new era, its impact will be felt beyond California - a stronger regional, west-coast collaboration will swing the tides of sound policy and attract federal funding to support the intelligent approach the west coast is taking on addressing marine issues. The Council, under the Secretary's leadership, is at the vanguard of building and strengthening this collaboration, which in turn will serve California well.

One of our keystone activities has been the creation of the Marine Protected Area (MPA) Collaboratives and a new philosophy of management that is articulated in the Partnership Plan, which is on the OPC agenda for the afternoon of December 2nd. On December 1st and 2nd we will be hosting the first meeting of the Collaborative Chairs and Co-chairs to make real the state's commitment of engagement with local interests in managing our MPAs.

As we continue to hone our priorities, using the strategic plan as our base, we are emphasizing five areas: MPA Stewardship, Ocean Acidification and Hypoxia, Sea-level rise adaptation, Sustainable Fisheries, Marine Debris and Mapping/ocean information. As staff, we are thinking through key strategies and work products for the coming year. This is especially important as we develop for the Council's consideration grant guidelines for the Proposition 1 funding, and spending down the remaining Proposition 84 funds. In total, OPC has the responsibly to wisely invest 44 million dollars in ocean and coastal work.

Attached are my thoughts on where the OPC has been and where we are going. I offer this thought piece as a way to engender discussion – it is a work in progress. Also attached is the Executive Director's report updating the Council on key activities from the past quarter, including recently completed grants.

I am looking forward to seeing you at the OPC meeting.

Warm Regards,

Catherine Kuhlman

Catherine Kuhlman
Deputy Secretary Ocean and Coastal Policy
Executive Director Ocean Protection Council

Attachments

Musings on the Ocean Protection Council – Fall 2014:
Where We Are and Where We Are Going

"Recognizing the interconnectedness of the land and the sea, supporting sustainable uses of the coast, and ensuring the health of ecosystems."

Introduction:

The Ocean Protection Act that created the Ocean Protection Council (OPC) clearly calls out the role of the OPC to ensure ocean health. The OPC is not alone in serving this mandate; it is called for using differing language in the mandates of all agencies with ocean jurisdiction. While OPC, Department of Fish and Wildlife, Fish & Game Commission, Water Board, Coastal Commission, Coastal Conservancy, State Lands, Parks and Recreation, and others each speak to their role in safeguarding or promoting ocean health, we have not yet taken the step to understand *what it is we mean* when we reflect on ocean health in our respective work. There is value in gaining a common understanding.

The Ocean Protection Council is the designated repository for California's ocean policy vision. Charged with an ocean health mandate, we have launched a spirited and inspiring conversation among our sister agencies, the science advisory team, and the public, to narrow in on a shared understanding of what constitutes a healthy ocean.

This conversation serves California in many ways: It (1) provides for the mutual recognition among the agencies, boards and councils of how we each approach our work, our decisions, and our priorities, that will in turn catalyze critical conversations as we're challenged by complex issues, (2) will serve to identify which agency should take the lead, or whose mandate is best reflected, in cross-cutting issues ahead, (3) brings the agencies together under a common, aspirational umbrella, (4) positions our new network of Marine Protected Areas (MPAs), a tool in service of ocean health, within each agency, and (5) demonstrates and reinvigorates California's leadership nationwide. And it's fun. Our sister agencies have shared that by simply asking the question, a lively and productive dialogue was sparked within their organizations. Public response has been uplifting. OPC's intention with this topic goes deeper, however. It serves as a reminder that each of us – decision maker, tribal member, fishermen, conservationist, academic – share a hope for our collective future: a healthy ocean. Let's start there, and work together toward this common vision.

OPC, in its role of convener, funder, and policy maker seeks to build on the collective mandates of the organizations and agencies it coordinates. The OPC recognizes the power of individual agency roles, and as such has sought to add value where issues scope beyond a single entity. *That is the OPC value proposition*, to provide lift and clarity to California's ocean management, to procure the science, develop the partnerships, and advance common goals. Guided by a strategic plan, our role now is to hone our efforts and identify the precise issues and approach that provide that critical lift.

Now more than ever California is relying on the Ocean Protection Council and the vision and dedication to ocean issues provided its chair, Secretary John Laird. Challenged by climate change and the fast moving swirl of science that underpins policy decisions, a single entity has difficulty keeping up. With a changing climate, each decision rests on the decisions of others, and moving ahead proficiently and collectively toward our common goal of a healthy ocean requires high level, skilled, science-informed

coordination. Toward that end in every issue undertaken by the OPC, a changing climate is considered. We address it directly in our work on sea level rise, but it's reflected in our data management, fisheries support, and MPA monitoring as well. It is the lens with which we engage.

OPC's Approach – Building and Enhancing Partnerships Internally and Externally

While OPC staff are committed to ongoing efforts and are still actively engaged with 'legacy' grants that require stewarding, the key issue areas below are where the OPC is aiming its focus. These areas have been honed from the strategic plan and many subsequent conversations, and represent the greatest opportunity to lead California to meaningful outcomes. While divided into issue areas, OPC approaches each under the rubric of ocean health; for most of the nexus is the network of MPAs from which understanding of impacts of each can be derived. This allows us to grow our knowledge more quickly, to leverage our efforts and resources, and to draw in the communities of state agencies and constituents in meaningful ways.

1. Marine Protected Areas: Promoting Ocean Health and Supporting Fisheries

Core to the discussion of ocean or ecosystem health is our new network of marine protected areas. In recognition of OPC's unique coordination role, the policy responsibility for the MPAs shifted to OPC by legislation. OPC led the successful generation of its California Collaborative Approach: Marine Protected Area Partnership Plan, a plan that codifies agreement among multiple state agencies while bringing aboard new partners including State Parks. Here, the process was the product; iterative meetings with agency leads facilitated discussion of know problems, and each came to realize that the management of the network was a far greater task than any single agency. Further, the Partnership Plan signals to external partners the state's commitment and intent to make MPA management a state priority, and provides a roadmap on the state's approach. It is the first step in understanding the breadth of functions and matching those with the capacity of each agency. Perhaps most importantly, as the state comes to agreement and recognition of the task ahead, it does so while deepening its relationship with tribes and tribal governments; the Partnership Plan seeded the opportunity to learn more about tribal ocean management priorities and to incorporate their perspectives while recommitting to ongoing engagement. The OPC further recognizes that the success of implementing the Marine Life Protection Act (MLPA) lies in gaining the trust and serving our commercial and recreational fishing constituents. To that end, staff have embarked on listening campaigns that are yielding new understanding and partnering opportunities with the fishing community. Ongoing MPA monitoring and collaborative fishing projects will serve to advance our understanding of MPA performance in the context of ocean health while deploying the wisdom of those who make a living from the sea. Going forward, OPC staff are committed to finding creative ways to mobilize this wisdom.

The management and policy guidance of our MPAs is not just about allocating responsibility among state agencies, it's about extracting the most value from the network for California and beyond. While we understand the goals of the MLPA were centered on enhancing ecosystem health, the science-informed designation of the MPAs (followed by investing in a progressive and novel baseline characterization of the ecosystems' condition upon designation) provides California with an unprecedented opportunity to use the network to learn about other stressors challenging our ocean resources. For example, the network serves as an experimental design that can elucidate the impacts of water quality, marine debris or climate change on different habitats, which will in turn guide California's policy directions and future investments. This work is presently underway, launched with the Central Coast Monitoring Plan - the first plan beyond baseline characterization - which builds in key indicators of

other stressors, such as climate change and ocean acidification. It is important to recognize the creativity in approach with the Central Coast Monitoring Plan, a model for other regions: it maintains its fidelity to the original goals of the Marine Life Protection Act in service of future decisions, while recognizing that we can extract even more information and knowledge from monitoring, beyond the original goals. Perhaps most exciting is our intent to knit together ongoing research and monitoring programs by seeding funding among groups already working in the region, thus providing for a cost effective program that leverages those efforts. The OPC is learning and innovating, and the response from the community is creating momentum that propels us forward.

It is important to understand that California invested significantly in gaining the critical understanding of the condition of our ocean's ecosystems when the MPAs went into place. Going forward, out of necessity, California will be relying on the academic community, citizen scientists, fishermen and tribes to lend a hand in ongoing monitoring, an effort that will be seeded with a modicum of funding, stewarded and promoted by OPC. Thus, OPC's demonstrated and ongoing commitment to partnering internally with its sister agencies, its outreach and meaningful dialogue with tribes and fishermen, and its close partnership with the Ocean Science Trust and science advisory team, is demonstrably reflecting its expectations of California's engaged ocean citizenry to support MPA monitoring. OPC is walking the walk, and living up to the goals of its founding legislation.

Key to our success with implementation of MPAs, beyond the new Partnership Plan, is building the channels to the community. Designing the venue for local and regional participation that mobilizes unique local capacity while in turn informing the state on issues and opportunities is the intention behind the MPA Collaboratives. Through the Collaboratives we grow interest in our ocean's future in coastal residents, even our school children - we hear from fishermen, lifeguards and others whose livelihoods depend on the wellbeing of our oceans, and whose connection runs deep. Through the Collaboratives, citizens become stewards. At the local level, MPAs take on a new and individual relevance that in turn may attract tourist dollars that serve local communities. Securing the future of the Collaboratives is paramount to the future of the network.

Strategies:

1. Assure monitoring and assessment of the MPAs supports adaptive management
2. Seek durable funding for MPA monitoring and local Collaboratives
3. Use MPAs as a tool for assessing ocean health and involving a broader range of partners including fishermen and tribes.
4. Expand the state partnerships to include Water Board, State Lands and the Coastal Commission
5. Leverage funding and support from local Collaboratives with state partners

2. <u>Ocean Acidification and Hypoxia: Knowledge for Adaptation and Mitigation</u>

When the Ocean Protection Council charged staff to support state decision makers with information on the potential impacts of acidification, the building blocks were in place to undertake this quickly: the Ocean Science Trust put the OPC-Science Advisory Team to task on identifying the buckets of expertise required to adequately respond to information needs. OPC staff, meanwhile, foresaw the value in scaling this effort up the coast, inviting participation of Oregon, Washington and British Columbia, each of whom eagerly agreed. The resulting West Coast Ocean Acidification and Hypoxia Panel, a panel of (now) bi-national scientists, while advancing on product development, has gained the attention of our federal partners, including the White House. This multi-state, bi-national effort, with OPC leadership, is

poised to change how dollars flow from federal agencies to the states on this issue. It also is bringing important attention to the value of California's MPAs, which will now serve coast-wide and federally to lead the understanding of acidification impacts in an upwelling center. Under California's leadership, the message that ocean acidification monitoring *is* MPA monitoring is catching hold, appropriately, and advancing this dialogue broadly may lead to other funding sources to support our MPA monitoring. Further, with OPC's investment in modeling nutrient inputs and the resulting acidification and hypoxia, California will lead the nation on disentangling the relative contribution of local OA drivers, hence identifying whether local regulatory levers are worth pulling.

California is blessed with abundant academic resources on the issues of acidification and hypoxia, but more importantly, those academics are committed to collegial and collaborative approaches. Sensor deployment, particularly in the nearshore areas where impacts are expected to be highest, cannot presently be undertaken with state funding; thus, our academic leaders have now advanced an ad hoc pH monitoring network and are sharing the data publicly. OPC will continue to encourage and build on this effort, especially in aligning these resources with those of the two California ocean observing systems. Co-locating biological, including MPA, monitoring with sensor monitoring that provides us with range and trends of acidification and hypoxia in coastal waters, is the only robust path forward to grow our understanding of OA impacts, and OPC is positioned to pull resources together to answer this need.

Strategies:

1. Work with the West Coast Governors along the California current to spotlight ocean acidification and hypoxia
2. Support the coordination of science through the Ocean Acidification and Hypoxia Panel
3. Remain an active member of the Pacific Coast Collaborative that promotes the value of a regional partnership on these issues and engages with federal partners
4. OPC is seeking to deepen its partnership with both of California's ocean observing systems for better coordination with state goals

3. <u>Sea Level Rise: From Science to Adaptation</u>

The California Ocean Protection Act clearly recognized the diversity of institutions across California's governance landscape that held ocean regulatory, policy and management positions; thus, the Act called for a single body to serve as coordinator amongst these entities in a way that serves to align efforts while minimizing conflict and duplication. As managing our ocean's future grows more complex, particularly with climate change, more issues are emerging that require high level, skilled agency coordination that manifests without adding a bureaucratic layer. OPC staff have undertaken precisely this, and agency leadership now recognize the value and necessity of OPC's role. For example, the OPC took an early lead with sea level rise guidance to the state, yet slotting that guidance into the specific legal mandates of agencies charged with implementing it requires additional coordination and lift. Hence, the OPC formed and now chairs the 'Coastal Sea Level Rise Leadership Group,' consisting of the Coastal Commission, State Lands, Coastal Conservancy, Bay Conservation and Development Commission, and the Department of Parks of Recreation. The goal of this group is to implement coordinated, collaborative and integrated approaches to address the impacts of sea level rise and associated hazards with facilitated dialog on each agency's response, and to provide the opportunity for cross-learning.

Rising seas are a foregone conclusion. That California must take action now to mitigate impacts on infrastructure, natural resources and our economy is also a foregone conclusion. California's Safeguarding Plan identified priority areas for action and assets to be deployed. In advancing that guidance, the OPC is again stepping into its role of skilled inter-agency coordinator and compiling a vision document that will serve California as it is challenged with sea level rise adaptation decisions – both locally and at the state level - in the coming decades. This document will reflect the best expertise of each state agency and local community in such a way as to provide unifying guidance on how California intends to face this imminent challenge. There are many new considerations on the horizon that will require high level guidance: For example, a thoughtful trade-off analysis of the use of armoring and revetments, the role of MPAs in conferring ecosystem resilience, the value of green infrastructure in mitigating impacts, an evaluation of sediment policy and beach nourishment with respect to monitoring and biological impacts, etc. Each of these and others require consolidated consideration that the OPC is poised to undertake.

Strategies:

1. Cross pollinate guidance and permitting among the state coastal managers
2. Promote best practices such that state funded projects avoid hazards and use appropriate sea-level rise projections
3. Engage in individual and roundtable discussions across agencies to develop a plan for specifically advancing the goals of Safeguarding for coastal adaptation that results in the development of a common vision document.

4. <u>Supporting Sustainable Fisheries and Fisheries Management</u>

Since its inception, OPC has supported fisheries management in partnership with the Department of Fish and Wildlife (DFW), typically with large capital investments for one-off projects. While those investments have been fruitful, OPC has launched a new approach that recognizes the value of its own role as convener and funder, and that of its regulatory partners, DFW and Fish and Game Commission, and the Ocean Science Trust's access to independent science, by establishing a Fisheries Leadership Group. This group is now meeting regularly to hone and prioritize issue areas that are suitable for OPC and philanthropic support in ways that promote more efficient fisheries management practices, including capitalizing on external expertise and funding. While DFW holds an excellent track record in managing diverse and Byzantine mandates, it is left with little bandwidth to undertake novel approaches that onboard new theoretical models or consider a changing climate. This group has already drilled down to core areas where a partnership approach can change the 'business as usual' of fisheries management to one that takes appropriate advantage of assets and capacity of its partners. The regulatory authority and fishery management expertise are the sole purview of the Department and Commission, yet recognizing the value of OPC and OST to shore up this charge with strategic funding or scientific support is a breakthrough that will serve California well. This group is also poised to seize the opportunity to identify ways that the MPA network can serve fisheries management; that is, to find the overlap between MLPA and MLMA.

Strategies:

1. Advance the priorities of the Fisheries Leadership Group
2. Identify opportunities to support fisheries management in support of MLMA
3. Creative ways to advance the intention and tenets of CSSI
4. Leverage funding from philanthropic community

5. Marine Debris

No discussion of ocean health and harmful impacts is complete without including marine debris. Migrating California grey whales are entangled in derelict fishing gear, endangered sea turtles choke on floating plastic bags, microscopic plastic debris is consumed by fishes and lodged in their guts. Studies are just now beginning to elucidate the impact of plastic debris constituents on ecosystems. Again, California benefits from public participation and a citizenry willing to take bold steps. Along the coasts, hotlines are available to report entangled marine mammals, and volunteers remove trash from beaches. The State Water Board is preparing to adopt a ground breaking regulatory program to prevent trash from reaching our beaches. Combined with the recently enacted plastic bag ban, these two key actions will result in less trash on our beaches. All of these efforts are expected to result in less garbage making its way into our waterways and ultimately the ocean, thus mitigating the impact on animals and ecosystems. Californians will benefit from both cleaner beaches and the economic savings alike.

While cumulatively these efforts will take California a long way, this problem is bigger than any single state. OPC is working with the West Coast Governors' Alliance on Ocean Health to develop strategies that scale up the coast – a coordinated response to our shared issue will yield the greatest results.

Strategies:

1. As California has recently taken the bold steps to eliminate plastic bags statewide, and the Water Board has recently provided a new and aggressive regulatory approach to trash management, OPC is now taking a strategic pause to assess how best to allocate resources for future efforts. We will continue to engage with our partner states, Oregon and Washington, through the West Coast Governors' Alliance on our shared interest in marine debris, and continue to seek opportunities to apply OPC's unique niche to this issue.

6. Data, Mapping and the State's Geoportal: Capitalizing on California's Wealth of Ocean Information

As demonstrated in the issue areas above, OPC's core competencies are serving California as intended by COPA. Increasingly new legislation reflects the value of OPC, calling upon it to undertake tasks that guide the state to higher functioning as it tackles complex, cross-sectoral management challenges, particularly in the face of climate change. Assembly Bill 2125, directing OPC to build an online portal to house geospatial data that serves agencies with ocean mandates, is a key example.

Sound data underpins the decisions of OPC. Others, including the Coastal Commission, Department of Fish and Wildlife, Bay Conservation and Development Commission, and State Lands, also rely heavily on data as they make coastal and ocean permitting decisions. A single authoritative source of information commonly referred to by multiple agencies will profoundly streamline the decision process and will serve the public with transparent expectations and decision pathways. It further elucidates trade-offs that may impact ocean health while incentivizing appropriate development.

This is a tall order, and an aspirational one. OPC's approach was to match the intent of AB215 with available capacity, phasing it in over time in such as way that its utility met the need, while simultaneously cultivating interest in the opportunity it presents. True to form, OPC guided this effort by convening and chairing the Geoportal Working Group, a team of state and federal actors with

technological and policy acumen. This working group is the vehicle to identify priority issue areas, guide strategic investments, and beta test the platform. After significant due diligence, needs testing, and technical scoping, Phase I is now largely complete, and the state's geoportal is a functioning web presence. Phase II, a two-part strategy of populating the geoportal with critical bathymetry and LiDAR data while teeing up proof of concept projects, is underway. OPC is intending to demonstrate how the geoportal will become a critical tool as the state negotiates the impacts of climate change, particularly sea level rise, on our coast, and the Coastal Leadership Group as presently positioned can serve to deploy these tests among member agencies.

OPC is thoughtfully advancing the development of the state's geoportal, balancing the technology with need, the commitment to high quality data with decision support, and serving up the wealth of seafloor mapping and LiDAR data California has invested in. As progress continues, it will become increasingly apparent that a state as geologically and politically complex as California necessarily will rely heavily on this critical tool.

Strategy:

1. Continue to seek opportunities engage with state agencies and external funders in support of a portal that promotes efficient and common use of authoritative data.

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California Ocean Protection Council (OPC)
Executive Director's Report
December 2, 2014

The Executive Director's Report provides an update on OPC outcomes and accomplishments since the previous OPC meeting. This report covers August to December 2014.

Results of OPC Grants and contracts.

In an effort to keep the Council apprised of the results from OPC grants and contracts, we are including brief descriptions of the deliverables for agreements that have recently closed. The present report includes grants/contracts that have closed since the transfer of the OPC from the State Coastal Conservancy to the Natural Resources Agency on July 1, 2013. Each grant or contract is described under the header of the OPC strategic plan issue the work is intended to address. We hope you will find these descriptions to be useful.

Staffing.

In early September 2014 we welcomed Cyndi Dawson as our Marine Protected Area Policy Advisor. Cyndi is an experienced marine ecologist with her past work focusing on nearshore ecology, marine protected areas and sustainable fisheries management. In her most recent position as an Environmental Scientist with CA State Parks she was tasked with balancing the impacts of recreational uses with the conservation and restoration of Asilomar State Beach's extraordinary natural resources. Cyndi received her B.S. in Biology from Humboldt State University and her M.S. in Marine Science from San Francisco State at Moss Landing Marine Labs. She has worked as a Marine Biologist for CA Department of Fish and Wildlife and as the Director of Science of Reef Check California.

In early November 2014 we welcomed Jacqueline (Jacki) Meyer to our team. Jacqueline is a fishery biologist for NOAA Fisheries (NMFS), located at the California Coastal Area Office, West Coast Region. She has worked for more than a decade with NMFS to conserve, protect and recover, marine and anadromous species, primarily those protected and managed under the Federal Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, and Marine Mammal Protection Act. She is also the California Fish Hydroacoustics Coordinator for NMFS, and participates on a technical team focused on the effects of anthropogenic sound on marine animals. Prior to coming to work for NMFS in California, she worked as a research scientist at NMFS' Pacific Islands Fisheries Science Center for the Hawaiian Monk Seal Program. The opportunity for Jacki to do a detail assignment to the OPC arose when OPC staff Valerie Termini McCormick pursued a rotational assignment with NMFS in Washington, D.C. Valerie is focusing on developing strategies for more adaptive fisheries management to the impacts of climate change and will bring a wealth of information back to the OPC upon her return in summer 2015.

We hope to conduct interviews in November for a position that will focus on the issue of ocean acidification and hypoxia. The original position description was released in spring 2014 but we decided to reopen the position to take advantage of a newly updated classification list.

Our two Sea Grant fellows, Liz Parissenti and Karen Kayfetz, will be finishing their fellowships with the OPC in January 2015. Liz's significant achievements include coordinating interagency partners to finalize the MPA Partnership Plan (being considered today for adoption) and helping to plan the West Coast Ocean Summit described below. Karen spearheaded OPC's marine debris program and lead the development of the August 2014 OPC resolution on the State Water Resources Control Board's trash policy. In recent months, Karen has also played a key role in the selection and program management for the second round of Local Coastal Program sea-level rise grants to be discussed today. We cannot thank them enough for their hard work, thoughtfulness, and positive attitudes. Luckily, the Sea Grant fellowship program continues and we hope to host two new fellows starting in early 2015.

Tribal Engagement: West Coast Ocean Summit

The first West Coast Ocean Summit will bring together West Coast Tribes, representatives from the Governors' offices of California, Oregon, and Washington and state and federal agencies to discuss regional ocean governance issues and shared ocean health priorities. At least twelve California tribes are playing integral roles in the Ocean Summit's agenda formation, planning, logistics, and development.

The objectives of the Summit are to communicate, develop a shared understanding, document issues of mutual importance, create strategies for overcoming challenges and develop mechanisms for ongoing dialogue among federal and state agencies and tribes in the region. The Summit will take place January 12 – 14, 2015 at the Courtyard by Marriot Portland City Center in Portland, Oregon. The West Coast Governor's Alliance (WCGA) is able to support tribal participation in the planning process and attendance at the Ocean Summit through a grant provided by NOAA.

Issue Area 1: Science Based Decision making

Seafloor and shoreline mapping.

The OPC, in partnership with the US Geological Survey and NOAA, hosted a successful series of workshops in Santa Cruz, CA, October 22nd and 23rd. The goals of the California Seafloor and Coastal Mapping Program (CSCMP) milestones workshop were to celebrate the mapping successes of the past, to assess where we currently are in implementing the program in accordance with the OPC strategic plan, and to imagine a future for the next phase of the CSCMP. Over 30 stakeholder organizations participated in the active discourse of the workshop, including local, state, and federal governmental representatives; academia, and private industry (Google, ESRI, and others). By the end of 2014, the OPC will work to 1) write a white paper on the workshop proceedings in an effort to synthesize the feedback received concerning CSCMP progress, and 2) form an executive steering committee comprised of potential funders, data producers, and data consumers to design the future of the CSCMP.

An important component of the CSCMP includes how data is delivered, and OPC staff is working diligently to continuously improve such platforms, including the California Coastal and Marine Geoportal. A separate project, a survey of San Francisco Bay bathymetry, is currently being surveyed through a partnership with NOAA, with great preliminary success.

Closed grants/contracts within Science-based Decision-making

California State University Monterey Bay (CSUMB) (CNRA Agreement #0-07-084)
The CSUMB Seafloor Mapping Lab acquired high quality seafloor mapping data which fed into the larger California Seafloor and Coastal Mapping Program (discussed above). Under the direction of Professor Rikk Kvitek, the products from the CSCMP include a wide variety of digital map layers derived primarily from multibeam echo sounder bathymetry, sub-bottom profiling sonar, and video and still imagery data of the seafloor. Products from this agreement are publically available through Google Earth, the United States Geological Survey, the CSUMB Seafloor Mapping Lab, and NOAA's Digital Coast.

California Department of Conservation (CNRA Agreement #0CA13107)
This agreement funded the California Geological Survey within the Department of Conservation to create geological maps of high-priority coastal areas that fed into the larger CSCMP program discussed above.

California Technology Agency (CNRA Agreement #0-12-015)
The purpose of this agreement was to develop the California Coastal Geoportal, which was released to the public in September 2013. Access to authoritative sources of geospatial and scientific data is critical for diverse end-users to utilize in science-based decision-making. Further improvements to the Coastal Geoportal are being coordinated by OPC staff.

1. Strategic Plan Issue Area 2: Climate Change

State Coastal Leadership Group on Sea-level Rise.
The State Coastal Leadership Group on Sea-level Rise, which is comprised of the Coastal Zone Management Agencies (Coastal Commission, San Francisco Bay Conservation and Development Commission and State Coastal Conservancy), the State Lands Commission and OPC, has resumed monthly meetings for developing and implementing coordinated, collaborative and integrated approaches to address the impacts from sea-level rise, storms, erosion and other coastal hazards. The group has been discussing roles for the state on ocean and coastal adaptation and implementation of the Safeguarding California Plan.

West Coast Governor's Alliance on Ocean Health – Climate Action Coordination Team.
OPC's Climate Change Policy Advisor Abe Doherty is co-chairing this team which represents entities from the three states on the West Coast as well as representatives from federal agencies. Priority actions include developing a funding a database for sea-level rise funding opportunities and supporting the development of mapping products for sea-level rise, shoreline change and coastal storms.

AB2516 Sea-level Rise Database Implementation
OPC staff members are exploring options for implementation of AB2516, which was signed by Governor Brown, and calls for various entities to report sea-level rise information to OPC by July 1, 2015, and for OPC to display the information in an online database by January 1, 2016.

West Coast Ocean Acidification and Hypoxia Science Panel.

The West Coast Ocean Acidification and Hypoxia Panel, a panel of experts from California, Oregon, Washington and British Columbia, recently released, *Ocean Acidification and Hypoxia: Today's Need for a Coast-Wide Approach*, an analysis of why addressing the complex issues of acidification and hypoxia is best done at the coast-wide scale. The Panel, convened by the California Ocean Science Trust, is also working to develop a series of products that address priority knowledge needs identified by decision-makers. Some are technical reports being developed at the specific request of state and federal agencies, while others will be scientific publications, providing a rigorous, peer reviewed knowledge base from which policy white papers and summaries will be developed. Currently in varying stages of development, these products will be released on a rolling basis starting in late 2014, and throughout the first half of 2015. They include:

- *Opportunities for Management Actions around Ocean Acidification and Increased Hypoxia:* This publication will focus on ways to slot new knowledge into active decision making processes.
- *Envisioning a Future Science Landscape:* Looking 5, 10 and 20 years forward, this product will envision scenarios for the role of science in decision making so that research and monitoring are more salient, credible, and efficient.
- *Scientific Approaches to Making a 303(d) Assessment for Near Coastal Acidification:* This technical document for the U.S. Environmental Protection Agency and the State Water Resources Control Board and associated regional boards will develop recommended analysis approaches for assessing whether water quality standards are being achieved using existing data, and provide recommendations for how to improve the monitoring programs.
- *Ecosystem and Food Web Impacts***:** This publication will explore how we can use existing tools to mitigate impacts of ocean acidification and hypoxia and bolster ecosystem resilience now, and in the face of an uncertain future.
- *Coastal Dynamics:* This publication will lay out our current knowledge on the large-scale oceanographic factors that drive ocean acidification and hypoxia, and the links between open ocean dynamics and near-shore processes along the West Coast.
- *Impacts on Physiology:* This publication will review the existing scientific information on the interacting impacts of hypoxia, ocean acidification, and changes in temperature on the physiology of west coast species and projecting how these physiological effects may translate into biogeographic and ecological changes.

2. Strategic Plan Issue Area 3: Sustainable Fisheries and Marine Ecosystems[1]

Marine Protected Area (MPA) Partnership Plan.

The draft version of the "California Collaborative: Marine Protected Area Partnership Plan" (Partnership Plan) and an accompanying resolution is being presented to the Ocean Protection Council for adoption at the December 2, 2014 public meeting. Please see the accompanying staff recommendation for more information.

MPA Collaborative Implementation Project.

The MPA Collaborative Implementation Project (MPA CIP) has established a network of fourteen statewide "Community Collaboratives" (Collaboratives) which connect centralized state agencies to

[1] A report of grant # 10-074 is included as an attachment to this Executive Director report. Although this grant closed prior to the OPC move from the State Coastal Conservancy to the Natural Resources Agency, a Councilmember expressed particular interest in the results from this grant.

various local groups and stakeholders interested and engaged in MPA management. Collaboratives include governmental agencies (city, county, state, federal, and tribal), organizations, associations, and institutions that communicate regularly about the MPAs in a particular sub-region. The diversity within each Collaborative reflects the varied uses and values of our California ocean, and underscore partnerships across sectors. The state recognizes the Collaboratives as an important mechanism for engaging stakeholders who have been critical to the MPA network's success and providing opportunities for these and other groups to be involved with MPAs moving forward.

To this end, the OPC is coordinating a two-day workshop to connect Collaboratives to state managers, thereby bridging local, regional, and state scales. Members of each Collaborative have chosen co-chairs who guide the structure, format, and content of regular local meetings, and these co-chairs have been invited to Sacramento on December 1-2, 2014, for the first state-wide opportunity to engage across geographic regions and management levels.

Closed grants/contracts within Sustainable Fisheries and Marine Ecosystems

Statewide Marine Protected Area Monitoring Program (CNRA Agreement #0-06-095)
The California Ocean Science Trust (OST) created a statewide monitoring program, the MPA Monitoring Enterprise, to coordinate the collection of data on the status of resources within the marine protected areas (MPAs) designated under the Marine Life Protection Act. The three tenents of the grant were: 1) robust science 2) information management and 3) effective communication. Primary products include the development of OceanSpaces, an online forum to communicate and exchange information about MPAs with the public, and monitoring plans for MPAs located in the four MLPA regions.

The Value of Habitat Diversity in Marine Reserves: Spiny Lobster Use of the Intertidal Zone at the Santa Catalina Island MPA (CNRA Agreement #0-10-069)
This study evaluated the importance of the intertidal fine-scale habitat for spiny lobsters and whether this habitat is well represented within an existing MPA on Santa Catalina Island. The Southern California spiny lobster (*Panulirus interruptus)* is an exploited species in Southern California, so it is important that we better understand the population's needs to inform MPA management.

3. Strategic Plan Issue Area 4: Coastal and Ocean Impacts from Land Based Sources

Marine debris

Update to the California Fishing Gear Removal pilot project (2005) and Collaborative Fisheries West

The California Derelict Fishing Gear Removal Pilot Project was started in July 2005 by the SeaDoc Society with seed funding from the California Ocean Protection Council ($345,000), the National Fish and Wildlife Foundation ($58,325) and the NOAA Marine Debris Program ($55,000). SeaDoc Society used the success of the pilot project to launch the California Lost Gear Recovery Project. Since May 2006, the California Lost Fishing Gear Recovery Project has retrieved more than 60 tons of gear from California's coastal ocean, primarily in Southern California, including around the California Channel Islands (Santa Rosa, Santa Cruz, Anacapa and Santa Catalina). Additionally, the project has cleaned more than 1400 pounds of recreational fishing gear off public fishing piers from

Santa Cruz to Imperial Beach including more than 1 million feet of fishing line. Several of these piers now have fishing line recycling bins, to encourage proper disposal of unwanted hooks and microfilament. Recently, with the support of a Collaborative Fisheries Research West (CFR-W) grant, (an OPC funded program, grant #0-11-027) the researchers recruited for and developed a community-based, fishermen-led gear removal program.

SeaDoc has teamed up with the Humboldt Fishermen's Marketing Association and commercial crab fishermen in Del Norte County. Since late July, they have collected 556 derelict crab pots. Each pot has an identifiable tag tracing it to the owner. The pot is either sold back to the original owner for $50-$75 (a new pot costs between $160-$200), or recycled. The money collected is set aside to fund future years' recovery efforts. The peak of the Dungeness crab season, December through February, comes when the Pacific Ocean is prone to massive winter swells, rollicking waves, and energetic rains and wind. Small wonder crab pots are commonly lost at sea.

The lost pots' long buoy lines pose an entanglement hazard to other boats, fisheries and wildlife, including whales. The fishermen want to create a truly sustainable fishery, free from these hazards. They are also concerned that prime crabbing grounds are becoming littered with lost and abandoned gear. Read more at: http://phys.org/news/2014-09-fishermen-ocean-lost-crabbing-gear. A video about the project can be accessed at: https://www.youtube.com/watch?v=vnAF8mYjgD0

West Coast Governor's Alliance Marine Debris Action Coordination Team and Ocean Data Portal Marine Debris Use-Case

The Marine Debris Action Coordination Team, coordinated by OPC Sea Grant Fellow Karen Kayfetz, has been formulating a structure, charter, implementation plan, and outreach plan for a West Coast Marine Debris Alliance. Membership will include representatives from state governments of Washington, Oregon, and California, tribes, and the Federal government, and representatives from industry, non-profits, and academia. The goal of the Alliance is to establish and lead a cross-sector collaborative West Coast effort to eliminate marine debris and its impacts. Working groups within the Alliance will develop strategies and work plans and apply for funding to execute cross-cutting projects. Recruitment of members began in October and the new body's Steering Committee is convening for the first time in December.

The Marine Debris Action Coordination Team has also been collaborating with the West Coast Ocean Data Portal Action Coordination Team to launch a Marine Debris Use-Case for the Ocean Data Portal. The purpose of the Use-Case is to produce a web-based tool for visualizing information related to the sources, sinks, environmental transport, and human drivers of marine debris on land and in the coastal environment. The Action Coordination Teams integrated data from the Marine Debris Database with other publicly available datasets describing human uses, public policies, and biological and physical parameters to answer questions and tell stories about the state of marine debris on the West Coast. The Portal and Use-Case were launched publicly in the first week of November and can be accessed at http://portal.westcoastoceans.org.

Closed grants/contracts within Coastal and Ocean Impacts from Land

Quantifying Contaminants of Emerging Concern in Urban Watersheds Using Bivalves and Passive Samplers (CNRA Agreement #0-09-022)

This study examined cost-effective ways to test water quality, with a focus on detecting the toxins produced by harmful algal blooms (HABs). HABs can cause beach closures, harm fish populations, and negatively impact water quality in marine protected areas and beyond. More effective testing methods, as well as understanding toxins' impact on marine life, is important for OPC's work with water quality and monitoring ocean conditions.

Improved Detection of *Toxoplasma gondii* Oocysts in Water (CNRA Agreement #0-10-028)
This grant researched detection methods and antibodies for the fecal parasite *Toxoplasma gondii*. *T. gondii* can cause birth defects and neurological conditions in young children, and can fatally infect sea otters. It has also been recorded in populations of dolphins, sea lions, and river otters. Developing tools to identify and treat *T. gondii* is important for public safety and maintaining healthy marine mammal populations.

4. Strategic Plan Issue Area 5: Existing and emerging ocean uses

Desalination.
OPC staff continue to follow the State Water Resources Control Board's (SWRCB) process to potentially amend the Ocean Plan to address issues related to sea-water desalination. SWRCB is anticipated to take action on the proposed amendments in early spring 2015.

Related Initiatives

Thank You Ocean

The 16th Annual California Ocean and Coastal Amateur Photography Contest announced the winners of the 2014 contest. Sponsored by the California Coastal Commission, the Thank You Ocean campaign, and Fairmont Hotels of California, the contest features photographs that reflect the importance that the coast and ocean has for California residents. See the winning images and all the submissions at http://mycoastalphoto.com/winners/.

The Ocean Communicators Alliance's Central Coast Marine Protected Area Docent Training Handbook is now available on the Thank You Ocean website. This handbook is intended to be a resource for docents and naturalists who communicate about marine protected areas (MPAs) in the central coast region. Through this handbook, docents and naturalists will learn about MPAs and will be better equipped to communicate about them. It includes links to additional information and can act as a stand-alone document or a chapter within an organization's existing docent training handbook.

If you would like more detailed and specific information regarding the initiatives we have covered, please contact me at catherine.kuhlman@resources.ca.gov.

CALIFORNIA OCEAN PROTECTION COUNCIL

To: Ocean Protection Council
From: Valerie Termini, Project Manager, OPC
Date: December 2, 2014
RE: Update on grant #10-074 to Ecotrust to coordinate the San Francisco Community Fishing Association (SF CFA) - San Francisco Fisherman's Wharf Working Waterfront project[1]

The California fishing community at Fisherman's Wharf in San Francisco provides on average over 3 million pounds of seafood a year to area residents, restaurants and retail markets. These landings are worth over six-million dollars a year to the local fleet, which operates largely in California Current, catching some of California's iconic fisheries, including Dungeness crab, salmon and groundfish. Despite the relative high value of these fisheries, local California fishermen are not assured of landing access or use of the infrastructure needed at Pier 45 in San Francisco to operate their businesses effectively or safely.

A study (on the North Coast fisheries, but has themes that could be extrapolated to the rest of the state) highlights the concern that many have about "the vulnerability of local infrastructure to further declines in the fisheries sector, noting that the viability of local fisheries and the fishing community depends on a certain level and diversity of activity. Without access to fundamental services, continuing to fish may become untenable. Commercial fishery participants and support businesses cite rising operating costs, especially those for gear, vessel maintenance, insurance and fuel, as among the biggest challenges they are facing. At the same time, many commercial fishermen note stagnant or declining prices in several fisheries. Increasing costs and less favorable economic conditions also have affected fishery-support businesses, both directly and indirectly. The reduction in fishing opportunities and activity has resulted in the loss of fish houses (vertically integrated buyers capable of processing fish from multiple operations) in several ports and reduced demand for goods and services that these businesses provide." (*California's North Coast Fishing Communities Historical Perspective and Recent Trends*, Carrie Pomeroy, Cynthia J. Thomson, Melissa M. Stevens, 2010)

With this concern in mind, in November 2010 the OPC granted $250,000 to Ecotrust to administer and manage the San Francisco fishermen's wharf community fishing association (SF CFA) project

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[1] In an effort to keep the Council apprised of the results from OPC grants and contracts, the December 2014 Executive Director report and all future reports will include brief descriptions of the deliverables for agreements that have recently closed. The December 2014 Executive Director report includes grants/contracts that have closed since the transfer of the OPC from the State Coastal Conservancy to the Natural Resources Agency on July 1, 2013. Grant #10-074 described in this present memorandum closed prior to July 1, 2013. However, we are including a description of the deliverables of the grant because an OPC member expressed particular interest in this work.

(grant #10-074)[2]. The goals of this project included formalizing a community fishing association, securing dock space at San Francisco's Fishermen's Wharf, and securing necessary infrastructure to allow for equal access for fishermen to unload their catch. The vision of this project was to promote long-term stewardship of ocean resources in collaboration with members of the commercial fishing industry. This authorization provided funding for the development of the CFA, infrastructure, as well as to secure space at Pier 45 at which fishermen can sell their fresh catch to area businesses and restaurants. The Council found the project to be consistent with the 2006 OPC strategic plan Objective 4: "Supporting Market-based Fisheries" and Objective 5: "Encourage Sustainable Economic Activity". As noted in the 2006 strategic plan, commercial fishing is an important part of California's history, economy and culture which has suffered a severe decline in the last 30 years. This decline has made it difficult for many fishermen to make a living and discourages new investment and new business initiatives. OPC supports innovative approaches to fisheries management by working cooperatively with fishermen and their communities and applying market-based approaches.

Prior to this authorization, in 2007, OPC and the Coastal Conservancy provided funds to Ecotrust to work with an association of fishermen in San Francisco on a feasibility study, which included the development of a business plan, architectural design sketches and engineering studies, and construction costing for the market facility on Pier 45.

Ecotrust provided support and oversight capacity for the execution of the grant, including contracting with the SF CFA, providing technical support in accounting, finance, disbursement of funds, reporting, and budget revisions. The SF CFA conducted all local operations for the project at the leased site on Pier 45 in San Francisco, including: leasing, development of infrastructure, in-kind donations of staff time and resources, matching operations funds, purchases of fisheries products, dock operations including ice production, wholesale seafood market sales, and provision of CFA member benefits. In addition, the SF CFA arranged and provided media reports, video productions, and written reports in support of the grant and to tell the story of the San Francisco Community Fishing Association.

The SF CFA is now incorporated, has a board (http://sfcfa.com/page4/page4.html) and a charter. There are also web videos about the success of the project (http://sfcfa.com/page6/page6.html). Further, approximately 70% the seafood products landed at the wharf with the SF CFA go directly into the local market. The CFA is currently working with other CFAs around the county on a labeling scheme to highlight the local, sustainable fish that they catch. Further, the innovative aspect of this project is the equity shared to the members of the SF CFA which has successfully demonstrated a more equitable model for fishing. The CFA members pay an upfront investment and yearly fees to be part of the CFA; by pooling their catches CFA members are able to generate higher prices for their catch. These combined benefits allow small boat fishermen to compete in a market that has become increasingly dominated by large boats and big buyers. A quote from the President of the SF CFA, Larry Collins notes, "It is empowering for the fishermen to know that the CFA is getter per pound for their product [and to help] decide what to spend on the overhead. They have input from the hook to the back door."

[2] The staff recommendation for this authorization can be found at http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20100911/12.%20SF%20crabs/112910_COPC_12_SFcrab.pdf

CFAs are one tool to preserve historic access to fishing grounds in a local community. Small fleets without large capacity are sometimes at a disadvantage in fisheries as they transition to limited access or ITQ (individual transferable quota based systems.) These smaller boats comprise much of California's fishing fleet.

The project came to a close in February of 2013. The tangible results of the project include the addition of basic infrastructure, such as a hoist and fork lifts, dock space, and processing equipment such as ice (which is a critical need to any working waterfront). The more innovative and strategic goals accomplished include providing access to all fishermen with this offloading equipment has enabled the SF CFA and others to fish more sustainably and more safely. Knowing there is not going to be day-long wait times to unload has allowed for fishermen to plan for and adjust their fishing days to allow for bad weather and using gear that is more sustainable for the entire ecosystem. Additionally, the advantages by developing a CFA as noted above will continue to generate positive outcomes for the fleet and California fisheries into the future.

Lessons learned of this project could translate to other ports throughout California. Many Californians do not realize that all ports do not have the same off-loading capabilities, or even ice machines. The lack of basic infrastructure at ports present challenges to California's fishing community and the surrounding coastal communities at large. Attributes to developing CFAs (or any sort of fishermens' coop) that add to the regions being able to support such an endeavor include efforts that/can:

- Promote local fisheries
- Create value for the catch
- Take advantage of infrastructure opportunities
- Seek regional focus in quota management and regulation
- Develop effective partnerships
- Encourage innovation
- Find effective leadership

Pier 45 – San Francisco Fishermen's Wharf

The attributes listed above helped the CFA be successful and to withstand market fluctuations. If other entities would like to invest in development of CFAs it is suggested that the above criteria somehow be incorporated into the CFA.

As this memo notes, the SF CFA project is successful in its own right. Yet, as a possible larger program for the OPC, a more detailed understanding of how projects such as these help advance OPCs mission will be conducted. A 'lessons learned' project review of all OPC fisheries projects will be undertaken this year and from that, we will learn the most useful range of projects that will advance OPCs mandate to ensure that California maintains healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations.

The SF CFA project was complete in February of 2013. As such, understanding the specific range of costs and benefits is still to be evaluated. Yet, some of the benefits of this project are being realized now. With the commercial opener of Dungeness crab season, on November 15, a record number of crabs are being caught in the San Francisco Bay area. Due to its proximity to the crab being caught, Pier 45, and members of the SF CFA are working around the clock to unload the record number of Dungeness crab (http://abc7news.com/business/san-francisco-cant-keep-up-with-colossal-crab-catch/401743/). Without the investment from the OPC it is likely that the fishermen would have traveled longer distances to unload the crab, resulting in lower quality crab, Pier 45 not being fully utilized, and more emissions released as a result of further travel by the fishermen. This story underscores the need for such infrastructure investment along California ports.

In conclusion, as climate change begins to alter California fisheries, CFAs are a useful tool to help diversify the 'portfolio' of fisheries a coastal community accesses in the various up and down cycles of fisheries. CFAs help to ground the community and provide both the capacity to adapt with shared risk among the members of the fleet. Although an unintended consequence of this project, it will be one to look to in the future to see how we can use the SF CFA (and others) to respond to changes in the fisheries in California in a meaningful way.