

Ocean Protection Council

White Paper

“Towards Improving the California Ocean Protection Council”

October 21, 2010



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Cover photo: November 11, 2006, by
NewPoint Group, Inc., of
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“Towards Improving the California Ocean Protection Council”

DRAFT

October 21, 2010

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OCEAN PROTECTION COUNCIL

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Executive Summary ■

The California Ocean Protection Council (OPC) commissioned this independent white paper evaluation of the OPC. The OPC, in existence for only five years, represents a unique model of ocean governance.

A. Why an OPC White Paper?

White Paper Objectives

This white paper provides an opportunity for the OPC to evaluate progress to-date. Just as importantly, the white paper offers a road-map for future OPC activities.

This evaluation comes at an important transition period for the OPC. Created in Governor Schwarzenegger's first-term, the OPC is now changing to a new government administration. It is also time for the OPC to develop its second, five-year strategic plan. This OPC white paper helps guide the OPC as the organization moves into its next phase of development.

The white paper also serves as a communication tool, and catalog, of the OPC's achievements. In its first five years the OPC focused on developing its organization and implementing projects. The descriptions of accomplishments, case studies, and funded projects in this evaluation are a first step in better conveying the OPC's activities.

White Paper Approach

The findings and recommendations in this OPC white paper are based on six months of independent research and analyses. In preparing the white paper, relevant publications, Council meeting minutes and webcasts, legislation, OPC resolutions, and numerous other documents were reviewed. Structured confidential interviews were conducted with a diverse mixture of over sixty key OPC stakeholders.

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Finally, this evaluation was informed by an expert advisory panel with broad knowledge and expertise in policy development and governmental processes. Eight distinguished individuals provided guidance to the project team in conducting this evaluation, and in producing practical and actionable recommendations.

B. Why an OPC?

Pacific Ocean Threats and Importance of the OPC

California enjoys a 1,100 mile ocean coastline comprised of beaches, rocky cliffs, harbors, estuaries, and cities. The Pacific Ocean is one of the state's most valuable resources. As Californians, we have a deep connection and reliance on our healthy ocean. More than 85 percent of California's citizens live in coastal counties. Californians' quality of life, environmental security, and economic prosperity are all integrally linked to its ocean.



Giant kelp in the Channel Islands National Marine Sanctuary
Credit: Claire Fackler, NOAA National Marine Sanctuaries

We depend on the Pacific Ocean to regulate global carbon and water cycles, which in turn influence weather patterns and temperatures. The Pacific Ocean is home to countless species and diverse ecosystems. These ocean resources support local and global food production and substantial economic activity.

Yet, the Pacific Ocean has never before faced such severe threats. The devastating 2010 Gulf of Mexico oil spill serves to illustrate the fragility of ocean and coastal resources, and the high cost of environmental disaster. Over 90 percent of global warming from the last fifty years has been absorbed by all the oceans. Now, warmer ocean temperatures are contributing to the decline in phytoplankton, at the base of our food chain.

The Pacific Ocean is threatened by warming temperatures, ocean acidification, and sea level rise. Pollution, most of it from our activities on land, deteriorates ocean ecosystems. Coastal development does the same. Fishing, once a way of life for many Californians, has declined substantially. Invasive species result in significant economic costs and ecological damage.

For decades, Californians have taken their Pacific Ocean for granted. The Pacific Ocean, covering one-third of the earth's surface and representing one-half of the world's ocean area, was thought to be large enough to absorb whatever damage humans inflicted. Over the last decade it became apparent that this is no longer the case. It is also clear that the patchwork of state and federal laws to address ocean management is not sufficient. We can no longer manage the ocean by addressing only one aspect at a time. Two leading national studies, *America's Living Oceans, Charting a Course for Sea Change* (2003) and *An Ocean Blueprint for the 21st Century* (2004), identified these issues and institutional shortcomings. California was the first state to adopt key recommendations from these two prominent national reports and thus created the OPC.

California Ocean Protection Act and Establishment of the OPC

In 2004, Governor Schwarzenegger and the California Legislature, recognized the value of our Pacific Ocean resource when they passed the California Ocean Protection Act (COPA). The COPA created the OPC as essentially an experiment in governance – a new institution responsible for protecting and conserving ocean and coastal resources.

To achieve the critical goal of ocean protection, the COPA assigned the OPC three primary objectives: (1) coordinating and fostering collaboration among state agencies, (2) recommending changes to state and federal policies and laws, and (3) improving the use of science in policy-making. The COPA also created a trust fund for projects that would protect and preserve ocean and coastal resources.

The OPC was envisioned as a unique state entity capable of integrating, and coordinating, the state's laws and institutions responsible for conserving and protecting ocean and coastal resources. The OPC brought a visionary and comprehensive approach to California ocean policy and ocean problem-solving. The OPC's tools included a non-regulatory role, high-level steering council, science focus, and an associated trust fund.

California is a national leader in taking a comprehensive and coordinated approach to ocean and coastal resource management and policy. Yet, there is much still to do. It is critical that California, and the OPC, have the tools and vision needed to continue their important work to protect our Pacific Ocean and California coastal resources.

California's investment in the Pacific Ocean to-date has been relatively minor. In creating the OPC, and the many laws, regulations, and agencies that preceded it, California has made a good start. However, as compared to the complex and extensive protection approaches to our air, water, and land,

we have relatively ignored the Pacific Ocean. Through the OPC, the state has an opportunity to bring the level of focus and vision to ocean policy and management that this essential Pacific Ocean resource deserves.

C. What has the OPC Accomplished?

The OPC was created by California statute six years ago. One of the OPC's most significant accomplishments may be the simple fact of its existence. The OPC is a unique entity in ocean governance, and the only such organization nationwide. In the OPC's start-up years, it: (1) formed a small but dedicated organizational unit within the State Coastal Conservancy (SCC), (2) developed a strategic plan, (3) funded projects, (4) conducted projects, and (5) provided policy leadership on key issues.

Exhibit ES-1, on the next page, summarizes evaluation findings in seven areas.

Leadership in Ocean Management

The OPC brings leadership to ocean management in California. The Council elevates discussion of ocean issues to the cabinet level in state government. The OPC plays a key role in raising awareness about ocean threats and potential solutions, within, and far beyond, state government. The OPC brings agencies together to work on ocean management and policy problems. The OPC serves as a role model to the rest of the nation, and adds depth and breadth to the state's ocean policy. Below are just a few examples of these important OPC accomplishments.

The OPC's role in marine debris broadly publicized the ocean litter issue. While public awareness about marine debris was already growing, the OPC's February 2007, resolution on reducing and preventing marine debris elevated this topic to a new level. In drawing attention to this complex problem, the OPC's actions

Exhibit ES-1
OPC Findings in Seven Categories

Category	Finding
A. Advancing Policies	<p>Policy Finding</p> <p>The OPC's resolutions have been an effective tool to inform debate and influence ocean management policies on several issues. At the national level, the OPC is seen as a leader on ocean issues. At the state level, the OPC is still experimenting with exactly how to execute its role as an ocean policy leader. In its first five years, the selection of resolution topics, and OPC policy areas in general, has been opportunistic. Moving forward, the OPC has an opportunity to focus on policy as part of a larger vision.</p>
B. Providing Science for Governmental Decision-Making	<p>Science Finding</p> <p>The OPC has played a valuable role in articulating the importance of science, and in providing a venue through which to incorporate scientific research into the decision-making process. This is the area in which the OPC has arguably had the greatest success. As it moves forward, the OPC has an opportunity to more consistently and strategically apply scientific input to particular policy areas. In addition, as the Science Advisory Team (SAT) becomes more established, the OPC can better utilize the knowledge of these experts.</p>
C. Funding Projects and Research	<p>Project Funding Finding</p> <p>The COPA established the California Ocean Protection Trust Fund to expend on projects and activities, but also directs the OPC to "use California's private and charitable resources more effectively in developing ocean protection and conservation strategies." OPC funded projects such as seafloor mapping, marine monitoring, and specific research projects, have advanced a number of important ocean research and policy issues. Most OPC funding has supported scientific research and monitoring. The OPC has leveraged its \$65.9 million in (primarily) bond funding to generate a total of \$109.1 million in funding for 88 ocean-related projects. Going forward, the OPC has an opportunity to focus project spending through specific strategies or initiatives, to improve transparency in funding processes, and publicize the final outcomes of projects. Finally, while the OPC has leveraged private foundation monies (\$11.8 million, 27 percent of leverage funds), there is an opportunity to develop additional private and federal support for ocean protection issues.</p>
D. Coordinating Governmental Ocean Activities	<p>Coordinating Finding</p> <p>One of the primary goals of the COPA, and arguably the most challenging role for the OPC, is to promote coordination and collaboration of state agencies in order to improve state efforts to protect ocean resources. The OPC has had successes in this area, most notably climate change adaptation and seafloor mapping. However, the OPC has an opportunity to better fulfill its role as coordinators. Going forward, the OPC can enhance efforts to formally and informally reach out to state and federal agencies and identify specific ocean resource problems that could be solved by better coordinating agency efforts and resources. The OPC's coordinating efforts should be part of a strategic, focused approach.</p>
E. Organization and Operations	<p>Organization and Operations Finding</p> <p>As a new organization, the fact of OPC's very existence is an accomplishment. The OPC's relationship with the State Coastal Conservancy (SCC) allowed the Council to get off to a quick start, particularly in terms of efficiently funding research and projects. The OPC's experienced management team brings a broad range of expertise to the organization. Going forward, the OPC's staff capacities can be more clearly aligned with its mission, and the Council itself could be more engaged in OPC activities.</p>
F. Strategic Planning	<p>Strategic Planning Finding</p> <p>In its first year and a half, the OPC conducted an inclusive and open process to develop a strategic plan. As a new organization, the OPC deliberately chose to write a broad strategic plan, allowing the OPC to carry out a wide range of activities, and to respond to emerging issues as they arose. Now, after five years of experience, the OPC has an opportunity to create a more focused strategic plan that brings a clear sense of direction as to where the OPC should focus its efforts. This plan would include specific criteria to guide OPC decision-making, clarify OPC's role, and articulate a vision for California ocean policy and management. In developing its next strategic plan, the OPC should incorporate specific metrics, and a clear means by which the OPC can measure its success.</p>
G. Communication and Outreach	<p>Communication and Outreach Finding</p> <p>The OPC has communicated with its immediate stakeholders through its list-serve, web page, and one-on-one communications. The public comment period at OPC meetings provides the public with a unique opportunity to present ocean issues to policy-makers in a public forum. However, there are still many individuals and organizations involved in ocean and coastal issues that are unaware of the OPC. The OPC can improve communication with the legislature, other state agencies, coastal communities (local governments, fishermen, ocean resource and tourism industries), and the public, about its activities and accomplishments.</p>

prompted several pieces of new state legislation. Legislation related to marine debris is being considered in the 2009/10 legislative session. The OPC's marine debris activities supported city and county governments in their efforts to pass local ordinances to reduce marine debris.



Marine debris in the Northwestern Hawaiian Islands Marine National Monument, Pacific Ocean
Credit: Claire Fackler, NOAA National Marine Sanctuaries

California's landmark climate change bill, AB 32, requires the state to address climate change. In 2008, Governor Schwarzenegger released Executive Order S-13-08 calling for the state to develop an adaptation strategy to address impacts from climate change and for OPC to take specific actions to address sea level rise. Our long coastline and ocean economy make California especially vulnerable to climate change impacts. California needs a cohesive statewide response to adequately address this issue, and the OPC is part of that response. The OPC is leading the state's Coastal and Ocean Working Group for the Climate Action Team (CO-CAT). The goal of the CO-CAT is to ensure the state's ability to adapt to climate change impacts on ocean and coastal resources while supporting implementation of global warming emission reduction programs.

The OPC's active involvement in the West Coast Governors' Agreement (WCGA) on Ocean

Health has strengthened regional cooperation. The fact that three states are working together increases opportunities for federal support of regional ocean activities. The WCGA provides a platform for Oregon, Washington, and California to work together to resolve pressing ocean issues such as climate change, polluted runoff, marine debris, invasive species, renewable ocean energy, and seafloor mapping. The three states are now implementing on-the-ground projects in these various areas.

The OPC's renewable ocean energy initiative provides a foundation for state agency action in this complex new field. Developing renewable ocean energy in California will require facilitation and coordination of local, state, and federal regulatory agencies. By working across agencies, the OPC can help resolve overlapping and sometimes conflicting regulatory authority. The ultimate measure of success will be creation of ocean energy projects that reduce California's reliance on fossil fuels, while still protecting ocean ecosystems.

California is a national leader in ocean policy and management. The OPC influences federal ocean policy in many ways. Through position letters, communicating regularly with federal ocean agencies, and by being at the forefront of new ocean management such as marine protected areas, the OPC has a strong influence on federal ocean policy. The new *National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes*, released in July 2010, creates a National Ocean Council to strengthen ocean governance and coordination. The National Ocean Council is essentially similar to the OPC.

Voice for Science in Ocean Policy

Promoting and improving the use of science in ocean and coastal resource decision-making is one of the OPC's key goals. As a voice for science, the OPC has been successful on many fronts. The OPC applies its resources to answer specific science

questions to help resolve complex ocean policy issues. The OPC has elevated the role of science in governmental decisions, particularly through its collaboration with the California Ocean Science Trust (OST). The OPC relies on a team of scientific experts to help guide its actions and advance the relationship between academia and government – a difficult task, and one that benefits both sectors.

The OPC funds scientific studies and research directed at particular issues or questions. These studies have been credited with “informing the dialogue” in a number of important areas such as once-through cooling, low impact development, marine debris, sustainable fisheries, ocean wave energy, sea level rise, Marine Life Management Act implementation, and offshore oil and gas platform decommissioning.

In funding scientific studies, the OPC has worked to identify and fill science needs and critical data gaps of other state agencies. The OPC has tried to follow through on its science reports to ensure that the reports provide the targeted decision-making information needed by its partner agencies. For example, the OPC’s funding of feasibility studies on once-through cooling at power plants helped facilitate new State Water Resources Control Board regulations that will, in turn, lead to significant improvements in ocean water quality.

The OPC draws on the expertise of the California Ocean Science Trust to fulfill its scientific services. The OST is a non-profit corporation established pursuant to the California Ocean Resources Stewardship Act of 2000 (CORSA). The executive director of the OST serves as the Science Advisor to the OPC, bringing scientific thinking into the daily, and long-term, operations of the OPC. The OST Science Advisor ensures that projects brought before the OPC meet scientific standards and OPC funding guidelines,

provides stakeholder outreach, and recommends opportunities to collaborate on specific initiatives. The Science Advisor also provides technical advice to the OPC on Council agenda items.

The OPC Science Advisor provides a direct connection between the science community and state government. This connection serves to educate scientists about California’s ocean and coastal policy from a government perspective. The Science Advisor also works with marine scientists to help them translate important scientific findings into reports that can inform state policy. This science “translating role” is critical – providing a much-needed bridge between scientific findings and actionable policy.

A critical role for the OST is development, and ongoing management, of the OPC’s Science Advisory Team (SAT). This twenty-four member multidisciplinary science team draws on a wealth of scientific expertise. Just two years old, the SAT is refining its support role for the OPC. The goals of the SAT are to help inform marine policy, identify critical emerging science issues that should be of concern to the OPC and the state, and assist the OPC in conducting technical reviews of reports and proposals. The SAT provides a mechanism to bring the “best available scientific knowledge” to bear so as to address the state’s ocean and coastal resource problems.

The OPC helps advance the relationship between ocean academia and state government. Since its inception, the OPC has invited scientists to give presentations or participate in panels at OPC meetings. The topics have varied: climate change, desalination, marine debris, offshore oil and gas platform decommissioning, and wave ocean energy. Directly engaging scientific expertise in OPC meetings serves as an educational tool for all those attending the meetings: Council members, OPC staff, state agency staff, and other stakeholders.

The OPC has hosted workshops to discuss scientific issues and obtain input on potential solutions. Workshop participants have been from all sectors: the scientific community, agencies, industry, and stakeholders. Because the OPC is a non-regulatory agency it provides a “neutral” venue for scientists, government officials, and stakeholders to address often complex and contentious issues.



Sanctuary Explorer Camp, Gulf of the Farallones National Marine Sanctuary
Credit: Farallones Marine Sanctuary Association

Effective Source of Funding for Ocean Protection

In just five years, the OPC provided over \$66 million in direct funding for 88 ocean program and research projects. The \$66 million was a start. The actual funding generated by the OPC for ocean projects has been much greater. The OPC leveraged its funds, and obtained another

\$43 million in matching funds specifically for OPC projects, bringing the total up to \$109 million. This total does not count additional resources that other state and federal agencies, and private funders, have invested in the ocean as a result of the OPC. For example, after the OPC provided seed funding for a project to remove derelict fishing gear off the coast, three other agencies stepped in and funded ongoing derelict gear removal. Taken as a whole, the OPC’s project funding will be returning dividends to the state for decades to come.

The OPC’s project funding has covered a wide spectrum. The OPC can direct funding to answer specific scientific questions, filling in critical gaps that other agencies cannot address. There are many examples of OPC research projects that address specific issues: once-through cooling studies, ocean acidification, sea level rise and toxins in plastics, to name a few.

Another category of OPC funded projects is much more significant, both in terms of the amount of dollars spent, and the direct and indirect benefits of these projects. These major research and monitoring projects would not have been realized without the OPC. The OPC’s large-scale funding efforts have been focused on projects that provide primary scientific data for multiple agencies, and multiple end-users. The OPC selects research projects to generate data that capture the “big picture” of ocean health and trends. The two OPC projects described below epitomize these project characteristics.

Seafloor Mapping

Seafloor mapping is among the OPC’s single most important accomplishments, to-date. The OPC made seafloor mapping along California’s coast possible. Before the OPC, just a few scattered portions of the seafloor off California

had been mapped. Now, the state has detailed pictures of the California sea floor. To make seafloor mapping happen, the OPC brought together academics, federal and state agencies, and private companies. The OPC leveraged its \$18 million mapping investment, with another \$14.5 million of project funding, mostly from federal agencies.

The high degree of multiple state and federal agency cooperation, facilitated by the OPC, allowed seafloor mapping to be completed for far less than if each agency had continued to work on their own. Even at a reduced cost, large-scale primary data gathering and research efforts, such as seafloor mapping, are inherently costly and require a sustained funding effort. This sustained funding effort was made possible through the OPC's concerted efforts.

California's seafloor mapping provides, for the first time, a clear picture of our California seafloor and provides reoccurring benefits far in excess of the fixed up-front project costs. Mapping is essential to ensuring that the coastline is understood and effectively utilized. Seafloor maps help us understand the geography and habitats on the ocean floor. Seafloor mapping provides valuable and essential information for a number of ocean management agencies. The information provided in these maps has many uses, for example: (1) understanding and helping mitigate sea level rise, (2) forecasting storm impacts and coastal erosion, (3) understanding coastal earthquakes and tsunami potential, (4) improving navigational maps and maritime safety, (5) evaluating sites for renewable ocean energy and aquaculture, and (6) designating and monitoring marine reserves.

California's coastal seafloor mapping efforts are a noteworthy accomplishment, and place California at the forefront of marine mapping

nationally. California's seafloor mapping project, led by the OPC, serves as a model for the rest of the country. California's efforts showed the importance of mapping the entire coast, providing a comprehensive perspective on the seafloor. California's seafloor mapping project also demonstrated that it was technically possible to map large areas of seafloor in a single season – this had never been done before. California's experience created momentum for broader regional and national mapping efforts.

Marine Protected Area Monitoring

The OPC's second largest investment to-date was to assist the state with ongoing efforts to establish a coast-wide network of marine protected areas (MPAs) by 2011. The Marine Life Protection Act (MLPA) of 1999 directed the state to redesign California's system of MPAs to function as a network. MPA's are similar to nature preserves, but in the ocean. MPAs have varying levels of restrictions on use. Some MPA's do not allow fishing or removal of resources, while limited fishing is allowed in others. MPAs include state marine reserves, state marine parks, and state marine conservation areas.



Black-and-Yellow Rockfish in the Channel Islands National Marine Sanctuary

Credit: Claire Fackler, NOAA National Marine Sanctuaries

The MLPA’s comprehensive approach is intended to increase coherence and effectiveness in protecting the state’s marine life and habitats, marine ecosystems, and marine natural heritage. In order to determine whether this new network of MPA’s is working to increase protection of marine life, habitat, and ecosystems, we must know what the baseline condition is to start with. The OPC has played a major role in this effort.

The OPC has authorized approximately \$20 million to-date to support the implementation of the MLPA, including baseline characterization efforts in four coastal regions. The OPC awarded \$2 million in funding to the OST to develop and implement the MPA Monitoring Enterprise. The Monitoring Enterprise provides a cost-effective science-based means to track changes in these new MPA’s over time. To-date, the Monitoring Enterprise has engaged the California Department of Fish and Game (DFG), California Fish and Game Commission (FGC), scientists, and other partners to develop a monitoring plan for the North Central Coast. The Monitoring Enterprise is launching a similar process in the South Coast this year and will continue this process for all regions. Along with developing the monitoring plans, the Monitoring Enterprise is coordinating the baseline monitoring projects to provide an assessment of MPA’s in each region as the MPAs take effect. This effort will examine factors such as fish and invertebrate populations, ecosystem health, and socioeconomic impacts.

* * * * *

The OPC has funded some significant and beneficial ocean projects in a short period of time. The benefit to cost ratio of this agency, nested within the State Coastal Conservancy, has been high. With less than a dozen staff and minimal overhead the OPC has supported a

wide-array of ocean and coastal projects that help us understand our ocean, and how to better utilize and protect its resources.

D. How Can the OPC Improve Its Activities?

The OPC fulfills a valuable role in the critical charge of maintaining and protecting California’s ocean and coastal resources. The recommendations that follow build on experience that the OPC has gained over its first five years. As the OPC moves forward, it has an opportunity to refine and reinforce its work, as defined by the California Ocean Protection Act.

There are five overarching themes, or operating principles, that underlie all of these OPC recommendations for improvement. These five themes should factor into future OPC activities and filter into OPC’s approach to solving ocean and coastal resource management problems:

- The OPC, with its partners, will develop a clear, strategic, vision for California’s ocean and coastal resource management and a focused plan for moving forward with a coordinated set of activities within that vision
- The OPC will exercise a strong intellectual leadership role and interact with other agencies in an open, understanding, and inclusive manner
- The OPC will promote accountability for itself, and for those that it is working with, and use metrics to measure performance
- The OPC will use transparency in its decision-making and its actions
- The OPC will help develop funding sources outside of state government to help support the many needs of California’s ocean and coastal management agencies.

Advancing Policies

Going forward, the OPC can focus policy efforts in those areas with the greatest need, and in which the OPC can provide the greatest benefits. When the OPC does undertake a policy issue, the best outcomes will occur when it embraces a leadership role, follows through each issue to a logical conclusion, and promotes accountability for itself, and for its partner agencies.

The number of potential policy issues and ocean threats is substantial, and growing. The OPC must identify and prioritize the most relevant, and timely, issues to focus limited resources.

Moving forward, the OPC has an opportunity to exercise its leadership role in California ocean and coastal resource management and policy. Specific recommendations for the OPC in advancing policies are to:

- Prepare a biannual work plan that identifies specific policy issues that the OPC will pursue
- Create and support leadership, follow-through, and accountability through OPC actions.

Providing Science for Governmental Decision-Making

As the OPC moves forward, it has an opportunity to more consistently and strategically apply scientific input to particular policy areas. The OPC is “at its best” when it provides independent, credible, and science-based reports that help inform the debate on ocean and coastal management policy issues.

As the SAT becomes more established, the OPC can better utilize the knowledge of these experts. Within a more focused approach to ocean issue areas, the OPC has an opportunity to channel much of its science-efforts on answering

science-related questions that surround emerging issues. The OPC may achieve this objective by working with the SAT, and/or funding focused research studies to address specific science or policy questions.

Specific recommendations to promote science reaffirm this important role of the OPC, and are as follows:

- Improve effectiveness of the Science Advisory Team by increasing participation of the SAT in OPC activities
- Expand OPC initiatives to provide credible scientific information and data on controversial policy issues.

Funding Projects and Research

The OPC is ready to make a transition from its early, more opportunistic approach to funding, to a more strategic approach. Going forward, the OPC will focus its activities such that in any given year, project funding, scientific research, coordination efforts, and policy recommendations are all generally focused on key and specific issue areas. Funded projects would be part of a larger strategy, aligned with other OPC efforts, and supporting a common end goal. The OPC can become more consistent and open in its processes and increase accountability of fund recipients.

Under any future funding scenario, it is likely that there will be significantly fewer project funds than in the past. As a result, the OPC will be shifting much of its focus from project funding to policy development. However, the ability of the OPC to bring resources to bear on particular ocean research, policy, and management issues is still critical, and key in bringing other state agencies to the table. Thus, it is important that the OPC have some dedicated source of project funding revenue. As state resources continue to decline, the OPC must proactively identify, and

implement, a strategy to obtain additional private and federal funding. The OPC can serve as a conduit, to help target private sector and federal funding in support of California’s ocean and coastal management needs.

Specific recommendations on funding projects and research are as follows:

- Develop and follow a comprehensive OPC funding strategy
- Implement a transparent OPC project award and completion process
- Increase OPC efforts to obtain private and federal sector funding for ocean protection.

Coordinating Governmental Ocean Activities

The purpose of coordinating and collaborating is to work together to solve problems that cannot be solved by one entity alone, and to obtain joint resources that might not be otherwise available. Of course, the OPC first must identify specific problems to resolve through coordinated efforts. These problems will become apparent through the strategic planning and biannual work plan processes.

Because this is the most difficult area to implement, and the one area with the greatest challenges, most different from SCC functions, the OPC needs to place extra focus on this area. The recommendations related to coordination provide a roadmap for the OPC as it transitions to a stronger focus on its coordinating role. The recommendations provide a vision for the OPC’s outlook and practices, and identify specific actions that the OPC can undertake to better fulfill its role as coordinators.

Going forward, the OPC should demonstrate clear support for a collaborative approach from the top level (including the Governor and Council members). In conducting this work, it is essential

that the OPC is responsive to the needs of other agencies and is a true partner in the process. In doing so, the OPC has an opportunity to improve government efficiency and effectiveness, and improve ocean-related policies and programs.

Today, a more experienced OPC is better positioned to manage, and benefit from, the input of other agency directors, in the form of the OPC Steering Committee. It is the OPC’s role to understand and synthesize the perspectives of each agency and the Steering Committee provides a platform for doing so.

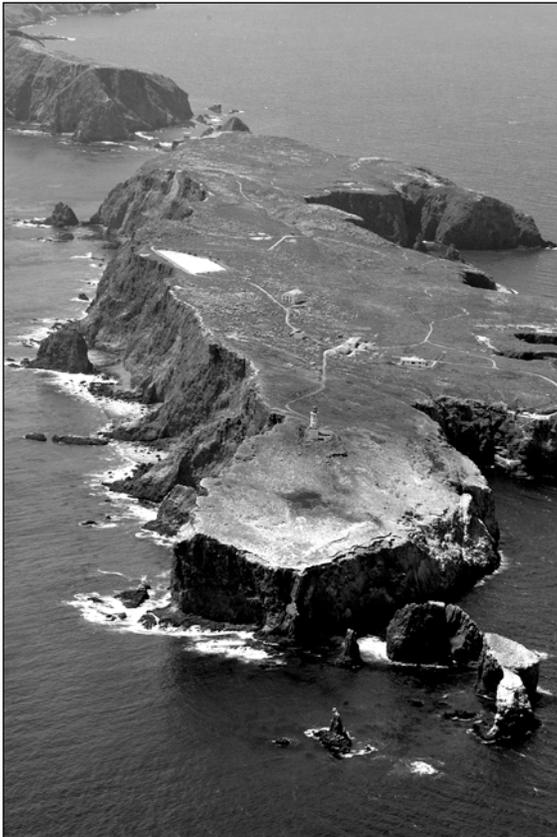
As the OPC moves into its next phase it has an opportunity to focus and align collaborative efforts with a strategic approach to ocean management in California. Coordination efforts will be most effective as part of a comprehensive approach that also includes scientific research, project funding, and policy recommendations.

Specific recommendations to support OPC’s role in coordinating California’s ocean and coastal management and policy are as follows:

- Create and support an OPC culture conducive to coordination and collaboration with other state agencies
- Reestablish the OPC Steering Committee (the Committee was reconvened in July, 2010)
- Implement a comprehensive collaborative approach for OPC issue areas identified in the strategic plan.

E. How Can the OPC Improve Its Operations?

In five years, the OPC has evolved from a concept into a fledgling agency – one that is “making a difference” in ocean policy and management. Now, it is time for the next transition phase. The recommendations that follow address steps that the OPC can take to improve its operations.



Aerial view of the East end of Anacapa Island, of the Channel Islands National Marine Sanctuary
 Credit: Not Provided, National Marine Sanctuaries Media Library

These recommendations do not address the OPC's unique organizational structure, nested within the SCC, with multiple executive managers. The OPC is still a new, evolving organization, and it may be too early to consider large changes to its organizational structure. However, it is important to realize that while the OPC's unique structure and relationship within the SCC provides significant benefits, it also poses significant challenges. Going forward, the OPC will need to rely less on the SCC's core funding strengths, and will need to work harder to develop its own core policy strengths. The "new" OPC core strengths will need to emphasize policy leadership, coordination, collaboration, and science.

Optimizing Staffing Functions and Council Participation

The OPC staff is enthusiastic, motivated, and dedicated to ocean protection. However, below the management level, the current staff structure offers essentially one OPC position, project manager. A shift in staff functionality can enhance the OPC's effectiveness. By emphasizing certain functional roles such as: management, business development, coordination, information, and analysis, the OPC can reduce internal duplication of efforts and improve the OPC's ability to efficiently and effectively communicate and coordinate work internally, as well as externally. The OPC could also pursue opportunities for joint staffing positions with other state agencies in order to further support collaboration and specific ocean policies.

As the OPC moves forward, the Council can be more engaged in OPC activities and decision-making. There is an opportunity for more active involvement of Council members, particularly the Secretaries, in their actions and directives after Council meetings.

Recommendations related to staffing functions and council participation are as follows:

- Revise staffing functions to more closely support the OPC's mission under COPA
- Increase involvement and participation of the Council in OPC activities.

Developing the Second Five-Year Strategic Plan

In early 2011, the OPC will embark on developing its second strategic plan. This process creates an opportunity for the OPC to refine its vision and craft a new strategic plan that will provide more clarity as it transitions into its second five years of operation. To be most effective, this

process could be conducted in close partnership with other state ocean and coastal management agencies. During its strategic planning process, the OPC will develop criteria to help narrow the list of potential activities to those for which the OPC can make the greatest difference.

Within its strategic plan, the OPC has an opportunity to utilize a collaborative process and lay out a five-year plan to address key ocean issues. Within each issue, the plan should build, over time, on a coherent strategy. The strategic plan issues may be broad – for example, climate change adaptation – while the focus in any given year may be more specific within a category, such as sea level rise, ocean acidification, or supporting local climate change adaptation plans. Given the complexity of many ocean policy and management issues, most OPC activities will be multi-year efforts.

The strategic plan should guide the OPC in implementing comprehensive packages that include: coordination efforts, project funding, scientific research, and ultimately, policy recommendations. Within its strategic planning process, the OPC should “leave room” to address emerging and critical issues that may arise over the next five years, but cannot be predicted in the planning process. It is important for the OPC to continue to have flexibility to address new or emerging issues, when required.

With a clearer definition of specific goals and objectives for each key issue that the OPC will be addressing, the OPC will be able to develop internal performance metrics to monitor and communicate its success within each of the new strategic plan action areas. These performance metrics should be specific to the problem that the OPC, and its partners, are working to solve, and be developed during the strategic planning process.

Specific recommendations for the OPC related to strategic planning are as follows:

- Develop a clear vision for California’s ocean and coastal resources
- Develop criteria to guide selection of OPC issue areas for the strategic plan
- Select approximately five key strategic plan issue areas for the OPC to focus on over the next five years
- Identify specific strategic plan performance metrics to monitor OPC’s success.

Improving Communication and Outreach

The recommendations related to communications and outreach build on several of the previous recommendations to provide increased transparency in OPC decision-making, and to let others know how the OPC is doing. In its first five years, OPC focused resources on projects, and did not fully develop processes to communicate to more than just its closest stakeholders. In the long-term, this strategy is not sustainable. Key decision-makers need to understand what the OPC does, and how the OPC provides benefits to the state.

As the OPC continues to mature as an organization, it is important that it develops an ongoing communication strategy. By broadening the scope of those that it communicates with, the OPC can build a larger constituency. This, in turn, will allow the OPC to effectively work with more entities in the future. Within an expanded communication program, the OPC should clearly explain its vision, objectives, and expected actions, so that there are clear expectations as to the OPC’s role.

The OPC frequently reaches out to stakeholders to obtain input. Going forward, the OPC can continue to expand these opportunities to obtain public input, by implementing a consistent plan for public comment on OPC activities.

Specific recommendations related to communication and outreach are as follows:

- Increase OPC outreach and communication through a sustained communication strategy
- Increase opportunities for public comment and input on OPC activities.

F. What is the OPC's Vision Going Forward?

Enhancing Organizational Viability

The transition from the Schwarzenegger administration, to a new Governor, in 2011, represents an important landmark for the OPC: the first gubernatorial transition for the OPC organization. The OPC can enhance its organizational viability by better demonstrating successes. OPC activities, such as seafloor mapping, have not only provided invaluable data to inform a wide range of ocean management decisions, but have done so at a significant cost-savings to the State of California. Similarly, by supporting scientific research, and obtaining the best available scientific data, the OPC's activities result in better ocean management decisions.

To the extent that OPC activities can reduce the cost of regulatory compliance or enforcement (such as improving coordination between agencies, or reducing permit costs), the OPC can save both the state and public money. By providing project funding and coordinating efforts to solve problems, the OPC can fill roles that resource-constrained agencies cannot. These types of OPC benefits should be documented and communicated, particularly to three key state entities (the Governor, the Department of Finance, and the Legislature) that control the OPC's fate. The OPC must facilitate the development of a common overall vision of how state and federal agencies can work together to

solve pressing ocean issues. The OPC should also work to avoid duplication of efforts, including project funding, in its selection of issue areas, thus ensuring that OPC activities fill incremental but critical roles.

This OPC outreach effort will be particularly important when it comes to the transition period for the new governor and legislature. The Council will likely have several new members, and it will be critical for OPC managers to meet with these members to communicate the value of participating in the OPC, and making our Pacific Ocean a priority California natural resource.

Creating a Strong and Unified Vision for California Ocean Policy

The next step for the OPC is to bring all its different tools together – leadership, coordination, policy, science, and funding – into a comprehensive package. The OPC cannot do this alone – by definition, it must work closely with other ocean and coastal management agencies in the state and nation to create an overall vision for California's ocean policy. The OPC can facilitate this process.



Students looking out from Inspiration Point, Channel Islands National Marine Sanctuary
Claire Fackler, NOAA National Marine Sanctuaries

As the OPC matures, its focus will shift from one of opportunism and experimentation to a more planned and strategic approach to solving ocean problems in this state. The focus will shift from project funding to a renewed emphasis on coordinated actions to address specific problems – sea level rise, fisheries, land-based pollution, emerging ocean industries, and others. In an era of declining funding, the OPC must carefully target its limited resources to address the state’s most pressing ocean issues, and at the same time work to secure supplemental private and federal funding.

The next generation OPC will seek new partnering opportunities with other states and the federal government. California should continue to set a high standard for ocean policy, and work with new entities, such as the recently formed National Ocean Council. California, with the OPC’s leadership, has an opportunity to become a visionary leader, setting the stage on ocean policy for decades to come.

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OPC

Acronyms and Abbreviations ■

1. **AB** – Assembly Bill
2. **ACOE** – United States Army Corps of Engineers
3. **AIS** – Aquatic invasive species
4. **ARRA** – American Recovery and Reinvestment Act
5. **BCDC** – San Francisco Bay Conservation and Development Commission
6. **BCP** – Budget Change Proposal
7. **BOEMRE** – Bureau of Ocean Energy Management, Regulation, and Enforcement (formerly Minerals Management Service)
8. **BPA** – Bisphenol-a
9. **CalEPA** – California Environmental Protection Agency
10. **CalRecycle** – California Department of Resources Recycling and Recovery
11. **CalTrans** – California Department of Transportation
12. **CCC** – California Coastal Commission
13. **CCGP** – Central Coast Groundfish Project
14. **CCLP** – California Coastal LiDAR Project
15. **CEC** – California Energy Commission
16. **CENCOOS** – Central and Northern California Ocean Observing System
17. **CFF** – California Fisheries Fund
18. **CFR** – Collaborative Fisheries Research
19. **CGS** – California Geological Survey
20. **CIAP** – Coastal Impact Assistance Program

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Acronyms and Abbreviations *(continued)*

21. **CIWMB** – California Integrated Waste Management Board
22. **CO-CAT** – Coastal and Ocean Working Group for the Climate Action Team
23. **COCMP** – Coastal Ocean Currents Monitoring Program
24. **COPA** – California Ocean Protection Act
25. **CORSA** – California Ocean Resources Stewardship Act
26. **CRV** – California Redemption Value
27. **CSMP** – California Seafloor Mapping Program
28. **CSMW** – Coastal Sediment Management Workgroup
29. **CSO** – Coastal States Organization
30. **CSU** – California State University
31. **CWO** – California and the World Ocean
32. **DBW** – California Department of Boating and Waterways
33. **DCTF** – Dungeness Crab Task Force
34. **DFA** – California Department of Food and Agriculture
35. **DFG** – California Department of Fish and Game
36. **DOC** – California Department of Conservation
37. **DPR** – California Department of Parks and Recreation
38. **DTSC** – California Department of Toxic Substances Control
39. **DWR** – California Department of Water Resources
40. **EBM** – Ecosystem based management
41. **EDF** – Environmental Defense Fund
42. **EEI** – Education and Environment Initiative
43. **ELPF** – Environmental License Plate Fund
44. **EPR** – Extended Producer Responsibility
45. **FERC** – Federal Energy Regulatory Commission
46. **FGC** – California Fish and Game Commission
47. **FY** – Fiscal Year
48. **GIS** – Geographic Information System
49. **IOOS** – Integrated Ocean Observing Systems
50. **JOCI** – Joint Ocean Committee Initiative

Acronyms and Abbreviations *(continued)*

51. **JPA**s – Joint Powers Authorities
52. **LA** – Local Authorities
53. **LG** – Local Governments
54. **LARWCQB** – Los Angeles Regional Water Quality Control Board
55. **LID** – Low Impact Development
56. **LiDAR** – Light Detection and Ranging
57. **MLMA** – Marine Life Management Act
58. **MLPA** – Marine Life Protection Act
59. **MOU** – Memorandum of Understanding
60. **MPA** – Marine Protected Area
61. **MSP** – Marine Spatial Planning
62. **NGO** – Non-governmental organization
63. **NMDMP** – National Marine Debris Monitoring Program
64. **NMFS** – National Marine Fisheries Service
65. **NMS** – National Marine Sanctuaries
66. **NOAA** – National Oceanic and Atmospheric Administration
67. **OCS** – Office of Coast Survey
68. **OEHHA** – California Office of Environmental Health Hazard Assessment
69. **ONMS** – The Office of National Marine Sanctuaries
70. **OOS** – Ocean Observing Systems
71. **OPC** – California Ocean Protection Council
72. **OST** – California Ocean Sciences Trust
73. **OTC** – Once-Through Cooling
74. **PCJV** – Pacific Coast Joint Venture
75. **PISCO** – Partnership for Interdisciplinary Studies of Coastal Oceans
76. **Prop.** – Proposition
77. **PSMFC** – Pacific States Marine Fisheries Commission
78. **Resources Agency (RA)** – California Natural Resources Agency
79. **RFP** – Request for Proposal
80. **RWCQB** – Regional Water Quality Control Board

Acronyms and Abbreviations *(continued)*

81. **SAT** – Science Advisory Team
82. **SB** – Senate Bill
83. **SCC** – California State Coastal Conservancy
84. **SCCOOS** – Southern California Coastal Ocean Observing System
85. **SCM** – National Surface Current Mapping Plan
86. **SCWRP** – Southern California Wetlands Recovery Project
87. **SFBJV** – San Francisco Bay Joint Venture
88. **SFML** – Seafloor Mapping Laboratory
89. **SLC** – California State Lands Commission
90. **SWRCB** – State Water Resources Control Board
91. **TMDL** – Total Maximum Daily Load
92. **TNC** – The Nature Conservancy
93. **Tribes** – Sovereign Tribal Nations
94. **UC** – University of California
95. **US EPA** – United States Environmental Protection Agency
96. **USC** – University of Southern California
97. **USGS** – United States Geological Survey
98. **WCB** – Wildlife Conservation Board
99. **WCGA** – West Coast Governor’s Agreement

OPC

1. OPC Mission and Background ■

The California Ocean Protection Council (OPC) commissioned this independent evaluation of the OPC's performance, against goals of the 2004, California Ocean Protection Act (COPA). This white paper presents results of the evaluation, and provides recommendations to improve the OPC's impact of protecting, and managing, the state's unique coastal waters and ocean resources.

The OPC completed its first five-year strategic plan in 2006 and will begin work in early 2011 on its second five-year strategic plan. Also, there will be a new California state government administration and new legislative members in 2011. These two transitional events in 2011 provide an opportunity to (1) assess OPC achievements to-date and (2) better align the OPC's future activities, actions, and strategies with the intent and goals of the COPA.

This initial section of the white paper summarizes California ocean threats and importance of the OPC. It presents the mission of the OPC including an overview of California ocean management and the OPC's enabling legislation. The section also presents the purpose of this white paper and the approach to conducting this independent evaluation.

This section is organized as follows:

- A. California Ocean Threats and Importance of the OPC*
- B. COPA and Establishment of the OPC*
- C. White Paper Purpose*
- D. White Paper Approach.*

OPC

A. California Ocean Threats and Importance of the OPC

The Pacific Ocean, and California's long 1,100 mile coastline, are among the state's most valuable resources, and also among its most threatened. Threats to California's ocean are substantial and well documented. More worrisome is the fact that threats to the ocean are escalating.

A just-released July 2010 study in the journal *Nature* documents the long-term decline in ocean phytoplankton, correlated to global warming.¹ At the base of the food chain, phytoplankton are integral to much of life on earth; "these tiny species are indicating that large-scale changes in the ocean are affecting the primary productivity of the planet."²

NOAA's annual *State of the Climate* for 2009, also released in July 2010, provides evidence from over 300 scientists that the climate is warming.³ The ocean is bearing much of the impact of climate change, and this report cites evidence that "over 90 percent of warming over the past fifty years has gone into our ocean."⁴

Over the last several years study after study has documented the declining health of the ocean:

The Pacific Ocean is our planet's largest single geographic feature. It comprises half the world's ocean area and one third of the Earth's surface. Supporting ocean-based economies that produce a wealth of resources for local and global consumption, the Pacific... is the engine room of the Earth's

climate, playing an irreplaceable role in our planet's carbon and water cycles. Host to countless complex ecosystems – in turn supporting vast storehouses of our planet's biodiversity – the health of the Pacific is essential to the survival of innumerable species, including our own.⁵

Despite its importance, the Pacific Ocean is not being managed sustainably. Our climate, communities, and economies are linked directly to the health of the ocean. Unfortunately, threats continue to expand as over-harvesting of resources and runoff from land to sea increase... Rapidly declining populations of large tuna, sharks, and sea turtles reveal the progressive depletion of the top predators of the Pacific. This in turn affects economies, local livelihoods, and food security across the globe. Climate change exacerbates these threats and increases the vulnerability of coastal and ocean ecosystems, resources, and the people who depend on them.⁶

America's oceans are in crisis and the stakes could not be higher. More than half the U.S. population lives in coastal counties. The resident population in this area is expected to increase 25 million people by 2015. More than 180 million people visit the shore for recreation every year... The evidence that our oceans face a greater array of problems than ever before in our nation's history surrounds us. Marine life and vital coastal habitats are straining under the increased pressure of our use. We have reached a crossroads where the cumulative effect of what we take from, and put into, the ocean substantially reduces the ability of marine ecosystems to produce the economic and ecological goods and services that we desire and need. What we once considered inexhaustible and resilient is, in fact, finite and fragile.⁷

Human ingenuity and ever-improving technologies have enabled us to exploit – and

¹ Boyce, Daniel G., Marlon R. Lewis, Boris Worm. "Global phytoplankton decline over the past century." *Nature* 466, 591-596 (July 29, 2010).

² Quote from Virginia Burkett, Chief Climate Change Scientist for the U.S. Geological Survey, in "Plankton decline in oceans worries scientists." *The Sacramento Bee*, Thursday July 29, 2010, p.A10.

³ Arndt, D.S., M.O. Baringer, and M.R. Johnson, Eds., 2010: State of the Climate in 2009. *Bull. Amer. Meteor. Soc.*, 91 (6), S1-S224.

⁴ Arndt, D.S., M.O. Baringer, and M.R. Johnson, Eds., 2010: State of the Climate Highlights. National Oceanic and Atmospheric Administration. July 2010, p.4.

⁵ Center for Ocean Solutions. An Executive Summary of Pacific Ocean Synthesis. Stanford University and the Monterey Bay Aquarium Research Institute: Monterey, California. 2009, p.2.

⁶ *Ibid.*

⁷ PEW Oceans Commission. *America's Living Oceans, Charting a Course for Sea Change*. PEW Oceans Commission: Arlington, Virginia. 2003, p.2.

*significantly alter – the ocean’s bounty to meet society’s escalating needs ... The time has come for us to alter our course and set sail for a new vision for America, one in which the oceans, coasts, and Great Lakes are healthy and productive, and our use of their resources is both profitable and sustainable.*⁸

Clearly, oceans are essential to life on this planet. California, as a major coastal Nation state, has an opportunity, and responsibility, to protect the ocean not just for ecological benefits, but for broader social and economic benefits. California has the largest ocean economy in the United States.⁹ The devastating Gulf of Mexico oil spill in April 2010, serves to remind us of the fragility of our ocean and coastal ecosystems, the perils we can face every day, and the high cost of environmental disaster.

The California Legislature, in crafting the California Ocean Protection Act (COPA), recognized the threats to, and value of, our ocean resources:

California’s coastal and ocean resources are critical to the state’s environmental and economic security, and integral to the state’s high quality of life and culture. A healthy ocean is part of the state’s legacy, and is necessary to support the state’s human and wildlife populations. Each generation of Californians has an obligation to be good stewards of the ocean, to pass the legacy on to their children. (Public Resources Code Section 35505 (a))

The then existing (pre-2004) California patchwork of laws and regulations to manage our critical ocean and coastal resources was plainly not adequate to address these systemic ocean threats. Recognizing this deficiency, the California Legislature envisioned a unique, and value-added,

role for the OPC, in integrating and coordinating the state’s laws and institutions responsible for conserving and protecting ocean resources. By creating a non-regulatory agency, with a high-level steering council, science focus, and associated trust fund, the OPC could bring a visionary and comprehensive approach to California ocean policy and ocean problem-solving.

The OPC has no easy task as it moves into its second, five years of existence, and it faces numerous challenges. Both threats facing the ocean, and challenges inherent in bringing diverse agencies together to address ocean threats, are substantial. It is critical that California, and the OPC, have the tools, and vision, needed to continue its important work to protect our Pacific Ocean and California coastal resources.

B. COPA and Establishment of the OPC

The Legislature envisioned a unique role for the OPC in integrating and coordinating the state’s laws and institutions responsible for protecting and conserving ocean resources through: (1) improved institutional processes, (2) changes to state and federal policies and laws, and (3) better use of scientific information to inform decision-making. The expectation was that the OPC would help yield greater effectiveness in ocean stewardship and improved efficiency in the use of public and private funds for this purpose.

The OPC is not the first California effort at coordinating state ocean resource protection. Ocean management and protection, at both the federal and state levels, began in the 1960s, with a series of patchwork laws focusing on specific topics – fisheries, land use, water quality, and oil development. **Appendix D** to this white paper provides a summary of selected state ocean management legislation discussed in this white paper. In 1965, California’s first Governor’s

⁸ U.S. Commission on Ocean Policy. An Ocean Blueprint for the 21st Century. U.S. Commission on Ocean Policy: Washington D.C. 2004. p.1.

⁹ Kildow, Judith and Charles Colgan. California’s Ocean Economy. National Ocean Economics Program. Monterey, California. July 2005.

Advisory Commission on Ocean Resources was created to advise the Governor and Legislature on developing state approaches to managing ocean resources. In the ensuing 45 years California implemented a series of committees, commissions, and legislation directed at improving ocean and coastal management.

Recognizing the need for coordination, the California Ocean Resources Management Act of 1990 (CORMA), created the Ocean Resources Management Program, within the Resources Agency, to “coordinate the policies of state departments with jurisdiction over ocean and coastal resources, coordinate state agency management of ocean resources with local government, and ensure effective participation in federal planning and management.”

In a significant four-year, multi-agency effort, the state developed the 1997 document, *California’s Ocean Resources: An Agenda for the Future*. This Agenda established four goals to guide the Ocean Resources Management Program, described nine ocean management issues, and identified recommendations to address them. A recommendation to improve accountability and coordination was to “convene a State cabinet-level ocean resources management coordinating council, composed of agency and department directors with ocean resource management responsibilities, to help integrate the multiple agencies and programs of ocean and coastal jurisdiction.” The intent was that this council would work with public and private entities to identify, and develop, solutions to ocean and coastal resource management issues in California.

This cabinet-level ocean management coordinating council (the OPC), first envisioned in 1997, was not created until seven (7) years later, in 2004. Two significant national influences spurred the COPA and formation of the OPC.

The Pew Oceans Commission published *America’s Living Oceans, Charting a Course for Sea Change*, in May 2003, and the United States Commission on Ocean Policy published *An Ocean Blueprint of the 21st Century*, in July 2004. Each report, produced by teams of multi-disciplinary experts, provided recommendations for a comprehensive, and coordinated, approach to national ocean policy. **Exhibit 1-1**, on the next page, provides a summary of recommendations from these two important ocean management reports.

Both of these national reports emphasized the environmental and economic value of oceans and coasts, and the current threats to ocean resources. Both reports identified the need for coordination among ocean and coastal management agencies at the national, regional, and state levels. Both reports also recognized the importance of unbiased scientific information to improve ocean and coastal management. Both reports identified the importance of education to raise awareness on the value of the ocean in our society. Finally, both reports identified a range of specific management issues such as fisheries, coastal habitats, watersheds, and sediment.

The Pew Oceans Commission and the U.S. Ocean Commission studies prompted California to once again address ocean management concerns. In June 2004, Governor Schwarzenegger directed the Resources Agency and the California Environmental Protection Agency (CalEPA) to prepare a “plan of action for ocean and coastal management in California.” The resulting document, *Protecting Our Ocean, California’s Action Strategy* (Action Plan), identified steps for the state to pursue in order to better manage and protect ocean and coastal resources. The Action Plan was intended to build on the state’s previous ocean management leadership through immediate and long-term actions.

Exhibit 1-1

Key Recommendations from the PEW Oceans Commission and the U.S. Commission on Ocean Policy

PEW Oceans Commission (2003)	U.S. Commission on Ocean Policy (2004)
<p>Governance for Sustainable Seas</p> <ol style="list-style-type: none"> 1. Enact a National Ocean Policy Act to protect, maintain, and restore the health, integrity, resilience, and productivity of our oceans 2. Establish regional ocean ecosystem councils to develop and implement enforceable regional ocean governance plans 3. Establish a national system of fully protected marine reserves 4. Establish an independent national oceans agency 5. Establish a permanent federal interagency oceans council. 	<p>Improved Governance</p> <ol style="list-style-type: none"> 1. Establish a National Ocean Council in the Executive Office of the President, chaired by an Assistant to the President 2. Create a non-federal President’s Council of Advisors on Ocean Policy 3. Improve the federal agency structure by strengthening NOAA and consolidating federal agency programs according to a phased approach 4. Develop a flexible, voluntary process for creating regional ocean councils, facilitated and supported by the National Ocean Council 5. Create a coordinated management regime for activities in federal offshore waters.
<p>Science, Education, and Funding</p> <ol style="list-style-type: none"> 1. Develop and implement a comprehensive national ocean research and monitoring strategy 2. Double funding for basic ocean science and research 3. Improve the use of existing scientific information by creating a mechanism or institution that regularly provides independent scientific oversight of ocean and coastal management 4. Broaden ocean education and awareness through a commitment to teach and learn about our oceans, at all levels of society. 	<p>Sound Science for Wise Decisions</p> <ol style="list-style-type: none"> 1. Double the nation’s investment in ocean research, launch a new area of ocean exploration, and create the advanced technologies and modern infrastructure needed to support them 2. Implement the national Integrated Ocean Observing System and a national monitoring network.
<p>Preserving Our Coasts</p> <ol style="list-style-type: none"> 1. Develop an action plan to address non-point source pollution and protect water quality on a watershed basis 2. Identify and protect from development habitat critical for the functioning of coastal ecosystems 3. Institute effective mechanisms at all levels of government to manage development and minimize its impact on coastal ecosystems 4. Redirect government programs and subsidies away from harmful coastal development and toward beneficial activities, including restoration. 	<p>Implementation</p> <ol style="list-style-type: none"> 1. Establish an Ocean Policy Trust Fund, based on unallocated revenues from offshore oil and gas development and new offshore activities, that is dedicated to supporting improved ocean and coastal management at federal and state levels.
<p>Cleaning Coastal Waters</p> <ol style="list-style-type: none"> 1. Revise, strengthen, and expand pollution laws to focus on nonpoint source pollution 2. Address unabated point sources of pollution, such as concentrated animal feeding operations and cruise ships 3. Create a flexible framework to address emerging and nontraditional sources of pollution, such as invasive species and noise 4. Strengthen control over toxic pollution. 	<p>Specific Management Challenges</p> <ol style="list-style-type: none"> 1. Strengthen coastal and watershed management and the links between them 2. Set measurable goals for reducing water pollution, particularly from nonpoint sources, and strengthen incentives, technical assistance, enforcement, and other management tools to achieve those goals 3. Reform fisheries management by separating assessment and allocation, improving the Regional Fishery Management Council system, and exploring the use of dedicated access privileges 4. Accede to the United Nations Convention on the Law of the Sea to remain fully engaged on the international level.
<p>Guiding Sustainable Marine Aquaculture</p> <ol style="list-style-type: none"> 1. Implement a new national marine aquaculture policy based on sound conservation principles and standards 2. Set a standard, and provide international leadership, for ecologically sound marine aquaculture practices. 	<p>Education – A Foundation for the Future</p> <ol style="list-style-type: none"> 1. Improve ocean-related education through coordinated and effective formal and informal efforts.
<p>Restoring America’s Fisheries</p> <ol style="list-style-type: none"> 1. Redefine the principal objective of American marine fishery policy to protect marine ecosystems 2. Separate conservation and allocation decisions 3. Implement ecosystem-based planning and marine zoning 4. Regulate the use of fishing gear that is destructive to marine habitats 5. Require bycatch monitoring and management plans as a condition of fishing 6. Establish a permanent fishery conservation and management trust fund. 	

In a parallel effort, also in response to the Pew Oceans Commission and the U.S. Ocean Commission studies, the Legislature, administration, and interest groups worked together to craft SB 1319, the California Ocean Protection Act (COPA). The COPA was passed in August 2004 at the end of the 2003/2004 legislative session. Among the immediate steps in the Governor's Action Plan was a recommendation to sign SB 1319, which the Governor did, in September, 2004. In passing the COPA, California took a national leadership role by essentially adopting key recommendations in these two national studies, but applying those recommendations at the state level.

The COPA¹⁰ established the California Ocean Protection Council (OPC) to coordinate, and fund, new actions to protect and manage California's coastal waters and ocean resources. The stated purpose of the COPA is to integrate, and coordinate, the state's laws and institutions responsible for protecting and conserving ocean resources. The OPC is charged with implementing the COPA.

Exhibit 1-2, on the following page, provides a digest of COPA provisions. The COPA generally identifies the following goals:

1. Improve monitoring and data gathering, and advance scientific understanding
2. Continually improve efforts to protect, conserve, restore, and manage coastal waters and ocean ecosystems
3. Improve the quality of coastal waters
4. Improve the health of fish in coastal waters
5. Integrate and coordinate state's laws and institutions responsible for protecting and conserving ocean resources
6. Provide for public access to the ocean and ocean resources, including to marine protected areas.

The California Legislature declared that the OPC's responsibilities are to accomplish all of the following objectives:

- Provide a set of guiding principles for all state agencies to follow, consistent with existing law, in protecting the state's coastal and ocean resources
- Encourage cooperative management with federal agencies, to protect and conserve representative coastal and ocean habitats and the ecological processes that support those habitats
- Improve coordination and management of state efforts to protect and conserve the ocean by establishing a cabinet level oversight body responsible for identifying more efficient methods of protecting the ocean at less cost to taxpayers
- Use California's private and charitable resources more effectively in developing ocean protection and conservation strategies
- Provide for public access to the ocean and ocean resources, including to marine protected areas, for recreational use, and aesthetic, educational, and scientific purposes, consistent with the sustainable long-term conservation of those resources.

C. OPC White Paper Purpose

The goal of this white paper is to present an evaluation of OPC accomplishments and challenges since its inception, and to recommend how best to align the OPC's future activities, actions, and strategies with the intent and purpose of the COPA. This white paper presents recommendations to help guide the second five-year phase of the OPC's work. All of the recommendations provided in this white paper can be implemented without any legislative changes to the COPA.

¹⁰ Public Resources Code Section 35500 et seq.

Exhibit 1-2

California Ocean Protection Act (COPA) Digest

Provision	Components
1. Declare intent	<ul style="list-style-type: none"> a. Declares coastal waters and ocean ecosystems are natural resources held in trust by the state for the people of the state b. Declares governance of ocean resources should be guided by principles of sustainability, ecosystem health, precaution, recognition of the interconnectedness between land and ocean, decisions informed by good science and improved understanding of coastal and ocean ecosystems, and public participation in decision making c. Declares good governance and stewardship of ocean resources necessitate more efficient and effective use of public funds d. Declares that the state needs to coordinate governance and stewardship of the state's ocean, and to identify priorities, bridge existing gaps, and ensure effective and scientifically sound approaches to protecting and conserving the most important ocean resources e. Authorizes the OPC to carry out various programs relating to the protection of coastal waters and ocean ecosystems
2. Establish Council	<ul style="list-style-type: none"> a. Secretary of the California Natural Resources Agency, who typically chairs the Council b. Secretary of the California Environmental Protection Agency c. Chair of the California State Lands Commission (a position that rotates annually between the State Controller, and the Lieutenant Governor) d. Two members of the public, appointed by the Governor
3. Appoint non-voting, ex-officio members	<ul style="list-style-type: none"> a. One Senator, appointed by the Senate Committee on Rules b. One Assembly member, appointed by the House Speaker
4. Specify responsibilities	<ul style="list-style-type: none"> a. Coordinate state agency activities relating to protecting and conserving coastal waters and ocean ecosystems b. Coordinate the collection and sharing of scientific data among state agencies c. Identify changes in federal law and policy necessary to achieve goals of the COPA and recommend to the Governor and Legislature actions the state should take to encourage those changes d. Act consistently with principles and objectives set forth in the Act, which, for example, include conserving the health and diversity of ocean life, consideration of the impact on the ocean of activities occurring on land, better coordination of state and local actions affecting ocean resources, greater use of foundation and other private funding sources, and enhanced public access to ocean resources e. Establish a science advisory team of distinguished scientists to assist the Council in meeting the purposes of this division, contract with entities that have experience in conducting the scientific and educational tasks required by the Council, and transmit the results of research and investigations to state agencies to provide information for policy decisions f. Allow grants and loans be made to public agencies, nonprofit corporations, and private entities, but limit grants and loans to private entities only to projects and activities that further public purposes consistent with the principles and objectives specified in the COPA
5. Administer Council	<ul style="list-style-type: none"> a. Requires that the Council elect a chair at the first meeting of the year, and names the State Coastal Conservancy (SCC) Executive Officer as the OPC Secretary b. Requires the SCC Executive Officer to administer the OPC, including providing it with staff services, administering grants and other expenditures authorized by the OPC, and arranging meetings, agendas, and other administrative functions
6. Provide funding depository and authorize expenditures	<ul style="list-style-type: none"> a. Establishes the California Ocean Protection Trust Fund as a depository for funds appropriated by the Legislature b. Authorizes the OPC to make expenditures from the fund for administering the COPA and directly undertaking projects and activities, or making grants and loans for a wide range of projects that protect or restore ocean and coastal resources c. Specifies activities for which funding may be used

This white paper report, prepared by an independent consultant, and overseen by a distinguished panel, presents an authoritative and objective discussion of OPC accomplishments and challenges. This white paper can be used to (1) help educate OPC stakeholders about the OPC, (2) help make operational and financial decisions about the OPC, and (3) help decision-makers improve the OPC.

This white paper serves multiple purposes, including:

1. Evaluating strengths and weaknesses of the OPC's performance over the last five years (2006 to 2010)
2. Providing recommendations for OPC improvements, focusing on sustainability of the OPC, including overall governance, policy decisions, operations, transparency, and the next strategic plan
3. Serving as a public outreach document to communicate OPC's activities, and to improve OPC transparency.

The audience for this white paper includes all of the following:

- California policymakers – to help decision-makers improve the OPC
- The Ocean Protection Council itself – to help guide future actions
- OPC partner agencies and organizations – to better understand the OPC and its objectives, and to help guide future collaborative efforts
- Potential funders (public and private) – to consider opportunities for partnership
- OPC stakeholders – to educate about the OPC and its activities
- OPC staff – to help improve operational and financial decisions
- Other states and federal agencies – as an example of governmental coordination and leadership.

D. OPC White Paper Approach

The OPC issued a request for proposal (RFP) on October 7, 2009, to obtain the services of an independent, professional consultant to evaluate the OPC's performance to-date against COPA goals. The OPC and the SCC selected NewPoint Group, a Sacramento based management consultant firm, with significant experience in natural resources and environmental policy, to conduct this evaluation.

White Paper Schedule

This OPC white paper project began in March 2010. The project team completed a partial draft white paper on July 22, 2010, and a preliminary draft white paper on August 16, 2010. Relying on review comments from the panel of expert advisors convened for this white paper, the project team made revisions, as required, and developed the draft white paper.

The OPC posted the draft white paper on its website for distribution and public comment in late August 2010. Additionally, the OPC provided either hard, or soft, copies of the draft white paper to all parties, upon request. The OPC also requested written comments to the evaluation during the public comment period.

The OPC discussed the draft white paper at its September, 2010, OPC meeting, held concurrently with the California and the World Ocean 2010 (CWO'10) conference in San Francisco, California. The project team developed the final white paper and OPC staff presented this report at the OPC's November, 2010, meeting.

White Paper Expert Advisory Panel

The OPC staff convened an expert advisory panel for this white paper project in order to ensure that visionary, strategic, and pragmatic knowledge were incorporated in the white paper evaluation

process. The expert advisory panel fulfilled two roles: (1) to provide oversight of the OPC evaluation to ensure that it effectively demonstrated OPC's accomplishments and resulted in useful recommendations, and (2) to provide advice to the OPC evaluation concerning OPC's role in maintaining healthy ocean and coastal resources.

The panel included eight (8) experts who have broad knowledge and expertise in policy development and governmental processes. The panel's primary role was to provide guidance to the OPC, and the NewPoint Group project team, in conducting the evaluation, and in producing useful and actionable recommendations. While this panel is not representative of all OPC partners and stakeholders, it does include individuals with broad experience in the following areas: state and federal agencies, legislation and policy development, funding, academia, and the private sector.

Panel experts participated as individuals, and not as representatives of their respective agencies or organizations. The panel was advisory in nature, and it was not required to reach a consensus. The panel provided valuable input and comments to this report. Ultimately, this white paper reflects the judgment and opinions of the independent consultant. NewPoint Group was not obligated to incorporate all panel comments or suggestions.

The expert advisory panel met on three occasions: March 24, 2010, May 19, 2010, and July 27, 2010. The distinguished panel members, and their biographies, are acknowledged in **Appendix F**, to this white paper. Also, in Appendix F, we acknowledge OPC staff assistance with this evaluation.

White Paper Activities

The white paper project team began its work with a review of relevant background materials

and information. In addition to the COPA and the OPC's first strategic plan, materials reviewed included OPC publications, staff reports, Council meeting minutes and webcasts, resolutions, studies, funding priorities, program activities, project summaries and reports, relevant legislation, legislative analyses, public outreach materials, and any relevant leading best practices. Background materials also included third-party publications, reports, project summaries, and articles related to OPC activities. The project team analyzed and synthesized this information and data in order to help develop the white paper findings and recommendations.

During May, June, and July, 2010, NewPoint Group conducted structured group, and individual, confidential interviews with over sixty (60) key OPC stakeholders. These stakeholders represented the federal government, State of California partner agencies, environmental organizations, universities, the OPC Science Advisory Team, non-governmental organizations, foundations, consulting firms, and corporate firms. **Appendix E** to this white paper provides a list of interviewees. The project team organized, analyzed, and synthesized results from these interviews.

The white paper project team conducted a review of projects funded by the OPC since inception. Including matching funds made available through the efforts of OPC members and staff, funding by the OPC on eighty-eight (88) authorized projects totaled approximately \$109 million, over the past five years.

The project team linked each OPC funded project to a COPA goal, and to an OPC strategic plan goal. Some larger projects relate to, or help respond to, more than one COPA goal, or more than one strategic plan goal. The project team reflected this in its analyses. This documentation effort allowed the project team to determine the scope, and level of funding priorities, implemented by the OPC.

Drawing on all of the above information and data sources,¹¹ the project team summarized and analyzed OPC accomplishments and challenges in the following seven (7) areas:

- Advancing policies
- Providing science for governmental decision-making
- Funding projects and research
- Coordinating governmental ocean activities
- Organization and operations
- Strategic planning
- Communication and outreach.

For each of these seven OPC areas, the white paper project team:

- Summarized specific OPC activities
- Assessed and analyzed whether OPC activities influenced State and federal policies and legislation, improved coordination on ocean issues, or promoted the use of science in decision-making
- Assessed how OPC activities met COPA goals and funding areas
- Identified OPC successes, and assessed what made them successful

- Identified OPC challenges, or missed opportunities, and assessed why they were not successful
- Identified recommendations for future OPC actions.

The white paper project team also selected and prepared three (3) case studies that illustrate OPC accomplishments, challenges, and lessons-learned as they relate to a particular issue area. The three case studies, included in **Appendix B** to this report, are the following:

- Seafloor mapping case study
- Marine debris case study
- Sustainable fisheries case study.

NewPoint Group prepared a summary of recommendations for improving the OPC. The recommendations, presented in Section 3, provide eighteen (18) actions that the OPC can implement immediately. These recommendations are organized by seven OPC accomplishment and challenge categories. Implementing the eighteen Section 3 recommendations will significantly improve the OPC's ability to meet goals of the COPA in the near term.

¹¹ NewPoint Group, as part of this evaluation, conducted an Internet survey, which was made available to the general public and OPC stakeholders for approximately a one-month study time period. Survey responses were informative to this evaluation, and the survey provided a valuable vehicle for broad-based public input to this evaluation. However, the low response to the survey, and the non-representative nature of the survey, were such that we were unable to report quantitative survey results.

2. OPC Accomplishments and Challenges

OPC

This section of the white paper provides an overview of the OPC's activities over its first five years, from the time of the OPC's inception, in September 2004, into mid-2010. This section is organized into the following seven subsections:

- A. Advancing Policies*
- B. Providing Science for Governmental Decision-Making*
- C. Funding Projects and Research*
- D. Coordinating Governmental Ocean Activities*
- E. Organization and Operations*
- F. Strategic Planning*
- G. Communication and Outreach.*

The first four subsections reflect specific responsibilities of the OPC, as outlined in the COPA:

- Identify changes in state and federal law and policy necessary to achieve the goals of the COPA and recommend to the Governor and Legislature actions the state should take to encourage those changes
- Coordinate the collection and sharing of scientific data among state agencies
- Allow grants and loans to be made to public agencies, nonprofit corporations, and private entities
- Coordinate state agency activities relating to protecting and conserving coastal waters and ocean ecosystems.

Because of the nature of the OPC's work, there is significant overlap, in terms of particular policy or program areas, within these first four subsections. For example, early on, the Council established seafloor mapping as a program priority, to help close the large gap in scientific knowledge and data on the ocean. The OPC has funded \$18.3 million in projects to conduct seafloor mapping and leveraged an additional \$14.5 million in funds for seafloor mapping. Implementation of the seafloor mapping initiative over the last

OPC

Figure 2-1
Summary Crosswalk of a Sample of OPC Policy and Program Areas
and Key COPA Responsibility Areas, To-Date

OPC Policy and Program Area	Policy	Science	Project Funding	Coordination
1. Aquatic invasive species	✓	✓	✓	✓
2. Climate change (adaptation, sea level rise, and ocean acidification)	✓	✓	✓	✓
3. Coastal LiDAR Project (Light Detection and Ranging)		✓	✓	✓
4. Low-impact development	✓		✓	✓
5. Marine debris	✓	✓	✓	✓
6. Marine Life Management Act (MLMA)/Marine Protected Areas (MPAs)	✓	✓	✓	✓
7. Marine spatial planning (MSP)/geospatial data project	✓	✓	✓	✓
8. Ocean energy	✓	✓	✓	✓
9. Ocean observing	✓	✓	✓	✓
10. Oil rig decommissioning	✓	✓	✓	✓
11. Once-through cooling	✓	✓	✓	✓
12. Research/California Sea Grant		✓	✓	✓
13. Salmon and steelhead		✓	✓	✓
14. Seafloor mapping		✓	✓	✓
15. Sustainable fisheries management	✓	✓	✓	✓
16. Thank-you ocean campaign			✓	✓
17. Water quality enforcement				✓

five years has entailed extensive and ongoing cooperation between the OPC, National Oceanic and Atmospheric Administration (NOAA), United States Geological Survey (USGS), universities, and others. The OPC has played a critical role in bringing these entities together to complete California's seafloor maps, providing tools for better ocean management and policy decisions. While there has been no specific resolution on seafloor mapping, it is generally considered as a subset of Marine Spatial Planning, for which there is an OPC resolution.

Figure 2-1, above, provides a sample of seventeen OPC policy and program areas, and whether OPC activities in these areas addressed policy, science, project funding, and/or coordination. As Figure 2-1 illustrates, most OPC activities cross, to at least some extent, all four key COPA responsibility areas.

The fifth subsection, E. Organization and Operations, focuses on the structure and operations of the OPC. This subsection discusses the extent to which the OPC's institutional structure supports its mission.

The final two subsections, Strategic Planning, and Communication and Outreach, address OPC accomplishments and challenges in these broader organizational activities.

For each of the seven OPC subsections, a finding is provided. The finding summarizes major accomplishments and challenges for the OPC in each subsection. **Exhibit 2-1**, on the next page, summarizes the seven OPC findings.

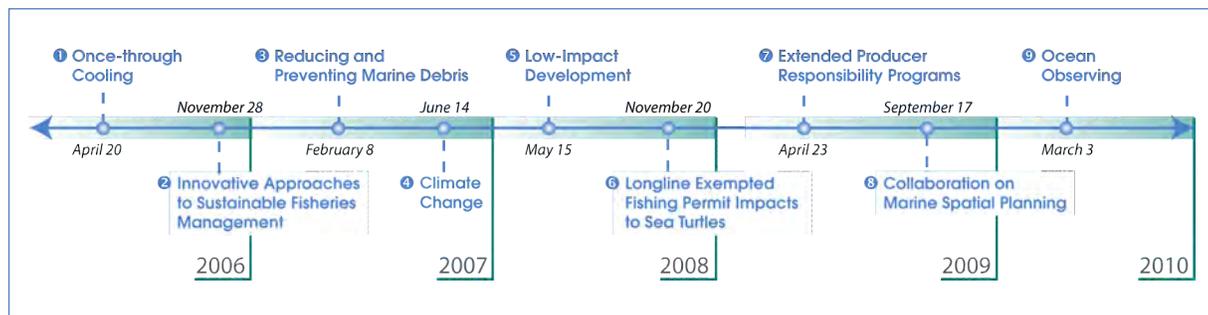
Throughout this white paper section, and the remaining report sections, the white paper includes a series of quotes extracted from NewPoint Group's confidential stakeholder interviews. These are direct

Exhibit 2-1

OPC Findings in Seven Categories

Category	Finding
A. Advancing Policies	<p>Policy Finding</p> <p>The OPC's resolutions have been an effective tool to inform debate and influence ocean management policies on several issues. At the national level, the OPC is seen as a leader on ocean issues. At the state level, the OPC is still experimenting with exactly how to execute its role as an ocean policy leader. In its first five years, the selection of resolution topics, and OPC policy areas in general, has been opportunistic. Moving forward, the OPC has an opportunity to focus on policy as part of a larger vision.</p>
B. Providing Science for Governmental Decision-Making	<p>Science Finding</p> <p>The OPC has played a valuable role in articulating the importance of science, and in providing a venue through which to incorporate scientific research into the decision-making process. This is the area in which the OPC has arguably had the greatest success. As it moves forward, the OPC has an opportunity to more consistently and strategically apply scientific input to particular policy areas. In addition, as the Science Advisory Team (SAT) becomes more established, the OPC can better utilize the knowledge of these experts.</p>
C. Funding Projects and Research	<p>Project Funding Finding</p> <p>The COPA established the California Ocean Protection Trust Fund to expend on projects and activities, but also directs the OPC to "use California's private and charitable resources more effectively in developing ocean protection and conservation strategies." OPC funded projects such as seafloor mapping, marine monitoring, and specific research projects, have advanced a number of important ocean research and policy issues. Most OPC funding has supported scientific research and monitoring. The OPC has leveraged its \$65.9 million in (primarily) bond funding to generate a total of \$109.1 million in funding for 88 ocean-related projects. Going forward, the OPC has an opportunity to focus project spending through specific strategies or initiatives, to improve transparency in funding processes, and publicize the final outcomes of projects. Finally, while the OPC has leveraged private foundation monies (\$11.8 million, 27 percent of leverage funds), there is an opportunity to develop additional private and federal support for ocean protection issues.</p>
D. Coordinating Governmental Ocean Activities	<p>Coordinating Finding</p> <p>One of the primary goals of the COPA, and arguably the most challenging role for the OPC, is to promote coordination and collaboration of state agencies in order to improve state efforts to protect ocean resources. The OPC has had successes in this area, most notably climate change adaptation and seafloor mapping. However, the OPC has an opportunity to better fulfill its role as coordinators. Going forward, the OPC can enhance efforts to formally and informally reach out to state and federal agencies and identify specific ocean resource problems that could be solved by better coordinating agency efforts and resources. The OPC's coordinating efforts should be part of a strategic, focused approach.</p>
E. Organization and Operations	<p>Organization and Operations Finding</p> <p>As a new organization, the fact of OPC's very existence is an accomplishment. The OPC's relationship with the State Coastal Conservancy (SCC) allowed the Council to get off to a quick start, particularly in terms of efficiently funding research and projects. The OPC's experienced management team brings a broad range of expertise to the organization. Going forward, the OPC's staff capacities can be more clearly aligned with its mission, and the Council itself could be more engaged in OPC activities.</p>
F. Strategic Planning	<p>Strategic Planning Finding</p> <p>In its first year and a half, the OPC conducted an inclusive and open process to develop a strategic plan. As a new organization, the OPC deliberately chose to write a broad strategic plan, allowing the OPC to carry out a wide range of activities, and to respond to emerging issues as they arose. Now, after five years of experience, the OPC has an opportunity to create a more focused strategic plan that brings a clear sense of direction as to where the OPC should focus its efforts. This plan would include specific criteria to guide OPC decision-making, clarify OPC's role, and articulate a vision for California ocean policy and management. In developing its next strategic plan, the OPC should incorporate specific metrics, and a clear means by which the OPC can measure its success.</p>
G. Communication and Outreach	<p>Communication and Outreach Finding</p> <p>The OPC has communicated with its immediate stakeholders through its list-serve, web page, and one-on-one communications. The public comment period at OPC meetings provides the public with a unique opportunity to present ocean issues to policy-makers in a public forum. However, there are still many individuals and organizations involved in ocean and coastal issues that are unaware of the OPC. The OPC can improve communication with the legislature, other state agencies, coastal communities (local governments, fishermen, ocean resource and tourism industries), and the public, about its activities and accomplishments.</p>

Figure 2-2
Timeline of Ocean Protection Council Resolutions



“Money is important, but policy change is bigger.”

quotes from knowledgeable individuals, although most quotes included here reflect the opinions of multiple stakeholders. These quotes in totality help provide some “picture” of the OPC’s accomplishments and challenges.

The beginning of each subsection includes one, or more, excerpts from the COPA that states the intent of the COPA, and/or responsibilities of the OPC, as they relate to that subsection. These COPA excerpts provide guidance against which the OPC can be evaluated.

A. Advancing Policies

Identify and recommend to the Legislature changes in law needed to achieve the goals of this section. Identify changes in federal law and policy necessary to achieve the goals of this division and to improve protection, conservation, and restoration of ocean ecosystems in federal and state waters off the state’s coast. Recommend to the Governor and the Legislature actions the state should take to encourage those changes in federal law and policy. (Public Resources Code Section 35615 (a)(6), and (b))

The OPC’s primary formal tool for influencing state, and federal, ocean and coastal resource policy is the resolution. Resolutions are published

position statements of the OPC that are approved by the Council, in a public meeting. The OPC has approved nine (9) resolutions, the first in April 2006, and the most recent in March, 2010.

Figure 2-2, above, provides a timeline of the nine OPC resolutions. The OPC resolutions range from a simple paragraph to multi-page statements of findings and recommendations. The OPC resolutions cover a wide range of topics. Some resolutions make significant policy statements, while others are more minor opinions, but on specific issues.

Resolutions are one of the OPC’s most effective tools for raising awareness, generating policy discussions, and influencing ocean and coastal policy at all levels. For example, the OPC marine debris resolution has been credited with broadly publicizing the marine debris issue, promoting state legislation, supporting local ordinances, and generating national interest on this topic.

Resolutions are not necessarily the same as recommending changes in law, as specified in the COPA. The OPC is sometimes criticized for not following through on resolutions after they are approved, to the point of a recommended policy or legal change. Much of this potential shortfall is due to the OPC’s institutional structure, and lack of clarity as to OPC’s role on a particular issue.

The OPC's institutional structure makes it difficult for the OPC to support new laws without first obtaining support of the Governor. While the OPC can be a thought-leader on ocean policy, the fact that two cabinet-level secretaries sit on the Council, with the Natural Resources Secretary historically chairing the Council, limits the extent to which the OPC structure can address the most controversial ocean policy issues. This can create a chicken-and-egg dynamic between OPC leadership and Governor support.

The decision to develop an OPC resolution is generally staff-driven. The need for a resolution may be linked back to the strategic plan, proposed actions or legislation, interests of other agencies or stakeholders, and/or support of OPC management. In its first five years the OPC's approach for selecting resolution topics has been somewhat opportunistic. As a result, while OPC resolutions have arguably had positive impacts there is some question as to whether these resolutions cover the "most important" issues.

Once the OPC decides to develop a resolution, OPC staff conduct research and prepare the resolution text. Research may include public workshops on the topic and/or expert panels held at Council meetings. OPC staff work with the Council Chair in developing resolutions, but rarely consult with other Council members until just prior to a Council meeting.

OPC staff present new resolutions, sometimes together with a staff-prepared background document, at Council meetings. The information is provided to the public, and Council members, when the agenda is required to be posted, ten days in advance of the meeting. In all nine cases, the Council unanimously passed the resolutions. In a few instances, a resolution was amended at the meeting.

Follow-up action on resolutions is varied. Some resolutions specify particular actions for the OPC to undertake, such as developing an implementation

strategy, forming an advisory group, or recommending legislation. There is no consistent follow-up when there is legislation that results from OPC resolutions, due to OPC institutional limitations. As the OPC moves ahead it would benefit from developing a clear understanding and communication delineating the OPC's role in developing, and then supporting, resolutions.

Although assessing the effectiveness of OPC resolutions is subjective, resolutions have been most successful when it highlights the importance of a particular ocean policy issue, thus raising awareness, increasing political visibility, and generating policy or regulatory action at the state or local levels. Resolutions are more likely to be successful when they identify follow-up actions that are within the scope of the OPC such as funding independent research and analyses, and creating interagency workgroups.

Resolutions sometimes fall short when they identify specific legislative changes. There has sometimes been a disconnect between policies proposed in the resolution and the eventual position of the Governor on the issue (i.e. when bills are vetoed). Resolutions also fall short of their potential when they do not take into full consideration the ability of other state agencies to respond to a particular issue, or when they are too specific in their prescriptions.

Exhibit 2-2, starting on page 2.7, provides a summary of the OPC's nine resolutions, to-date. Exhibit 2-2 includes a brief description and background, as well as accomplishments and challenges of each resolution. The marine debris and sustainable fisheries resolutions are described in more detail in the case studies (Appendix B).

The OPC also influences federal and regional ocean policy through position letters. These letters may support or oppose specific policies, or provide comment on federal actions. Position letters, backed by the OPC's expertise and

authority, provide a direct means for the OPC to influence federal ocean policy.

Because the OPC brings together state agencies with jurisdiction over ocean issues, these letters are an effective tool to provide a unified “California voice” for (or against) federal policies that affect California’s coastal and ocean resources. For example, policy letters have opposed offshore oil drilling, and supported reauthorization of the Coastal Zone Management Act, the West Coast Governors’ Agreement, climate change adaptation policies, and marine spatial planning. **Exhibit 2-3**, following Exhibit 2-2, provides a summary of thirteen (13) OPC policy letters.

As a one-of-its-kind entity, the OPC influences federal ocean policy in less formal ways. Through regular communication with federal ocean agencies, and by being at the forefront of ocean management such as marine protected areas, the OPC has a strong influence on federal ocean policy. For example, members of the OPC management team were involved in development of the recently released National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes.¹

Policy Finding

The OPC’s resolutions have been an effective tool to inform debate and influence ocean management policies on several issues. At the national level, the OPC is seen as a leader on ocean issues. At the state level, the OPC is still experimenting with exactly how to execute its role as an ocean policy leader. In its first five years, the selection of resolution topics, and OPC policy areas in general, has been opportunistic. Moving forward, the OPC has an opportunity to focus on policy as part of a larger vision.

¹ The Interagency Ocean Policy Task Force. Final Recommendations of the Interagency Ocean Policy Task Force. The White House Council on Environmental Quality. Washington, D.C. July 19, 2010.

B. Providing Science for Governmental Decision-Making

A goal of all state actions shall be to improve monitoring and data gathering, and advance scientific understanding, to continually improve efforts to protect, conserve, restore, and manage coastal waters and ocean ecosystems. (Public Resources Code Section 35510 (4))

Identify scientific research and planning that is useful for the protection and conservation of coastal waters and ocean ecosystems, and coordinate and assist state agencies in addressing those needs. (Public Resources Code Section 35515 (f))

Establish policies to coordinate the collection, evaluation, and sharing of scientific data related to coastal and ocean resources among agencies. (Public Resources Code Section 35615 (2))

Establish a science advisory team of distinguished scientists to assist the council in meeting the purposes of this division... (Public Resources Code Section 35615 (3))

Supporting and improving the use of science in ocean and coastal resource decision-making is one of the OPC’s key goals as defined by the COPA. The 2003 Pew Oceans Commission Report, one of the studies that prompted the creation of the OPC, noted that, “too often the institutions responsible for managing our marine resources fail to adequately use existing scientific understanding in the decision-making process.”

The OPC promotes science as a foundation to support resource management. Science activities can generally be categorized into the following six approaches:

1. Funding scientific studies and research to inform a topic
2. Supporting data gathering and monitoring efforts
3. Supporting science integration
4. Working with the Science Advisory Team and other experts
5. Supporting applied research
6. Conducting expert panels and workshops.

Exhibit 2-2

Summary of Ocean Protection Council Resolutions

Resolution	Resolution of the OPC Regarding the Use of Once-Through Cooling (OTC) Technologies in Coastal Waters April 26, 2006
Description	The resolution findings describe the negative impacts of OTC, and identify activities in support of regulating OTC by other state entities. The resolution (1) encourages the SWRCB to implement the most protective controls for OTC, (2) urges the SWRCB to form a technical review group to examine impacts at each plant of eliminating OTC, (3) establishes an interagency coordinating committee, and (4) funds a study of alternatives.
Key Drivers	The state's nineteen (19) coastal power plants, including two nuclear plants, currently withdraw over fifteen (15) billion gallons per day of coastal and estuarine waters using a single-pass system, or OTC. OTC causes adverse impacts to larger aquatic organisms (impingement), and smaller organisms (entrainment). The SWRCB began holding hearings on OTC in September 2005, and there were already efforts underway to limit OTC. However, there was a sense that the effort to regulate OTC was stalling, and that agencies involved were not working together to the extent possible. The OTC issue was incorporated into the OPC's strategic plan as an objective and action item.
Accomplishments	<ul style="list-style-type: none"> ■ The OPC-funded feasibility studies (one co-funded with the SWRCB) and brought new, objective information to the table, which was a significant contribution to the ongoing discussions on OTC and for developing the resulting policy ■ The OPC's resolution helped focus the SWRCB and other involved agencies on the need to complete and adopt a final OTC policy ■ Although the extent to which the OPC contributed to the final outcome is not measurable, on May 4, 2010, the SWRCB passed new technology-based standards to phase out OTC at California's 19 coastal power plants over the next ten years ■ These new OTC regulations will lead to significant improvements in water quality, and are a "huge success for the state".
Challenges	<ul style="list-style-type: none"> ■ As a consequence, environmental groups used the OPC resolution to pressure the SWRCB, some believe on an unrealistic timeframe (although others thought the timeframe was still slow) ■ Because the OPC did not clearly specify its role in OTC, there were different expectations among stakeholders and the SWRCB, as to what actions the OPC would take on this issue. The OPC could have done a better job of communicating with the SWRCB in identifying a role and following-through to support the SWRCB's OTC efforts, and a better job of communicating with stakeholders to manage expectations as to how involved the OPC would be (or would not be) in SWRCB regulatory development.

“Another important but understated accomplishment is how much has been spent to support science and research projects.”

“Resolutions make a difference because they set political policy.”

“Resolutions have had a resonance – the OPC is a voice that folks look to, it carries weight.”

Exhibit 2-2
Summary of Ocean Protection Council Resolutions *(continued)*

Resolution	Resolution of the OPC Supporting Innovative Approaches to Sustainable Fisheries Management November 26, 2006
Description	<p>The resolution to support innovative approaches to sustainable fisheries management generally reinforces the strategic plan objectives on sustainable fisheries.</p> <p>The resolution first states that the OPC resolves to: promote innovative approaches to sustainable fisheries in California that create economic opportunities for fishermen and local and tribal communities, ensure the long-term health of fish stocks and marine resources, and sustain local fishing harbors. The resolution also dedicates up to \$3 million for projects that support sustainable fishing practices. Potential projects that could be funded included expansion of direct-to-consumer seafood markets, local fishing harbor revitalization, cooperative research, funding mechanisms such as the California Fisheries Fund, quota systems and limited entry programs, vessel and permit buybacks, and the creation of resource models and adaptive management protocols.</p>
Key Drivers	<p>The COPA specifically addresses improving management of fisheries and fostering sustainable fisheries in the types of projects that the OPC may fund. The resolution cites the importance of commercial and recreational fisheries to California’s heritage, values, and economy, and the link between healthy marine ecosystems and healthy fisheries.</p>
Accomplishments	<ul style="list-style-type: none"> ■ The OPC has implemented a number of innovative projects related to sustainable fisheries, both through project funding and workgroups ■ One of the most significant efforts, stemming directly from the resolution, was the seeding of \$2 million for the California Fisheries Fund. The fund is managed by the Environmental Defense Fund (EDF), and developed in coordination with ShoreBank Enterprise Pacific, a nonprofit community development financial institution. EDF has leveraged the OPC’s initial \$2 million to raise another \$3 million for the Fund. The Fund provided its first loans in April 2009, to Morro Bay Fish Company, Central Coast Seafood, and a commercial fisherman ■ Two of the OPC’s sustainable fisheries initiatives are directed by legislation: the Dungeness Crab Task Force (AB 1690, 2008), and the Sustainable Seafood Initiative (AB 1217, 2009).
Challenges	<ul style="list-style-type: none"> ■ The OPC could improve its coordination and collaboration efforts in this area, particularly as it relates to OPC’s role in working with, and supporting, the DFG ■ While the OPC has funded many important projects, it would benefit from preparing a comprehensive plan or approach in this area.

“The OPC brings authoritative information to the debate, one of their most useful accomplishments.”

“The problem with resolutions is where to go in the long-term.”

Exhibit 2-2

Summary of Ocean Protection Council Resolutions (continued)

Resolution	<p>Resolution of the OPC on Reducing and Preventing Marine Debris February 8, 2007</p>
Description	<p>The marine debris resolution is one of the lengthier, and more specific, of the nine (9) OPC resolutions. This resolution includes a number of findings, a resolve to “call attention to this problem by widely distributing this resolution,” and thirteen top priority solutions that were drawn from a June 2006 <i>Plan to Action</i>, prepared by The Plastic Debris Project. The thirteen solutions cover a wide spectrum of activities, from actions requiring legislation, to education, to OPC coordinating actions.</p>
Key Drivers	<p>Marine debris, or ocean litter, has been a growing concern, particularly since 2001, when the Los Angeles Regional Water Quality Control Board (RWQCB) began to phase in strict total maximum daily load (TMDL) standards for litter entering the region’s waterways through the storm water system. The June 2006, California Coastal Commission (CCC) document, <i>Eliminating Land-based Discharge of Marine Debris in California: A Plan of Action</i> from The Plastic Debris Project stimulated the California Integrated Waste Management Board (CIWMB) to establish an Anti-litter Task Force. The OPC resolution represented the culmination of efforts by the task force and OPC staff. OPC launched a comprehensive initiative to reduce marine debris in California “because this litter poses serious threats to marine wildlife, including sea birds, turtles, and mammals, as well as to human health and the economy.”</p>
Accomplishments	<ul style="list-style-type: none"> ■ This is the most frequently cited resolution, in terms of an OPC accomplishment ■ The resolution significantly raised the level of public and government awareness and engagement on the issue ■ The OPC’s actions influenced several pieces of legislation and helped support local government ordinances to reduce plastic litter (bags and Styrofoam) ■ AB 258 (2007) increased regulation of preproduction plastic, a major component of marine debris ■ The OPC and Marine Debris Task Force developed an <i>Implementation Strategy for the California OPC Resolution to Reduce and Prevent Ocean Litter</i>, approved by the Council in November, 2008. The Strategy included sixteen recommendations ■ Three years later, the resolution continues to influence legislation, for example AB 1998, a ban on carry out bags that garnered the support of the California Grocers Association.
Challenges	<ul style="list-style-type: none"> ■ Among the many pieces of related legislation to-date, only AB 258 was signed. Several other pieces of related legislation on plastic bags, extended producer responsibility (EPR), and smoking on beaches, have been vetoed by the Governor ■ No particular analysis pointed toward marine debris as one of the most important topics the OPC should be working on, although it is in the strategic plan ■ According to some stakeholders, while the resolution itself was fine, the resolution development process was poorly handled. The resolution was published just before the Council meeting, and then was amended by participants at the meeting.

“A frustration is that the OPC has started issues, but hasn’t had the gumption to finish issues.”

“The OPC can be a bully pulpit, but if they can’t change legislation, they are limited.”

Exhibit 2-2
Summary of Ocean Protection Council Resolutions (continued)

Resolution	Resolution of the OPC on Climate Change June 14, 2007
Description	OPC's climate change resolution included a number of findings related to the significance of climate change, particularly as it relates to ocean and coastal resources. The resolution also identifies seven specific action items, mostly to be undertaken by the OPC. OPC action steps outlined in the resolution include: (1) promoting climate change mitigation and adaptation measures in OPC-funded projects, (2) working with the California Climate Action Team on ocean-related issues, (3) encouraging coastal communities to work with the California Coastal Commission (CCC) to amend their local coastal plans to incorporate climate change impacts, (4) supporting the development of tools and methods to study climate change impacts on coastal communities, (5) working with other State agencies to evaluate the impacts of ocean energy technologies, (6) funding climate change impact research, and (7) stating OPC's opposition to federal preemption of state efforts to control greenhouse gas emissions.
Key Drivers	<p>With the passage of the California Global Warming Solutions Act of 2006 (AB 32), California became a leader in addressing climate change. California's 1,100 miles of coastline make the state particularly vulnerable to the impacts of climate change, such as rising sea levels, ocean warming, and ocean acidification. AB 32 set the 2020 greenhouse gas emissions reduction goal into law, and directed the Air Resources Board to begin developing early actions and long-term reduction measures to achieve the 2020 greenhouse gas limits.</p> <p>Following OPC's resolution, in November 2008, Governor Schwarzenegger signed Executive Order S-13-08, directing the State to develop a consistent approach to adapt to the long-term impacts of climate change, particularly sea level rise, increased temperatures, shifting precipitation, and extreme weather events. The executive order includes a requirement that the Resources Agency coordinate the development of a state Climate Adaptation Strategy, and that the OPC coordinate the development of the ocean and coastal resources adaptation strategy. The executive order also requires the Resources Agency, in coordination with the Department of Water Resources (DWR), California Energy Commission (CEC), California's coastal management agencies, and the OPC to request that the National Academy of Sciences convene an independent panel to complete the first <i>California Sea Level Rise Assessment Report</i>.</p>
Accomplishments	<ul style="list-style-type: none"> ■ The OPC played an integral role in developing the ocean and coastal resources adaptation strategy, which is incorporated into the 2009 California Adaptation Strategy Discussion Draft, published on December 2, 2009 ■ The OPC continues to play a lead role in working with other coastal agencies, Oregon, and Washington, on climate change issues ■ OPC has funded a number of projects related to climate change, including studies on: ocean energy, California sea level rise projections, coastal infrastructure and resource impacts of sea level rise, climate change adaptation, and the National Academies sea level rise assessment, to be completed in 2011, or 2012.
Challenges	<ul style="list-style-type: none"> ■ State and local agencies are looking to the OPC to provide leadership, through research, outreach, and training on climate change adaptation, although there is some uncertainty that the OPC can achieve this role.

Exhibit 2-2

Summary of Ocean Protection Council Resolutions (continued)

Resolution	Resolution of the OPC Regarding Low Impact Development (LID) May 15, 2008
Description	The Low Impact Development resolution is one of OPC's more detailed resolutions, with numerous findings, and resolved actions. Generally, the resolution is designed to promote the use of LID in new developments and redevelopment projects, support existing initiatives on LID, encourage use of LID in State government, promote State regulatory actions related to LID, consider incentives, research, and technical support to promote LID, and widely distribute the resolution to local and federal agencies as a means to increase awareness of LID.
Key Drivers	LID consists of a set of stormwater management strategies aimed at maintaining or restoring natural hydrologic functions of a site to help protect water quality and stream resource integrity by reducing impervious surfaces, treating runoff, and controlling runoff peaks and durations. The OPC funded a study, released in January 2008, <i>State and Local Policies Encouraging or Requiring Low Impact Development in California</i> . This study followed a December 2007, report from the SWRCB Stormwater Program and The Water Board Academy, <i>A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption</i> . In February 2008, the OPC included a panel discussion on LID at its Council meeting. The Council directed staff to hold two public workshops on LID, and follow with policy and funding recommendations, including the resolution at the May 2008, Council meeting. The workshops helped inform the recommendations in the resolution.
Accomplishments	<ul style="list-style-type: none"> ■ The resolution raised visibility and awareness on the issue of LID ■ OPC staff and the Office of Planning and Research worked together to produce a technical advisory regarding the use of LID ■ The OPC is working to implement other aspects of the resolution with relevant agencies ■ The OPC funded studies and a few projects related to LID.
Challenges	<ul style="list-style-type: none"> ■ It is unclear the extent to which OPC activities influenced LID, as the CCC, Regional Water Boards, and SWRCB were already involved in the issue ■ The OPC could have taken a broader support role for LID, for example through outreach and training for local governments.

Resolution	Resolution of the OPC on a Longline Exempted Fishing Permit (EFP) and Potential Impacts to West Coast Sea Turtles November 20, 2008
Description	This resolution was a formal request to the National Marine Fisheries Service (NMFS) to deny a swordfish longline exempted fishing permit off the coast of California that NMFS was considering for approval. The resolution also acknowledged the decline of Pacific leatherback and North Pacific loggerhead sea turtle populations, and affirmed California's longstanding policies to protect sea turtles by prohibiting commercial longline fisheries along the coast.
Key Drivers	Prior to the OPC resolution, the California Legislature passed Assembly Joint Resolution 62, in July 2008, similarly requesting that NMFS deny, or delay consideration of, the swordfish longline exempt fishing permit. This resolution was developed in response to stakeholder interest.
Accomplishments	<ul style="list-style-type: none"> ■ NOAA did not issue the EFP. According to the Sea Turtle Restoration Project, the resolution reinforced the state's policy against long-line fishery permits, and brought greater public attention to the issue of leatherback turtles.
Challenges	<ul style="list-style-type: none"> ■ It was not clear that the OPC had the expertise to lead this issue, or that this specific issue was one that the OPC should have been focusing on at the time.

Exhibit 2-2
Summary of Ocean Protection Council Resolutions (continued)

Page 6 of 8

Resolution	OPC Support for Extended Producer Responsibility (EPR) Programs April 23, 2009
Description	The OPC resolution in support of extended producer responsibility (EPR) programs is a paragraph that generally supports the California Integrated Waste Management Board (CIWMB) (now part of the Department of Resources Recycling and Recovery, or CalRecycle) efforts as they relate to EPR. The resolution includes a recommendation for legislation that implements the CIWMB EPR framework.
Key Drivers	EPR is a broad policy tool that shifts responsibility for disposal of a product from local and state governments to the producers and consumers of the product. EPR can include a variety of mechanisms such as product stewardship plans, fees or deposits, design-for-recycling, and physical management of product disposal. The concept is that EPR requirements, especially if applied to major components of marine debris, would reduce the amount of plastic packaging, thus reducing marine debris, as well as reduce the cost burden on state and local governments for litter cleanup. This resolution was part of the OPC's efforts as they relate to marine debris. EPR is one of three priority actions recommended in OPC's <i>Implementation Strategy to Reduce Ocean Litter</i> , adopted on November 20, 2008.
Accomplishments	<ul style="list-style-type: none"> ■ OPC's support of EPR helped influence two pieces of EPR legislation that were introduced in the 2009-2010, legislative session: AB 283, the California Product Stewardship Act, and SB 55, an act to add containers to the beverage recycling program.
Challenges	<ul style="list-style-type: none"> ■ While there is a resurgence of momentum for EPR, EPR legislation is controversial, and it generates strong opposition by potentially regulated industries. In addition, the difficult economic conditions that started in late 2008, and still continue today, make it politically challenging to implement any type of new fee system.

“Studies that come out of the OPC can change the course for a lot of stakeholders.”

“The OPC broadens sources of information through their research.”

“Resolutions can provide ammunition for the regulatory agencies to do their work.”

Exhibit 2-2

Summary of Ocean Protection Council Resolutions (continued)

Resolution	<p>OPC Support for Collaboration on Marine Spatial Planning (MSP) September 17, 2009</p>
Description	<p>The resolution in support of marine spatial planning is only one paragraph stating: “The OPC resolves to support interagency collaboration and management of geospatial information that will help to identify priority uses and address current and future user conflicts in the ocean environment. The OPC further directs staff to analyze and develop recommendations on marine spatial planning, including planning principles and objectives, for future approval by the council.”</p>
Key Drivers	<p>MSP is defined by the Interagency Ocean Policy Task Force as “a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process, based on sound science, for analyzing current and anticipated used of the ocean or coastal environment...” MSP is essentially the ocean-equivalent of land-use planning. Effective geospatial mapping requires that relevant agencies coordinate and integrate various types of data, typically through compatible electronic data formats. In June 2009, President Obama created an Interagency Ocean Policy Task Force to develop a national framework for improved ocean stewardship and a process for effective coastal and marine spatial planning. In July 2010, the Task Force released its final recommendations, including a framework for effective coastal and marine spatial planning. Thus, there is federal momentum for marine spatial planning, and strong interest by many for the OPC to provide a leadership role for California in this area.</p>
Accomplishments	<ul style="list-style-type: none"> ■ Prior to passing the resolution, the OPC co-hosted a two-day workshop at Stanford University, <i>Collaborative Geospatial Information and Tools for California Coastal and Ocean Managers</i> ■ Assembly Bill (AB) 2125 (Ruskin), introduced in February 2010, will require the OPC, subject to availability of funding, to “support state agencies’ use and sharing of scientific and geospatial information for coastal- and ocean-relevant decision making, including marine spatial planning.” AB 2125, if passed and signed into law, would require the OPC to report to the legislature within twelve months on the advantages and disadvantages of MSP. AB 2125 would also require relevant agencies, boards, departments, or commissions to cooperate with the council on MSP, subject to available funding. This bill will formalize OPC’s current involvement in MSP ■ The OPC’s seafloor mapping program will provide a great deal of useful information for the MSP process, and may help advance California’s MSP efforts.
Challenges	<ul style="list-style-type: none"> ■ There is almost universal support for the OPC to have a strong role in MSP at the state and national level. However, many stakeholders voiced some reticence about MSP, and a concern that MSP is simply a “trendy twist” on multi-level planning efforts that are often already being undertaken.

“The OPC brings well researched, detailed, authoritative information to the debate.”

“The OPC really emphasized seeking out and getting the best scientists.”

Exhibit 2-2
Summary of Ocean Protection Council Resolutions (continued)

Page 8 of 8

Resolution	Resolution of the OPC Regarding Ocean Observing March 3, 2010
Description	The most recent OPC resolution on ocean observing provided a formal endorsement of the importance of, and need for, ocean observing in California, nationally, and globally. OPC resolved to encourage the continued development, implementation, maintenance and funding of ocean observing systems (OOS), particularly the two regional centers in California, the Southern California Coastal Ocean Observing System (SCCOOS), and the Central and Northern California Ocean Observing Systems (CeNCOOS). The resolution does not recommend changes in law, but does recommend more aggressive implementation of the Integrated Ocean Observing Systems (IOOS) at the State and federal levels, focusing on the National Surface Current Mapping Plan (SCM).
Key Drivers	The concept of integrated ocean observing is essentially parallel to the monitoring, forecasting, and tracking of the National Weather Service, applied to the ocean. Nationally, ocean observing is implemented through a network of state and federal agencies, industry, academia, and NGOs. California's two public-private OOS partnerships create networks of land- and water-based monitoring stations, buoys, moorings, and radar sites. Benefits of such ocean observing systems include improved warnings of coastal and health hazards, more efficient use of living and nonliving resources, safer marine operations, and improved understanding of climate change. The SAT issued its first consensus statement, also in March 2010, to "encourage the OPC to continue to devote resources and cultivate partnerships that maintain and develop these [ocean observing] activities, and to continue to leverage its actions to promote expanded observations at the regional, state and federal levels." California has been a national leader in developing ocean observing systems. The State's ocean observing system has been funded by a wide array of public and private entities, including \$21 million from the SCC and SWRCB to fund the Coastal Ocean Currents Monitoring Program (COCMP). Implementation funding for the COCMP will be depleted in 2010, and no operations funding has been identified. Concern over losing this important data source was one of the drivers for this resolution.
Accomplishments	<ul style="list-style-type: none"> ■ The resolution is part of a long-term effort to increase federal funding for ocean observing.
Challenges	<ul style="list-style-type: none"> ■ Ocean observing is still primarily within the domain of research scientists. In order to sustain ocean observing the OPC and others must promote broader utilization and understanding of its benefits.

"The OPC is starting to make use of the SAT; it was huge to get these scientists on board."

"The SAT is a great way to better engage professors; it has just not been as proactive as it should."

Exhibit 2-3

Summary of Selected Ocean Protection Council Policy Letters

Page 1 of 2

Date	Recipient(s)	Description
April 4, 2005 (from the Council)	Representative Henry Waxman Representative Anna G. Eshoo Representative Lois Capps Representative Hilda Solis	Letter to reaffirm the OPC's positions on: (1) opposing efforts to lift the Congressional moratorium on offshore oil and gas leasing activities, (2) opposing efforts to reduce the ocean and coastal protection provided by the Coastal Zone Management Act, and (3) objecting to efforts to reduce or eliminate a state's role in siting Liquefied Natural Gas facilities.
April 26, 2005 (from Governor Schwarzenegger)	Senator William H. Frist	Letter to request the U.S. Senate move expeditiously to support the accession of the United States to the United National Convention on the Law of the Sea.
May 24, 2005 (from Secretary Chrisman)	Senator Ted Stevens Senator Olympia Snow Senator Daniel Inouye Senator Maria Cantwell	Letter in support of S.360, The Coastal Zone Enhancement Reauthorization Act of 2005. The letter noted two important issues: (1) maintaining existing federal consistency provisions, and (2) providing sufficient funding for Coastal Non-Point Source Pollution Programs.
September 27, 2005 (from the Council)	Representative Richard Pombo	Letter reinforcing the OPC's position (and that of Governor Schwarzenegger) that any pending federal legislation regarding Outer Continental Shelf oil and gas leasing must retain all protections from the Congressional leasing moratorium and should seek to make these protections permanent.
November 3, 2005 (from Governor Schwarzenegger)	Representative Richard Pombo	Letter to provide input on the National Energy Supply Diversification and Disruption Prevention Act, particularly to oppose any efforts to weaken the federal moratorium for oil and gas leasing off the coast of California, to support making the moratoria and Presidential deferrals for California permanent, and to support policies to increase energy efficiency.
June 15, 2007 (from the Council)	Mike Carrier, Oregon Natural Resources Policy Director Jay Manning, Washington Department of Ecology Director	Letter to report on public workshop input on the West Coast Governors' Agreement on Ocean Health (WCGA), recommend aggressive support of the creation of a national trust fund to support ocean and coastal protection and management activities, and to identify specific recommendations the OPC believes are appropriate for the WCGA Action Plan.
October 25, 2007 (from the Council)	Mike Carrier, Oregon Natural Resources Policy Director Jay Manning, Washington Department of Ecology Director	Letter in support of the Draft Action Plan of the West Coast Governors' Agreement on Ocean Health.
May 15, 2008 (from the Council)	Notification of OPC endorsement sent to the Coastal States Organization and appropriate members of the administration, congress, and other interested parties	Endorsement of the Ocean and Coastal Community Call for Action, developed by the Coastal States Organization (CSO) to identify top federal priorities for protecting oceans and coastlines. The three priorities were: (1) establish a national ocean trust fund, (2) support state and local governments in efforts to address the impacts of climate change, and (3) support reauthorization of a strong national Coastal Zone Management Act.
July 25, 2008 (from the Council)	Representative Nick J. Rahall Representative Dong Young	Letter in support of the specific objectives of H.R. 21, the Oceans Conservation, Education and National Strategy for the 21 st Century. These objectives included establishing a national ocean policy, establishing regional ocean partnerships, codifying NOAA into law, and creating a national ocean trust fund.

Exhibit 2-3

Summary of Selected Ocean Protection Council Policy Letters (continued)

Page 2 of 2

Date	Recipient(s)	Description
August 25, 2009 (letter from Secretary Chrisman)	Ms. Nancy Sutley	Comments to the Interagency Task Force on Ocean Policy supporting the President's leadership on ocean issues, and addressing key areas, including support for a strong national ocean policy, a clear ocean policy coordination framework, a bold but achievable implementation strategy, and a needs driven and science-based framework for marine spatial planning.
September 17, 2009 (from the Council)	President Obama's Interagency Task Force On Ocean Policy	Comments to the Interagency Task Force on Ocean Policy, presented at a public workshop and in writing. Comments were similar to that provided by Secretary Chrisman supporting the President's leadership on ocean issues, and addressing key areas, including support for a strong national ocean policy, a clear ocean policy coordination framework, a bold but achievable implementation strategy, and a needs driven and science-based framework for marine spatial planning. These comments added support for climate change adaptation policies and strategies.
June 16, 2010 (from the Council)	President Obama	Letter providing comments on the Proposed Consensus Decision to Improve the Conservation of Whales, to be considered at the International Whaling Commission (IWC). OPC comments supported maintaining the commercial moratorium on whaling, and empowering the IWC to develop a comprehensive and effective monitoring, enforcement, and management plan for protection of whales.
September 7, 2010 (from the Council)	Senator Harry Reid Senator Mitch McConnell	Letter supporting a bold new national commitment to ocean protection, specifically: (1) funding objectives such as those in S.3641, the National Endowment for the Oceans, (2) the President's \$20 million budget request to support regional ocean governance and marine spatial planning, and (3) legislative improvements to improve disbursements under the Coastal Impact Assistance Program.

“The structure is there for the OPC to be a leader on this [science in government decision-making].”

“Expert panels at OPC meetings play an educational role for the Council, staff, and stakeholders.”

Funding Scientific Studies and Research

One of the OPC's primary tools for promoting science in governmental decision-making is to fund research studies directed at a particular issue or question. OPC study's have been credited with "informing the dialogue" in a number of important areas, such as: once-through cooling, low impact development, marine debris, sustainable fisheries, ocean wave energy, sea level rise, Marine Life Management Act implementation, and offshore oil and gas platform decommissioning. These studies typically assess and synthesize scientific information in a given policy area to guide decision-making.

In funding scientific studies, the OPC has worked to identify and fill science needs and critical data gaps of other state agencies. The OPC has tried to follow through on its science reports to ensure that the reports provide the targeted decision-making information needed by its partner agencies. For example, the OPC's funding of feasibility studies on once-through cooling at power plants helped facilitate new State Water Resources Control Board regulations that will, in turn, lead to significant improvements in ocean water quality.

To the extent that the OPC can provide an independent and credible scientific voice on a particular issue it can help shift the policy debate toward science-based solutions. Working with the Ocean Sciences Trust (OST) and the Science Advisory Team (SAT) to bring in outside scientific expertise can help ensure credibility. It is important that the OPC be consistent in its use of outside scientific expertise in reviewing work, and that all aspects, including social science, are evaluated.

In addition, as a government entity, the OPC must work to balance the sometimes competing interests of academic science and applied science. OPC-supported scientific studies are most effective when they address scientific concerns from a government-management perspective. OPC

scientific studies can be effective tools for regulatory agencies when they address specific questions and issues that will inform decision-making.

One concern, and a recurring theme in outside criticism of the OPC, is that while many of the OPC's studies have been beneficial, the OPC has taken an opportunistic approach to selecting study topics and its efforts do not appear to be part of a larger strategy. This issue is primarily a reflection of the OPC's newness. Now that the OPC has more experience, it can apply its science efforts more consistently and with more focus.

Supporting Data Gathering and Monitoring Efforts

The OPC has allocated significant resources to develop and support seafloor mapping and ocean observing systems in California. These major research and monitoring projects would not have been realized without the OPC. The OPC's large-scale funding efforts have been focused on projects that provide primary scientific data for multiple agencies, and multiple end-users. The OPC selects research projects to generate data that capture the "big picture" of ocean health and trends. The California seafloor mapping project (CSMP) is described in more detail in the case study (Appendix B).

Due to the initiative and effort of the OPC, seafloor maps along the entire coast of California, from 10 meters depth, to 3 nautical miles out, are nearly complete. Accurate statewide mapping of the seafloor supports numerous ocean management decisions, including: designating and monitoring marine reserves, understanding sediment transport and sand delivery, ensuring shipping safety, identifying dredging and dumping sites, helping identify fault dynamics, helping describe tsunami potential, regulating offshore coastal development, and illuminating the dynamics of fisheries and other marine species.

Completion of California's seafloor mapping is a noteworthy accomplishment and places California at the forefront of marine mapping efforts nationally. California's seafloor mapping efforts, led by the OPC, serve as a model for the rest of the country. The OPC seafloor mapping efforts have been highly collaborative and have leveraged funding from federal and private sources. Other entities involved in mapping include the NOAA (several branches), United States Geological Survey, Packard Foundation, DFG, California State University Monterey Bay, Fugro Pelagos, Inc., and Pacific Gas and Electric.

The OPC is also working on a California Coastal Mapping Project (CCMP), which, in combination with the seafloor mapping will result in a complete onshore-offshore data set for the state.² LiDAR is a remote sensing technology that uses lasers to measure elevation. United States Army Corps of Engineers (ACOE) data collection specifications were determined to be inadequate for priority applications identified by state agencies in need of this data. The OPC brought together state and federal resource agencies and they collectively agreed to a more rigorous data standard that has become the basis for the current mapping effort.

The OPC is developing a modern elevation map of the state's coastal zone to support improved resource management and planning. Many state and federal agencies and academic institutions are involved in this project. In June 2010, the OPC entered into a partnership with NOAA by providing \$2.75 million to collect and process elevation (LiDAR) and imagery data, and generate map products of the coastal region from the mean low low waterline to the 10 meter topographic contour. NOAA and USGS conducted similar LiDAR mapping in the San Francisco Bay in early

2010 and coordinated with the OPC and BCDC to use state standards. The federal projects total \$580,000, bringing the total of the CCMP to \$3.33 million in state and federal funds.

These maps will assist resource managers and coastal communities by providing information to assess potential impacts from sea level rise. Many planning and research activities will be supported such as (1) defining adequate buffer areas around wetlands and estuaries, (2) identifying areas of potential retreat and relocation or affected development or infrastructure within communities, (3) evaluating potential shoreline/bluff erosion and retreat, (4) identifying potential inundation zones (with flexibility to examine a range of inundation scenarios), (5) conducting risk assessments for impacts from storms and storm surges, and (6) producing more accurate wave run-up models related to inundation and tsunami planning. The CCMP is expected to be completed with the data and map products available for public use by mid-2011.

In addition to the mapping efforts, the OPC, SCC, and SWRCB have supported development of an expansive statewide, real-time, ocean current monitoring system, the Coastal Ocean Currents Monitoring Program (COCMP). Easily the most ambitious ocean observing program in the county, COCMP data is used to inform a range of issues such as: oil spill response, fishery management decisions, water quality, port operations, search and rescue operations, and tracking harmful algal blooms. The COCMP data guided clean-up teams after the Cosco Buson oil spill in San Francisco Bay by directing teams to areas that the current was taking the oil.

The OPC is also working with federal and regional entities to support the federal Integrated Ocean Observing Systems (IOOS). California has two multi-agency regional ocean observing

² Coastal mapping covers the area from 10 meters water depth to 10 meters topographic elevation, while seafloor mapping covers from 10 meters water depth to 3 nautical miles out.

associations, one in Southern California (SCCOOS), and one in Central and Northern California (CeNCOOS). In 2009, the OPC funded a study, to be completed late in 2010, to evaluate these ocean observing programs. The report is intended to educate resource managers about how to access and utilize IOOS information to improve their jobs, and at the same time teach scientists how to display technical IOOS information in a format that is understandable and user-friendly. In March 2010, the OPC's ocean observing resolution and the SAT's consensus statement on ocean observing further emphasized the importance of ocean observing to help address ocean management issues.

Supporting Science Integration

The Ocean Science Trust (OST) is a non-profit corporation established pursuant to the California Ocean Resources Stewardship Act of 2000 (CORSA). The OST is intended to encourage coordinated, multi-agency, multi-institution approaches to translating ocean science to management and policy applications. The enabling legislation “envisioned that potential projects would improve coordination and collaboration among scientific researchers and promote research and monitoring activities related to coastal and ocean habitats, fisheries, water quality, and coastal erosion.”

Based on the CORSA, the OST was developed as an independent public benefit corporation. This structure provides it with a unique capacity to ensure that it can provide objective science and establish credibility in the science community.

Between 2000 and 2006, the OST struggled to establish a secure source of funding and was often operating at a nominal level. As part of a rebuilding effort, the OST developed two programs: (1) to provide science services to California state agencies and coordinating bodies such as the OPC, and (2) to develop and institutionalize new and

innovative approaches for better linking science with policy and management.

The OST “science services” that it provides to the OPC are supported with OPC, private foundation, and federal funds. The services include: providing a Science Advisor to the OPC and developing, and managing, the OPC's Science Advisory Team (SAT). In February 2007, the OPC formally designated the OST Executive Director as the Science Advisor to the OPC. The Science Advisor's responsibilities include: serving as lead scientific staff to the OPC, ensuring that projects brought before the OPC meet scientific standards and OPC funding guidelines, providing outreach, and providing recommendations to the OPC on opportunities to collaborate on specific initiatives.

At an operational level, the Science Advisor participates in OPC management meetings, provides technical advice to the OPC on Council meeting agenda items, and directly reaches out to the science community to both educate them on the California ocean and coastal policy, and to help them translate important science findings into reports that can inform the state's policy. Activities undertaken by OST include marine management issues where there is a need for scientific support that exceeds the capacity of any one state agency.

For example, the OPC provided the OST \$2 million, over three years, to incubate the Marine Protected Areas (MPA) Monitoring Enterprise. The California Department of Fish and Game (DFG) and the California Fish and Game Commission (FGC) were embarking on the California Marine Life Protection Act (MLPA) process with the goal of developing California's first network of marine protected areas. These MPAs represented a new approach to marine management and required a robust set of scientific standards that DFG could rely on to evaluate their effectiveness over the years. The OST was charged

with developing scientifically sound standards for MPA data collection and developing an efficient, cost-effective, and scientifically robust MPA monitoring approach. Given that MPA science is still relatively new, OST engaged marine science experts across the state, and outside the state, to inform the development of the data standards and the monitoring approach.

Another key effort of the OST was coordinating a study to synthesize scientific, financial, and legal analyses on offshore oil and gas platform decommissioning alternatives in California. At present, as California's twenty seven offshore oil and gas platforms reach the end of their productive lives, the existing leases require that the platforms be dismantled and removed by the oil companies who own them. However, past decommissioning experience and research have demonstrated that full removal is a complicated and challenging process with a host of potential environmental impacts: these include air and water quality impacts stemming from the physical process of and equipment necessary for removing the platforms to the disruption of diverse marine communities that the platforms host and which may contribute valuable ecosystem services to the Southern California Bight. These complexities lead to a suite of questions: Which solution is in the best interest of common good? What information do we have on hand to help resource managers address the alternatives? What else should be considered?

The OPC tasked the OST to develop a report drawing on key elements of the National Academies model, where the study relies on a committee of scientific experts to address a critical policy issue. The OST received funding for the study from the OPC, Chevron Corporation, the Ocean Conservancy, the Sportfishing Conservancy, and the United Anglers.

This oil and gas platform decommissioning study, even before it was released, was cited by many stakeholders as a success. These stakeholders appreciated the project's expert advisory committee, consisting of fifteen members from academia, government, and the private sector. This committee provided a venue for these diverse experts to work through divergent viewpoints and discuss alternatives as the report was developed.

While the symbiotic relationship of the OPC and the OST has proven fruitful, it remains confusing to outsiders. The relative roles of the two organizations, and "who does what", are often times not clear. In order to maintain credibility in the science community and provide the OPC with independent science advice, the OST and the OPC may need to look at more formal agreements spelling out each agency's relative roles and relationships.

Working with the Science Advisory Team and Other Experts

The COPA requires the OPC to create a science advisory team to assist the OPC in meeting purposes of the Act. As part of the OST's role in providing science services to the OPC, the OST coordinated the formation and management of the OPC's Science Advisory Team (SAT). The vision for the SAT was to create an organization that could "mine the wealth of scientific expertise" in California to help inform marine policy.

The SAT was formally established in February 2008, and consists of twenty-four (24) multidisciplinary experts, listed in **Exhibit 2-4**, on the next page. The SAT has had three annual in-person meetings, in September 2008, December 2009, and July 2010.

The SAT has been most actively involved in identifying reviewers and advisory panel members, and conducting peer reviews of OPC proposals

Exhibit 2-4

Ocean Protection Council Science Advisory Team

Name	Title	Associations
1. Richard F. Ambrose	Professor/Director	University of California, Los Angeles/Environmental Science and Engineering
2. Alexandria B. Boehm	Assistant Professor	Stanford University
3. Mark Carr	Professor	University of California, Santa Cruz
4. Daniel R. Cayan	Meteorologist	Scripps Institution of Oceanography
5. Francisco Chavez	Senior Scientist	Monterey Bay Aquarium Research Institute
6. Kenneth Coale	Director	Moss Landing Marine Laboratories, San Jose State University
7. Christopher Costello	Associate Professor	University of California, Santa Barbara
8. John Field	Fisheries Scientist	NOAA Southwest Fisheries Science Center
9. Steve Gaines	Professor/Director	University of California, Santa Barbara/Marine Science Institute
10. Gary Griggs	Professor/Director	University of California, Santa Cruz/Institute of Marine Sciences
11. Frances Gulland	Director of Veterinary Science	The Marine Mammal Center
12. Madeleine Hall-Arber	Professor	Massachusetts Institute of Technology
13. Tony Haymet	Director/Vice Chancellor	Scripps Institution of Oceanography/University of California, San Diego
14. Sam Johnson	Research Geologist	U.S. Geological Survey
15. Karen McLeod	Director of Science	Communication Partnership for Science and the Sea, Oregon State University
16. Mark Moline	Associate Professor	California State Polytechnic University, San Luis Obispo
17. Steven N. Murray	Professor/Dean	California State University Fullerton/College of Natural Sciences and Mathematics
18. Karina J. Nielsen	Assistant Professor	Sonoma State University
19. Jeffrey D. Paduan	Associate Professor	Naval Postgraduate School
20. Harry N. Scheiber	Professor	University of California, Berkeley, Boalt Hall School of Law
21. Jerry Schubel	President and CEO	Aquarium of the Pacific
22. John J. Stachowicz	Associate Professor	University of California, Davis
23. William Sydeman	President	Farallon Institute for Advanced Ecosystem Research
24. Stephen Weisberg	Executive Director	Southern California Coastal Water Research Project

and reports. The peer review process, which is currently being more formally incorporated into OPC contracting policy, can help improve the content of OPC projects and programs. While this process can add significant value, it is not without challenges. There are opportunities for more consistent application of peer review, greater acceptance of peer review by OPC project managers and contractors, and better communication and follow-up to the reviewing scientists as to the impact of their reviews.

The SAT is also involved in the development of research priorities for applied research, and has provided assistance in “identifying critical emerging science issues that should be of concern to the OPC and the state.” At its first meeting, the SAT identified five emerging issues:

(1) desalination, (2) aquaculture, (3) disaster scenario planning, (4) technical innovations, and (5) sedimentation, sand, and beach nourishment. The OST formed three working groups to further assess these issues; these working groups produced recommendations that informed the OPC on the issues including background used in the development of a desalination panel at the November, 2009 Council meeting.

Just two years old, the SAT has yet to live up to its full potential. There have been many challenges: the State’s budgetary problems, the fact that the SAT is new, the challenges inherent in coordinating twenty-four (24) busy scientists, and the need to determine the best processes to more fully engage the SAT. To this point, the SAT’s primary role has been in the peer review process. As it establishes a framework, the SAT could play a greater role in identifying emerging issues and concerns, and in supporting the science needs of all state agencies that work on ocean issues.

The SAT benefits the scientists, as well as the OPC. Through their involvement in the SAT, members gain a better understanding of research needs, policy issues, and scientific questions from an applied management perspective.

Supporting Applied Research

The Sea Grant College Network consists of thirty (30) university-based programs across the country that support the understanding, conservation, and sustainable use of coastal and marine resources through research, education, and extension. Most Sea Grant funding is provided through the National Oceanic and Atmospheric Administration (NOAA). Since 2006, the OPC has provided a total of approximately \$5 million to support applied research through the University of Southern California (USC) and University of California (UC) Sea Grant research programs.

Each year, the OPC, with input from the state’s resource managers and the SAT, develops a series of priority research topics. The general purpose of research funding is to “enhance the practical use and conservation of coastal and marine resources through scientific research.” Recent research projects include: evaluating ocean management systems to facilitate the development of ecosystem-based management, the future of the California Chinook Salmon fishery, ocean acidification exacerbated by coastal upwelling, and parasites as indicators of coastal wetland health.

The Sea Grant College Program institutes a call for proposals and research projects through a competitive process. The research projects are reviewed by a committee of scientific experts and a committee of state ocean and coastal resource managers. The projects that score well by both committees are then selected. This provides a valuable competitive and rigorous process for funding projects that meet the highest needs of

the state. In California, the process is open to faculty and academic staff from universities, and scientists from research institutions.

Conducting Expert Panels and Workshops

The OPC also helped advance the relationship between ocean academia and state government. Since its inception, the OPC has invited scientists to give presentations or participate in panels at OPC meetings on topics such as once-through cooling, desalination, toxins in marine debris, offshore oil and gas platform decommissioning, and wave ocean energy. Directly engaging scientific experts in OPC meetings serves as an educational tool for all those attending the meetings: Council members, OPC staff, state agency staff, and other stakeholders.

OPC also hosts workshops to discuss scientific issues and obtain input from the scientific community, agencies, industry, and stakeholders on addressing them. Workshop subjects have included: contaminants of emerging concern, low impact development, ocean observing, collaborative geospatial information, and aquatic invasive species. Many of these workshops have been held in coordination with the OST. This involvement has been positive and provided a voice for science in government.

Science Finding

The OPC has played a valuable role in articulating the importance of science, and in providing a venue through which to incorporate scientific research into the decision-making process. This is the area in which the OPC has arguably had the greatest success. As it moves forward, the OPC has an opportunity to more consistently and strategically apply scientific input to particular policy areas. In addition, as the Science Advisory Team (SAT) becomes more established, the OPC can better utilize the knowledge of these experts.

C. Funding Projects and Research

The California Ocean Protection Trust Fund is established in the State Treasury... for both of the following: (1) Projects and activities authorized by the council consistent with Chapter 3; (2) ... for grants or loans to public agencies, nonprofit corporations, or private entities for, or direct expenditures on, projects and activities... (Public Resources Code Section 35650)

Contract with the California Ocean Sciences Trust and other nonprofit organizations, ocean science institutes, academic institutions, or others that have experience in conducting the scientific and educational tasks that are required by the council. (Public Resources Code Section 35616 (4))

A primary tool OPC utilizes to achieve COPA provisions is funding projects and programs that target actions identified in OPC's five-year strategic plan. In selecting projects for funding, the OPC considers a project's consistency with COPA funding areas and OPC's strategic plan. Projects considered by OPC also must:

- Directly relate to the ocean, coast, associated estuaries, or coastal draining watersheds
- Have demonstrable support from the public
- Be of greater-than-local interest.

The OPC held its first formal meeting in March 2005. Since that first meeting, the OPC has approved eighty-eight (88) projects, and authorized \$65.9 million in funding for projects aimed at protecting or restoring ocean and coastal resources.³

“OPC has created partners for leveraging.”

³ Project funding summarized in this white paper includes projects authorized through March, 2010. The OPC authorized \$2.75 million in new project funding at the last FY 2009/10 meeting (June, 2010) that is not included in these totals.

Table 2-1
Authorized Direct Project Funding
(Not Including Leverage) by Entity Type
Fiscal Year 2005/05 through March, 2010

Entity Type	Number of Projects	Total Funding	Total Funding Percent
Public	46	\$48,620,206	74%
Non-Profit	28	14,504,391	22
Private	14	2,824,003	4
Total	88	\$65,948,600	100%

Appendix A to this White Paper identifies each OPC funded project, the total amount authorized, and matching funds received from other organizations. The OPC leveraged its \$65.9 million of investments in projects by seeking and obtaining contributions from another approximately \$43.2 million of additional funding from the federal government and other sources.

The OPC has provided direct funding to public agencies, non-governmental organizations (NGOs), and other entities through grants, contracts, and interagency agreements. **Table 2-1**, above, identifies the funding provided to these entities during OPC's first five fiscal years. Table 2-1 does not reflect the actual distribution of funds, because a portion of public funds was eventually awarded to private entities. For example, the OPC awarded money to NOAA for seafloor mapping, but this federal agency contracted with private entities to conduct some mapping activities. However, Table 2-1 illustrates that most OPC project funding was initially awarded to public entities.

“The most useful things that the OPC has done are associated with the Trust Fund – how it spends dollars matters.”

The four largest public sector recipients of OPC funding account for \$25.9 million, or approximately 54 percent, of the funding provided to 28 public sector recipients for 46 projects:

- **University of California Sea Grant College Program (California Sea Grant)** – \$15.9 million for baseline data collection for multiple coastal MLPA regions
- **National Oceanic and Atmospheric Administration (NOAA)** – \$5 million for seafloor mapping
- **California Department of Fish and Game (DFG)** – \$5.0 million total, for DFG staff to implement the MLPA and for other projects to improve DFG fisheries data management and analysis capacity.

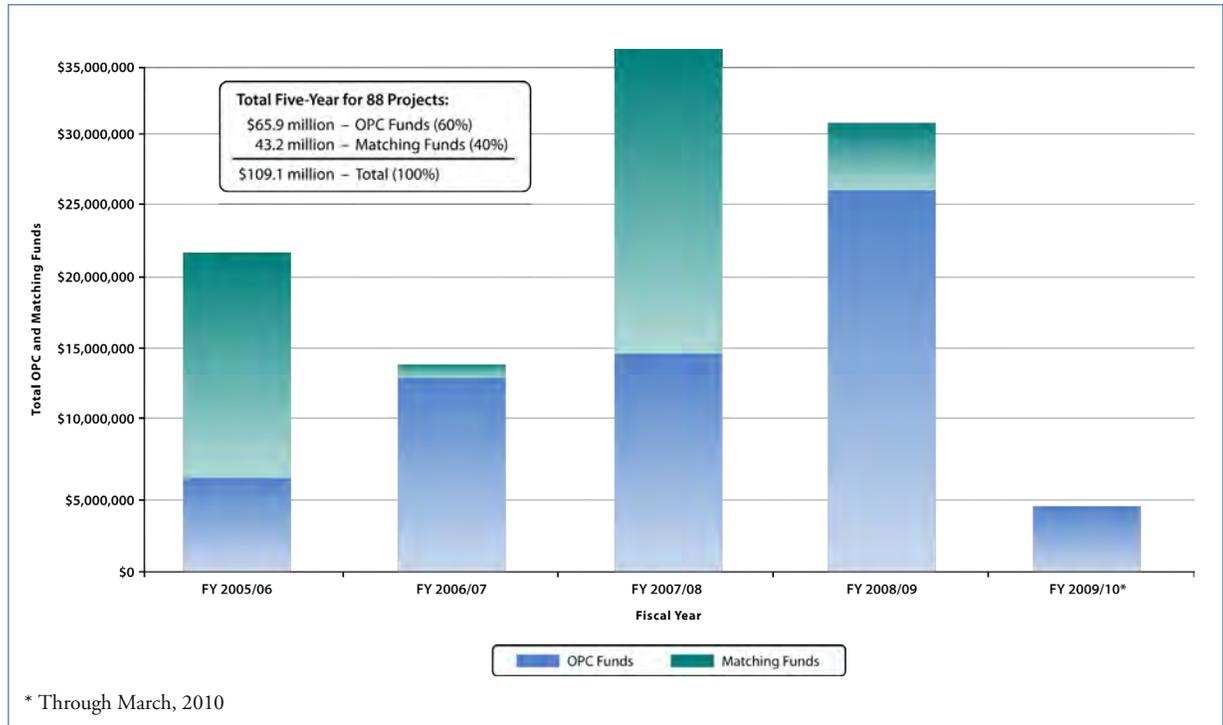
The three largest of the 21 non-profit recipients for 28 projects account for \$9.2 million, or approximately 63 percent of funding provided non-profits:

- **California Ocean Science Trust (OST)** – \$4.4 million for six projects, including for development of a statewide MPA monitoring program, an assessment of aquatic invasive species vector risks, and providing the OPC and the state with scientific input on critical ocean issues
- **Monterey Bay National Marine Sanctuary Foundation** – \$2.7 million for seafloor mapping pilot project
- **Environmental Defense Fund** – \$2.1 million to initiate a revolving loan program to support fishing reforms that improve health of fisheries and industry.

“The OPC has probably had the most influence in funding work that otherwise couldn't be done – such as MLPA and the Monitoring Enterprise.”

Figure 2-3

Authorized OPC Project Funds and Matching Funds, by Fiscal Year



As shown in **Figure 2-3**, above, project funding increased steadily through fiscal year (FY) 2008/09, then dropped significantly during FY 2009/10. The decline during FY 2009/10 was in response to the Office of the State Controller’s (SCO’s) December 2008, decision to cease authorizing any new grants or obligations for bond-funded projects, including new phases for existing projects.⁴

The OPC receives its funding used for projects through appropriations from the California Natural Resources Agency (Resources Agency),

⁴ On December 18, 2008, the Department of Finance issued Budget Letter 08-33, implementing this freeze. All OPC project funding authorizations for FY 2008/09 occurred prior to the SCO December 2008 freeze. During FY 2009/10, the OPC sought and obtained exemption for the \$4.4 million it then authorized to provide critically needed cash for California Department of Fish and Game staff to implement the Marine Life Protection Act.

State Coastal Conservancy (SCC), and State Water Resources Control Board. Funding for OPC projects over the past five fiscal years was provided from six (6) sources, as described in **Exhibit 2-5**, on the next page.

By far, the largest source of project funds is Proposition 84 (Prop. 84) proceeds, approved by voters in 2006. This initiative allocated \$90 million of bond proceeds to the OPC (\$81 million was for projects, the remainder for support and bond costs). The Legislature appropriated the full Prop. 84 funding: \$28 million in FY 2007/08, an additional \$26.42 million in FY 2008/09, and \$26.75 million in FY 2009/10. As of March 2010, there remained \$29.62 million of bond proceeds not yet authorized for projects by the OPC. Prop. 84 provided approximately two-thirds of the \$65.9 million authorized by the OPC for 88 projects.

Exhibit 2-5

OPC Project Funding Sources

Fiscal Years 2005/05 through March, 2010

Funding Source	Description	Five-Year Project Funding	Percent
1. General Fund	Revenues from personal income tax, sales tax, bank and corporation tax, and other revenues not specifically designated to be accounted for by any other fund. The Legislature approved a one-time transfer of approximately \$8 million to the OPC in fiscal year 2005/06 to support California Department of Fish and Game priority projects.	\$7,997,281	12%
2. California Environmental License Plate (ELP) Fund	Revenues from sales of personalized license plates collected by the Department of Motor Vehicles. The Resources Agency is responsible for developing this program and determining its priorities. In addition to funding authorized for non-capital projects that cannot be funded with bond proceeds, the ELP fund is the primary source of funding for OPC personnel and operating costs.	2,432,560	4
3. Proposition 40: <i>California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002</i>	An initiative passed in 2002 that authorizes the sale of \$2.6 billion in general obligation bonds, payable from the state's general fund, to finance a variety of water and resource programs. The funds are administered by a number of state departments, agencies, boards, and conservancies. The SCC is one of many state departments that administer Proposition 40 (Prop. 40) programs and award these funds in the form of grants. The SCC works with the OPC and other public agencies, local governments, nonprofit organizations, and private landowners to acquire and manage coastline for the benefit and use by the public. The SCC allocates these funds to OPC on a project-by-project basis, when the project meets both SCC and OPC goals, but does not overlap with other SCC projects.	1,917,734	3
4. Proposition 50: <i>Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002</i>	An initiative passed in 2002 that authorizes the sale of \$3.44 billion in general obligation bonds, payable from the state's general fund, to finance water facility projects designed and constructed to improve the security and safety of the state's drinking water system. Bond proceeds are expended directly by the administering departments on various capital outlay projects, and also are disbursed to federal, state, local, and nonprofit entities in the form of grants, contracts, and loans. The SCC allocates these funds to OPC on a project-by-project basis, when the project meets both SCC and OPC goals, but does not overlap with other SCC projects.	2,208,000	3
5. Proposition 84: <i>Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006</i>	An initiative passed in 2006 that authorizes the sale of \$5.388 billion in general obligation bonds, payable from the state's general fund, to fund water-related projects. Proposition 84 (Prop. 84) allocated \$90 million to the OPC for marine resources, sustainable fisheries, and marine wildlife conservation. Specifically, Prop. 84 identified priority projects to include: <i>" . . . the development of scientific data needed to adaptively manage the state's marine resources and reserves, including the development of marine habitat maps, the development and implementation of projects to foster sustainable fisheries using loans and grants, and the development and implementation of projects to conserve marine wildlife."</i> (Section 75060 (g))	43,538,205	66
6. Tidelands Oil Revenues	Revenues collected from sale of oil recovered from state tidelands (the major recovery site is Long Beach). The Resources Agency approved a one-time allocation of \$10 million for these revenues to the OPC in fiscal year 2005/06.	7,854,820	12
Five-Year Total, Fiscal Years 2005/06 through March, 2010		\$65,948,600	100%

The OPC's largest investment to-date was in the California seafloor mapping program described in more detail in the case study (Appendix B). The OPC's second largest investment to-date was to assist the state with on-going efforts to establish a coastwide network of marine protected areas (MPAs) by 2011. The OPC authorized approximately \$16 million to-date to support baseline characterization efforts, including:

- \$4 million for the Central Coast
- \$4 million for the North Central Coast
- \$4 million for the North Coast
- \$4 million for the South Coast.

Additional funding also may be used to create an information management system to synthesize MPA information from all four regions into useful products for decision makers and the public. In September 2009, the OPC also authorized \$4.4 million to the California Department of Fish and Game to fund their efforts in implementing the MLPA.

The MPA Monitoring Enterprise⁵ recently completed a process to obtain input from scientists and stakeholders to develop the monitoring plan for the north central coast. Approved by the Fish and Game Commission, that plan includes a baseline characterization strategy funded by the OPC, as well as long-term monitoring. The plan will contribute to development of a statewide plan for long-term monitoring in all regions as required under the Marine Life Protection Act (MLPA). The Monitoring Enterprise is launching a similar process in the South Coast this year.

⁵ The California Ocean Science Trust (OST) is incubating the Marine Protected Areas Monitoring Enterprise, an entity focused on developing and delivering monitoring data essential for ensuring the long-term, adaptive management of the new statewide system of MPAs being designated through the Marine Life Protection Act.

OPC Project Funding as Compared to COPA

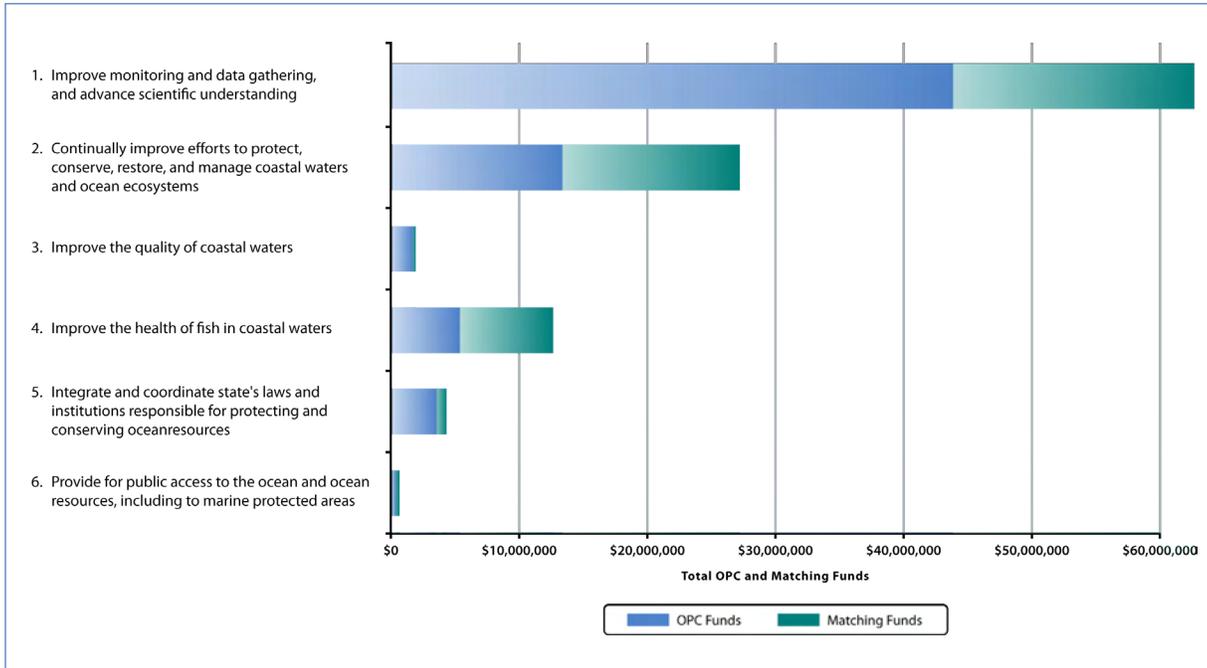
The OPC is charged with implementing the California Ocean Protection Act (COPA). The COPA generally identifies the following goals:

1. Improve monitoring and data gathering, and advance scientific understanding
2. Continually improve efforts to protect, conserve, restore, and manage coastal waters and ocean ecosystems
3. Improve the quality of coastal waters
4. Improve the health of fish in coastal waters
5. Integrate and coordinate state's laws and institutions responsible for protecting and conserving ocean resources
6. Provide for public access to the ocean and ocean resources, including to marine protected areas.

As shown in **Figure 2-4**, on the next page, the majority of funding authorized by the OPC has been to meet COPA's goal to improve monitoring and data gathering, and advance scientific understanding. These include investments in seafloor mapping and establishing a coastwide network of MPAs.

The COPA directed the OPC to fund grants or loans to public agencies, nonprofit corporations, or private entities for, or direct expenditures on, projects or activities that do one or more of a number of activities. These COPA funding areas are summarized in **Figure 2-5**, on the next page.

Figure 2-4
Authorized Project Funding for Each COPA Goal
Fiscal Years 2005/06 through March, 2010



To determine OPC’s investments in each of these COPA funding areas, the project team determined which of the seventy-four (74) action plans identified in OPC’s five year strategic plan that each funded project met. Each action plan is mapped to one, and only one, of the nine (9) COPA funding areas. A few, larger projects met more than one action plan, which may have reflected more than one COPA funding area. The result is an estimate of OPC investments in each COPA funding area during the past five fiscal years.

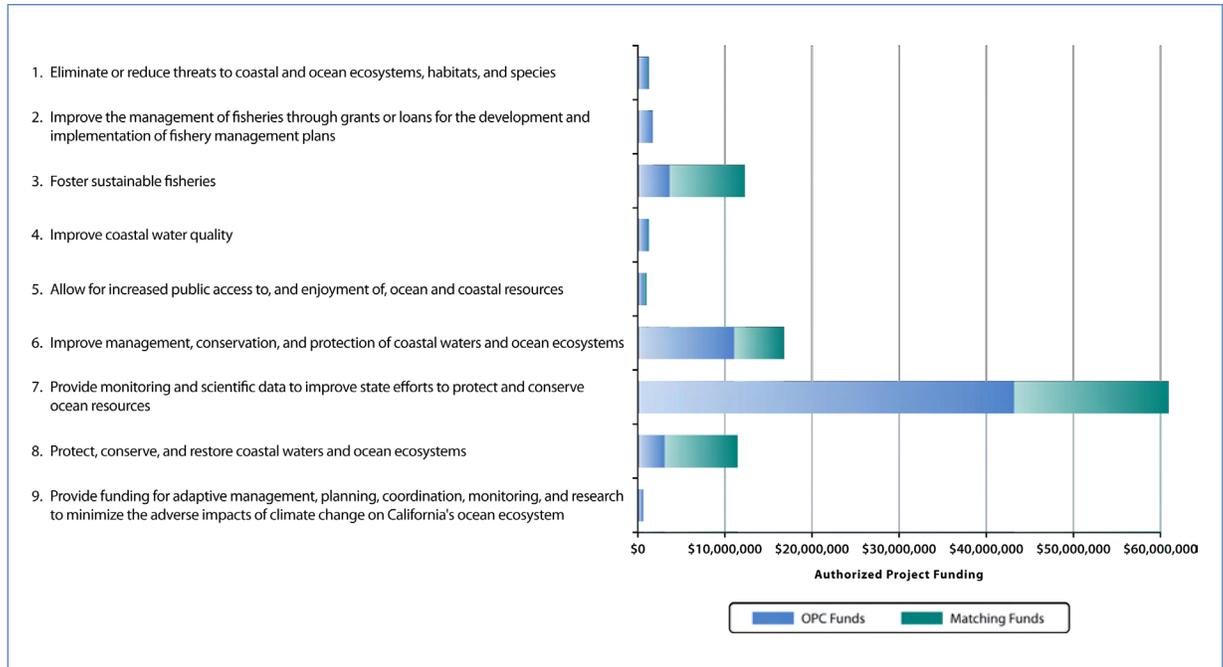
“The OPC jumped to specifics without setting the stage – good stuff is being done, but it is not part of a bigger picture.”

Figure 2-5
COPA Funding Areas⁶

COPA Funding Areas
1. Eliminate or reduce threats to coastal and ocean ecosystems, habitats, and species
2. Improve the management of fisheries through grants or loans for the development and implementation of fishery management plans
3. Foster sustainable fisheries
4. Improve coastal water quality
5. Allow for increased public access to, and enjoyment of, ocean and coastal resources
6. Improve management, conservation, and protection of coastal waters and ocean ecosystems
7. Provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources
8. Protect, conserve, and restore coastal waters and ocean ecosystems
9. Provide funding for adaptive management, planning, coordination, monitoring, and research to minimize the adverse impacts of climate change on California's ocean ecosystem

⁶ Public Resources Code Section 35650 (b) (2).

Figure 2-6
Authorized Project Funding for Each COPA Funding Area
Fiscal Years 2005/06 through March, 2010



“There is a perception with a lot of stakeholders that the OPC is an inside club, in terms of funding.”

Figure 2-6, above, summarizes OPC distribution of funding among the nine COPA funding areas. Approximately \$43.2 million in funding is for projects that provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources (COPA funding area #7). Approximately two-thirds of the \$43.2 million is for: (1) seafloor mapping efforts, and (2) establishing a comprehensive monitoring program focused on MPAs established under the Marine Life Protection Act (MLPA).

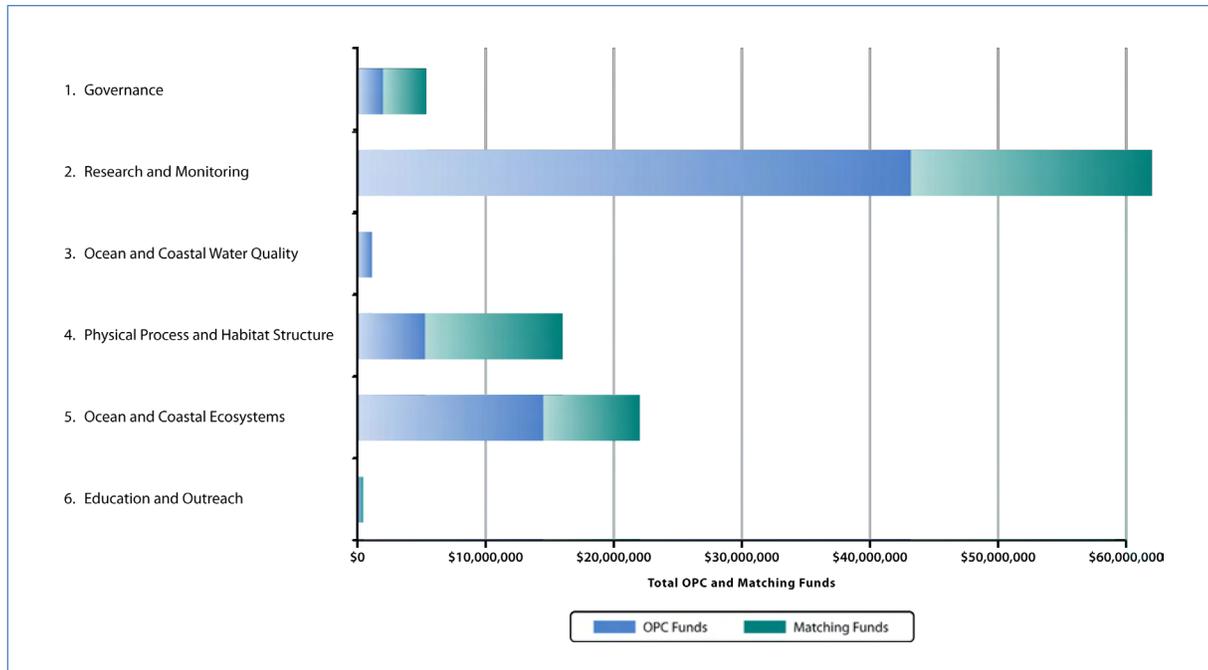
OPC Funding as Compared to the Strategic Plan

In June 2006, the OPC adopted its five-year strategic plan entitled *A Vision for Our Ocean and Coast*. The strategic plan identified six themes:

- Governance
- Research and monitoring
- Ocean and coastal water quality
- Physical processes and habitat structure
- Ocean and coastal ecosystems
- Education and outreach.

The OPC developed one goal for each theme, and prepared a number of objectives and specific action plans to meet each of the six goals. The strategic plan included seventy-four (74) action plans. For each funded project, the OPC determined which of

Figure 2-7
Authorized Project Funding for Each OPC Strategic Plan Goal
Fiscal Years 2005/06 through March, 2010



the seventy-four action plans was closest to each project. Each action plan is linked to one, and only one, of the six strategic plan goals, which allows for development of a summary of OPC investments for each goal.

Figure 2-7, above, provides a summary of the amount of funding OPC has authorized during the past five fiscal years for each of its strategic plan goals.

Efforts to provide monitoring and scientific data have garnered \$43.9 million of the \$65.9 million of project funding. These investments include efforts to complete seafloor maps in California state waters, and to develop and manage baseline condition data for determining future changes in MPA designated areas.

“The OPC’s lack of transparency in how it funds projects is a missed opportunity.”

The OPC has not allocated a significant proportion of project funding to support OPC goals to: (1) improve ocean and coastal water quality, or (2) significantly improve the quantity and quality of ocean and coastal habitat in California. Rather, OPC efforts to advance these two goals have been through OPC staff efforts to advance policies, support legislation, coordinate between agencies, and build relevant capacity.

Project Selection

Prior to developing the strategic plan, and as might be expected for a start-up organization, the OPC was opportunistic in its funding. During this time, it often directed funds to “shovel-ready” projects. Once the strategic plan was completed, the OPC focused its funding efforts on projects that were consistent with the strategic plan.

“The OPC gets pressure from stakeholders to pick up certain topics.”

However, the challenge is that there are seventy-four specific action items in the strategic plan, and an almost limitless array of projects that could fall within the plan. In 2008, the OPC conducted a public process to develop program priorities (also designated as funding priorities) for 2009 and 2010.⁷ While this was a constructive effort to narrow the OPC’s focus, the list of priorities is still long, with nineteen (19) project categories. With limited funding and staff resources, the OPC could not effectively address this many different project areas at one time.

The OPC provides funding for projects through six (6) different approaches. In all approaches, there is generally close consultation with the state’s other public agencies. More recently, the SAT has reviewed funding proposals to confirm their scientific integrity, although this process is not yet consistently implemented.

OPC funded projects must be consistent with the COPA and strategic plan, be widely supported, and have greater-than-local interest. Generally the OPC gives greater consideration to projects that are innovative, improve ocean and coastal management, resolve more than one issue, provide matching funds, are ready to implement, and involve partners. The six funding approaches are as follows:

1. *Government Directed* – California legislation, the Governor, or the state’s budget act specifically directs the OPC to allocate funding to certain entities or project areas.

⁷ These OPC funding priorities are available at: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/opc_program_priorities_2008_2010.pdf. Although the OPC identified funding priorities for 2009/2010, because of the December 2008 bond freeze, it didn’t have much opportunity to utilize this shorter list of potential project areas.

Examples: MLPA implementation funding for DFG; Dungeness Crab Task Force Facilitation; MLMA implementation funding for a variety of projects; and the National Academies Sea Level Rise Assessment Report.

2. *Competitively Selected* – Competitive grants and competitive contract selection processes (Request for Proposals, RFPs) are held to allocate funding towards specific OPC project goals. Staff develop project goals and scoring criteria for each project. Examples: Aquaculture Programmatic Environmental Impact Report to Jones & Stokes; Engineering and Operational Study of Coastal Power Plants that Use Once-through Cooling to Tetra Tech; MLMA Lessons Learned to Harty Conflict Consulting and Mediation; and Synthesis for Coastal Ocean Observing Products to Brock B. Bernstein.
3. *Staff Directed* – Staff develop projects and programs on a continuous basis. During project development, staff consults with key individuals and entities that are involved in the issue, including government agencies, NGOs, academics, industry, and others, to determine the most effective means of accomplishing project goals. Typically, the OPC identifies potential fund recipients through this project development process. Staff then request authorization from OPC to grant funds to the selected entity to carry out the project or program at one of its quarterly council meetings. Staff directed grants are awarded for purposes including:
 - Ensuring that strategic plan priorities are completed in a timely and efficient manner
 - Supporting projects that complement or build on previous OPC projects
 - Ensuring that opportunities to advance key strategic goals of the OPC are not missed, even if such actions are not identified in a particular year’s program priorities

- Ensuring that funding is available for projects that support state departments that implement high priority programs (e.g., Marine Life Management Act and Marine Life Protection Act).

Examples of staff directed projects include: San Francisco Bay Native Oyster Restoration Plan funding to UC Davis; California and the World Ocean 2006 conference to the Coastal Conservancy Association; San Luis Obispo Sustainable Fisheries Support to the City of Morro Bay; and Cooperative Kelp Monitoring to Reef Check California.

4. *Unsolicited Proposals* – The OPC’s strategic plan outlines specific goals and actions to be undertaken by the OPC. The OPC accepts unsolicited proposals to advance these goals and considers them on a case by case basis. The proposals are reviewed internally and scored by agency representatives from the issue-relevant public agencies including: the Department of Fish and Game, the California Coastal Commission, the State Water Resources Control Board, the California Ocean Science Trust, and the California Resources Agency. In 2008, the OPC issued a list of funding priorities for unsolicited proposals. Examples of unsolicited projects include: the Derelict Fishing Gear Removal Pilot Project funding to UC Davis; Channel Islands MPA Monitoring Program Remote Operated Vehicle Survey funding to the Nature Conservancy; California Fisheries Fund to the Environmental Defense Fund; and Santa Monica Bay Gap Analysis funding to the Santa Monica Bay Restoration Commission.
5. *Management Driven Science* – OPC and its Science Advisory Team consult with state agency partners to develop a list of priority research topics that meet the scientific data needs of California’s ocean and coastal managers. The California Sea Grant Program at UC San Diego and the University of Southern California (USC) Sea Grant Research Program then issue an RFP based

on these identified priorities and provide a scientifically robust peer review for selecting projects. OPC provides approximately \$1 million a year to the California Sea Grant programs to be awarded to projects through this process. These funds are intended to support innovative research to directly inform and improve stewardship of ocean resources. Research funded over the last three years include projects such as: parasites as indicators of coastal wetland health; evaluating ocean management systems to facilitate the development of ecosystem-based management; long-term faunal changes in California nudibranchs: climate change and local ocean health; and ocean acidification exacerbated by coastal upwelling; monitoring of CO₂ and O₂ on the California shelf, and studies of their effects on red sea urchins, California mussel and abalone.

6. *State and Federal Agency Collaborations* – OPC staff work with state and federal partners to develop projects of mutual interest. These projects typically evolve when the OPC and other state or federal agencies and departments are considering similar projects that would be completed more effectively and/or efficiently by combining resources. OPC only considers federal projects that have a matching federal contribution. Examples of state and federal agency collaboration projects include: the California Seafloor Mapping Program funded with USGS and NOAA; California Sea Level Rise Projections funded with UC San Diego; Marine Protected Areas Monitoring Enterprise funded through the California Ocean Sciences Trust; and the Instream Flow Assessment on Big Sur River, funded through the Pacific States Marine Fisheries Commission.

“In this era of no dollars, we need to be smarter about what we do with the dollars that we have.”

“The bigger issue is not how the OPC selects priorities for funding, but what it means to be a priority.”

The eighty-eight (88) projects funded by the OPC are split between these six funding approach categories, with the greatest share of funds awarded through state and federal agency collaborations (\$21.1 million), and the least amount of funding awarded through management driven science (\$5 million). The greatest numbers of projects (21) were competitively selected and least number of projects (8) were funded through management driven science.

All projects funded by the OPC are competitively solicited contracts, interagency contracts, or grants. These procurement processes are consistent with California state contracting laws. As the OPC moves forward into its second five years, it has an opportunity to clarify its funding processes and focus funding efforts. By increasing transparency about how, and why, project areas and specific projects are funded, those outside of the OPC will have a better understanding of OPC project awards. The list of funded projects in Appendix A provides a comprehensive summary of OPC funding, to-date.

For some, an area of potential concern is to what extent OPC has funded projects that would have been funded otherwise, by other state, federal, or private entities. It is difficult to determine this after the fact, but there is a sense that the OPC should not fund projects that others could, or should, fund. Given the state’s budget crisis, the Governor and Legislature may see OPC funds as a way to fill in gaps left in depleted agency budgets. This has already occurred with the MLPA process, and several stakeholders voiced concern that the OPC could become a funding arm for the DFG.

Project Benefits

There is no simple or precise method to measure the benefits of each of the OPC’s eighty-eight (88) funded projects or of the benefits of project funding overall. As Figures 2-4, 2-6, and 2-7 illustrate, the vast majority of the OPC’s funding has been for research and monitoring projects, specifically seafloor mapping, and monitoring MPAs.

The OPC’s seafloor mapping work has been widely acclaimed as a model for the rest of the country, providing valuable and essential information for a number of ocean management applications. And, while the MLPA is ultimately the responsibility of the DFG, they did not have the resources to implement the law, and as a result the OPC has been instrumental in supporting the establishment of the MPA system. Generally, these two areas in which the OPC has spent the most resources are recognized as having considerable value-added benefits. (See case study on seafloor mapping.) These types of large-scale data gathering and research efforts are inherently costly, and require a sustained funding effort, something that was not available prior to the OPC.

Another area in which the OPC’s funding has been important is in addressing particular science and/or policy questions. This type of project funding can be used as a tool to bring various players to the table to resolve complex policy issues. As discussed in the previous subsection, the OPC has funded a number of studies that “informed the dialogue” on policy issues such as once-through cooling, low impact development, marine debris, sustainable fisheries, and sea level rise. These one-of-a-kind studies are generally much smaller in dollar amounts, but may provide the impetus or information needed to address a particular important issue.

“Funding projects versus partnering to make projects happen creates missed opportunities.”

These two categories of project funding – research and strategic policy support – are highly effective types of OPC funding. Another category of OPC funding that provides both near-term and longer-term benefits is support for Sea Grant research. The \$5 million that the OPC has provided to the University of California and University of Southern California Sea Grant programs supports innovative scientific research to address specific management issues such as climate change impacts, salmon fisheries, and ocean acidification.

The OPC has also funded a number of one-time studies and efforts to address particular issues. One of the first projects funded, the derelict fishing gear removal pilot project, provided seed funding to the project, which is now being funded by other state and federal agencies. The OPC awarded planning funds and then loan funds to establish a California Fisheries Fund, sustainable fisheries revolving loan program. The Tijuana Estuary sediment fate and transport study, to be completed in 2011, is describing physical processes and pathways for sediment dispersal that will facilitate a broader review of current policies and practices by state and federal decision-makers.

While there is general consensus that the majority of projects that the OPC funded have been “good things to do”, there is also general consensus that they have reflected a somewhat opportunistic approach to funding. Going forward, the OPC can be more effective by focusing its funding in fewer areas, rather than stretching its funding dollars over a wider number of projects.

One can debate the relative merits of each of the OPC’s eighty-eight (88) funded projects (and

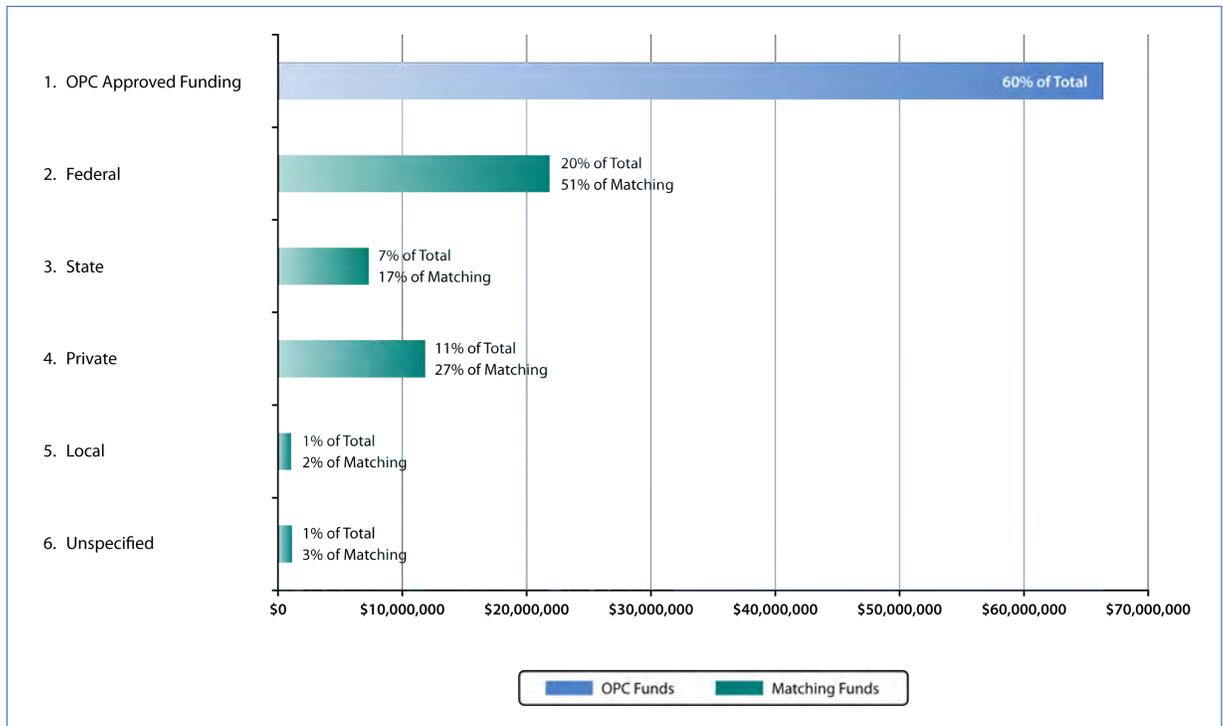
likely find at least proponents and opponents of each one). Certainly, there are some projects that were not successful and/or not critical, and others that have been extremely important. Ultimately, project funding is an important tool for the OPC to realize its mission. By providing resources, the OPC can fund specific research, studies, or projects that will bring other agencies to the table; and inform and advance policy issues for statewide benefit. These are most effective when they are part of a broader collaborative effort, for example the studies funded with the State Water Board on once-through cooling.

The OPC, with its scientific expertise (through the SAT), non-regulatory status, and cross-agency membership is in a unique position to bring independent and credible information to ocean and coastal policy discussions. A key to effective funding is that a project address specific questions or issues, and do so in an unbiased, scientifically sound, manner.

Leveraging Funds

Over its first five fiscal years, the OPC leveraged over \$43 million from federal, state, private, and local entities through matching funds to support 27 of the OPC’s 88 projects (31 percent). **Figure 2-8**, on the next page, provides the total OPC and matching funding, by type. Figure 2-8 includes only direct matching of OPC funds – in some cases additional private funds were provided to OPC project areas without going through the state. The majority of direct matching funding (51 percent of all matched funds) was from federal entities such as NOAA and USGS. Private funding from foundations and corporations equaled 27 percent of matching funds. While this is a good start on contributions from private sources, the OPC could increase its efforts in this area.

Figure 2-8
OPC and Matching Funds for Project Funding
Fiscal Years 2005/06 through March, 2010



The COPA tasks the OPC to “use California’s private and charitable resources more effectively in developing ocean protection and conservation strategies.” (Public Resources Code Section 35515 (d)) Given state and federal budget constraints, it will become increasingly important in the future for the OPC to focus on non-governmental resources to help support ocean and coastal management and protection in California. That said, the OPC may also consider pursuing dedicated State funding.

Future OPC Project Funding

The OPC has approximately \$29 million of Proposition 84 bond proceeds remaining from the original \$90 million allocation. These bond funds were frozen in December 2008, but the

state is now releasing some bond proceeds for projects in mid-2010. At this point, the remaining Proposition 84 funds are essentially the only project funds available to the OPC. There are two prospective funding sources for the OPC, and neither is assured.

In 2009, the Legislature approved the Safe, Clean, and Reliable Drinking Water Supply Act of 2010, which provided for submission of an \$11.1 billion bond to voters in November, 2010. Known as Proposition 18, this bond would provide a one-time sum of \$50 million to the SCC for projects that meet requirements of COPA. Given the state’s budget woes, Proposition 18 was facing potential defeat, and on June 30, 2010, Governor Schwarzenegger proposed that the Legislature delay the ballot measure until 2012. The

Legislature approved the delay, eliminating this potential funding source until at least 2012.

The second potential OPC funding measure is Proposition 21, on the November 2010, ballot. This ballot initiative, the State Parks and Wildlife Conservation Trust Fund Act, would assess an \$18 per vehicle, per year, registration fee that would allow free vehicle entrance to state parks, while generating a dedicated funding source for state parks, as well as a few other entities, including the OPC.

If approved by voters, Proposition 21 would potentially allocate four (4) percent of the vehicle fee revenue, estimated at \$20 million per year, to the OPC for “marine wildlife conservation and the protection of coastal waters, with first priority given to the development, operation, management, and monitoring of marine protected areas.” The four percent of Proposition 21 funds for OPC would still require appropriation by the Legislature. Proposition 21 could provide a long-term, dedicated, funding source for OPC project funding, although much of the funding may be directed to MPAs. The outcome of this initiative is also uncertain.

The uncertain status of state funding for OPC project funding emphasizes the importance of increasing the amount of private funds available to support California’s ocean management and protection needs. It is also critical that the OPC carefully evaluate its funding strategies. The OPC cannot expect to have another \$66 million in state funds available over the next five years. It is likely that OPC will have fewer funds to distribute, and as a result will need to be: (1) more selective about project funding, and (2) more aggressive in obtaining additional funding sources.

“The OPC has clearly had a role in bringing together the players for seafloor mapping.”

Project Funding Finding

The COPA established the California Ocean Protection Trust Fund to expend on projects and activities, but also directs the OPC to “use California’s private and charitable resources more effectively in developing ocean protection and conservation strategies.” OPC funded projects such as seafloor mapping, marine monitoring, and specific research projects, have advanced a number of important ocean research and policy issues. Most OPC funding has supported scientific research and monitoring. The OPC has leveraged its \$65.9 million in (primarily) bond funding to generate a total of \$109.1 million in funding for 88 ocean-related projects. Going forward, the OPC has an opportunity to focus project spending through specific strategies or initiatives, to improve transparency in funding processes, and publicize the final outcomes of projects. Finally, while the OPC has leveraged private foundation monies (\$11.8 million, 27 percent of leverage funds), there is an opportunity to develop additional private, and federal support for ocean protection issues.

D. Coordinating Governmental Ocean Activities

Coordinate activities of state agencies that are related to the protection and conservation of coastal waters and ocean ecosystems to improve the effectiveness of state efforts to protect ocean resources within existing fiscal limitations, consistent with Sections 35510 and 35515. (Public Resources Code Section 35615 (a)(1))

“There is a lot of regulatory authority that is not being coordinated to the extent that it could.”

“We haven’t seen a lot of progress made on getting agencies that have a foot in marine issues to really work together, to break down barriers.”

Both the 2003, Pew Oceans Commission Report, and the 2004, United States Commission on Ocean Policy Report, emphasized that a more coordinated ocean management approach among government entities at the federal, regional, and state levels was necessary to protect our ocean resources. The Pew Report cited the need to: “Encourage comprehensive and coordinated governance of ocean resources and uses at scales appropriate to the problems to be solved.”

While the OPC has had achievements in this area, particularly in the last two years, this is also the area in which it has the most opportunity for improvement. That said, there is no point in coordinating among government entities simply for the sake of coordinating – there must be a broader purpose and vision to the coordination efforts. There are difficulties inherent in getting state agencies to work together, and the challenges that the OPC’s has faced in this area are many.

The OPC has an opportunity to enhance its coordinating role by: developing a comprehensive, but specific, plan that identifies key OPC action areas; supporting staff training, experience, and knowledge of state agency processes to enhance OPC’s ability to consistently and successfully engage other state agencies; and renewing emphasis on the OPC’s coordinating role from OPC leadership.

Coordinating numerous state government entities that have jurisdiction on ocean issues is challenging. Most of the state entities with ocean management responsibilities fall under the California Natural Resources Agency (Resources Agency), including but not limited to: the California Coastal Commission,

Department of Fish and Game (DFG), Fish and Game Commission (FGC), Department of Parks and Recreation (DPR), Department of Water Resources (DWR), Department of Boating and Waterways (DBW), San Francisco Bay Conservation and Development Commission (BCDC), Department of Conservation (DOC), and State Coastal Conservancy. The key exceptions are the Department of Toxic Substances Control, State Water Resources Control Board, and Regional Water Boards, under CalEPA. The Water Boards play a significant role in ocean issues because they regulate water quality and water discharges to the ocean and other state waters. In addition, the State Lands Commission (SLC) has jurisdiction over any industry on the seabed.

The OPC’s coordinating activities fall under three general categories:

1. *Collaboration on specific issues*
2. *The West Coast Governor’s Agreement*
3. *The OPC Steering Committee.*

Collaboration on Specific Issues

The OPC has worked with state and federal agencies, academics, and other stakeholders on a number of different issues. Many of these efforts are still in some stage of implementation. **Exhibit 2-6**, starting on the next page, summarizes nine (9) topic-specific coordination efforts of the OPC. These efforts were undertaken by the OPC, and involved working with multiple agencies and organizations. The OPC undertakes additional collaborative efforts, such as the Thank-you Ocean Campaign, that involve working with another agency, in this case NOAA, but not necessarily in bringing different entities together.

“Half of the challenge is people management – the OPC has been getting better on that.”

Exhibit 2-6

Summary of Selected OPC Coordination Efforts

Page 1 of 3

Issue Area	Description	Accomplishments	Challenges
1. Climate change adaptation	OPC led a multi-agency working group to develop the ocean and coastal chapter of the 2009 California Climate Adaptation Strategy, and is now leading the Coastal and Ocean Working Group for the Climate Action Team (CO-CAT) to implement priority actions from the State Adaptation Plan.	<ul style="list-style-type: none"> ■ The OPC played an integral role in bringing together state agencies to develop the adaptation strategy ocean and coastal chapter ■ Climate change is an example of an issue area where the OPC can clearly serve a value-added role in bringing the ocean and coastal agencies together. 	<ul style="list-style-type: none"> ■ As the state moves forward to implement climate change adaptation the OPC could fulfill an appropriate role that provides value-added benefits through research, training, outreach, obtaining federal funding, or other means, and does not duplicate the efforts of ocean and coastal regulatory agencies.
2. Marine debris	Following passage of the 2007 Resolution on Reducing and Preventing Marine Debris, the OPC developed an implementation strategy and established a multi-agency task force to implement the strategy.	<ul style="list-style-type: none"> ■ The resolution, implementation strategy, and task force have increased awareness on the marine debris problem, and provided a strategy for reducing marine debris. 	<ul style="list-style-type: none"> ■ Implementation of the strategy has proven difficult politically ■ The task force has not been particularly active since developing the strategy. Going forward, the OPC could define an appropriate role for itself in the marine debris issue.
3. Marine Life Protection Act implementation	The OPC has been involved in several aspects of implementing the Marine Life Protection Act (MLPA), and network of marine protected areas (MPAs), including OPC Chair Secretary Snow's role in implementing a Memorandum of Understanding (MOU) across state and federal agencies.	<ul style="list-style-type: none"> ■ The OPC has helped catalyze implementation of the MLPA, providing resources, as well as a role in interagency coordination ■ The OPC also helped support the Monitoring Enterprise, through the OST, to establish a science-driven approach to evaluate effectiveness of the MPAs. 	<ul style="list-style-type: none"> ■ The OPC must balance its role as a catalyst and partner in MLPA implementation, leaving regulatory authority to the DFG.
4. Marine spatial planning	The OPC is involved in a number of activities that fall under the MSP umbrella (including ocean energy and seafloor mapping). OPC co-sponsored a multi-partner workshop in late 2009 to assess state agencies' capacities and constraints related to MSP, assess national MSP policies, and explore opportunities for improved data management.	<ul style="list-style-type: none"> ■ AB 2125, in the current legislative session, would establish the OPC as the coordinating agency for statewide MSP implementation, formalizing the OPC's current role in this area ■ The OPC is currently developing planning principles and objectives for MSP ■ Coordination of state interests in geospatial data sets. 	<ul style="list-style-type: none"> ■ The federal government, and some east coast states, are ahead of California in implementing MSP. Many are looking to the OPC for statewide leadership in this area.

“Because of the OPC’s support, the West Coast Governor’s Agreement is considered seriously at the federal level.”

“The OPC’s leadership on MPA’s was critical.”

Exhibit 2-6

Summary of Selected OPC Coordination Efforts *(continued)*

Issue Area	Description	Accomplishments	Challenges
5. Renewable ocean energy	In March 2010, the OPC established the California Marine Renewable Energy Working Group to provide a foundation of state agency communication and coordination on data collection protocols, geospatial tools, and to improve regulatory processes.	<ul style="list-style-type: none"> ■ Development of renewable ocean energy will require facilitation and coordination of local, state, and federal regulatory agencies across multiple areas. By working across agencies, the OPC can provide significant value-added to a complex process ■ The Resources Agency, CalEPA, the California Public Utilities Commission and the Federal Energy Regulatory Commission (FERC) signed an MOU on wave energy in May 2010 to coordinate procedures and schedules for review of hydrokinetic energy projects off the California coast. 	<ul style="list-style-type: none"> ■ This is a new effort for the OPC. The need to balance requirements imposed by a complex regulatory system, significant uncertainties on the impacts of ocean renewable energy, provide adequate protection for marine and coastal resources, and support coastal communities, will create many challenges ■ From an industry perspective, there are significant barriers to entry for ocean renewable energy. It is yet to be seen how the MOU will translate into agency behavior and action.
6. Seafloor mapping	The OPC assembled a team of experts from state and federal agencies, academia, and private industry to develop a comprehensive and aggressive approach for California's seafloor mapping program.	<ul style="list-style-type: none"> ■ Without the OPC's leadership, a comprehensive, statewide seafloor mapping initiative would likely not have been successful ■ By bringing together the various seafloor mapping partners, the OPC was able to leverage both expertise and funds from federal agencies and private partners ■ Seafloor mapping data can be used for multiple purposes, by multiple entities, making the benefits of collaboration clear to all involved ■ By combining resources and sharing data, overall state and federal expenditures on seafloor mapping were much less than they would have been without collaboration. 	<ul style="list-style-type: none"> ■ Due to state budget issues, there were a number of delays in California seafloor mapping efforts (which were eventually overcome) ■ Going forward, the OPC and other agencies could do a better job of communicating the benefits and uses of seafloor mapping to the public.
7. Water quality enforcement	The OPC led an effort to facilitate more coordinated enforcement efforts between the State Water Board and DFG in Southern California in early 2008.	<ul style="list-style-type: none"> ■ The OPC helped the two agencies identify ways for their staffs to work together to enforce water quality laws. 	<ul style="list-style-type: none"> ■ The OPC was considering funding a DFG Game Warden to assist the Los Angeles Regional Water Quality Control Board (LARWQCB), however this effort was never realized ■ The OPC's coordinating efforts were not well received by the two agencies, in part because the OPC did not fully understand the interagency dynamics, limitations, and needs.

Exhibit 2-6

Summary of Selected OPC Coordination Efforts (continued)

Page 3 of 3

Issue Area	Description	Accomplishments	Challenges
8. Aquatic invasive species (AIS)	The OPC's work in aquatic invasive species is focused on project funding, staff support, and state agency coordination. The OPC's funding allowed for the completion of the AIS Management Plan, which outlines a comprehensive and coordinated effort to prevent new invasions and minimize impacts from AIS. The OPC is now working with several state agencies on implementing the plan.	<ul style="list-style-type: none"> ■ The OPC supported writing and public meeting facilitation to complete the AIS Management Plan, which had stalled due to lack of funding ■ Completion of the plan enabled the state to be eligible for federal funding for AIS management ■ OPC provided funding to the OST to conduct an AIS vector risk assessment project, one of the highest priorities in the management plan. 	<ul style="list-style-type: none"> ■ Completion of the Management Plan was delayed because the DFG had to focus their invasive species staff resources on emergency response for two invasive species, quagga mussel and zebra mussel ■ The OST vector analyses were also delayed because of the bond freeze ■ One of the challenges in managing AIS is the overlapping jurisdiction of many agencies – making this a good role for the OPC.
9. Sustainable fisheries	Over time, the OPC has built an extensive sustainable fisheries program, covering a variety of issues. OPC fisheries work involves coordination with DFG, FGC, NMFS, NGOs, and fishermen and fishing groups. The OPC has funded over twenty projects related to sustainable fisheries, in three primary areas: sustainable fishery practices, fisheries management, and salmon.	<ul style="list-style-type: none"> ■ As a non-regulatory agency, the OPC has the ability to bring diverse stakeholders to the table to address fisheries topics ■ The OPC has supported many innovative fisheries projects that provide needed data, and serve as examples to improve fishing practices and/or regulations ■ OPC sustainable fisheries projects have leveraged over \$7 million in funding from private sources. 	<ul style="list-style-type: none"> ■ The OPC's sustainable fisheries program has been driven in part by legislation and other outside factors. While it has evolved into a comprehensive program, it would benefit from a more strategic approach ■ A key to success in this area is for the OPC, with the DFG and FCG, to develop a unified vision for fisheries management in the state.

“All state coastal agencies have a bigger voice [on climate change adaptation] because of the OPC's policy leadership.”

“For an agency's whose job is coordination, it needs to do a better job being transparent and getting outside input.”

“The OPC’s job is to make other agencies want to listen.”

Climate change is a key area in which the OPC plays a coordinating role. The OPC is leading the Coastal and Ocean Working Group for the Climate Action Team (CO-CAT), a group comprised of senior level staff from the Natural Resources Agency, SWRCB, California Department of Transportation (CalTrans), Bureau of Transportation and Housing, DWR, SLC, DPR, DFG, CCC, and BCDC. The CO-CAT is developing plans to implement coastal climate change adaptation strategies and mitigation measures. An early task was to provide guidance to adapting to sea level rise.

One of the OPC’s newest collaborative efforts is in the emerging field of ocean energy. The OPC’s activities in this area include: identifying and leveraging funds to address critical data needs (including a study co-funded with the California Energy Commission); administering and facilitating the California Marine Renewable Energy Working Group, established by the Council at the March 2010, meeting; and participating in regional ocean energy initiatives through the WCGA. There is an opportunity for the OPC to provide considerable value-added benefits to the ocean energy field by helping work through overlapping, and sometimes conflicting, regulatory authority at the local, state, and federal levels.

Some of the OPC’s collaborative efforts involve non-government entities. For example, because the OPC is non-regulatory, it can more easily bring certain groups such as fishermen to the table to address issues.

“OPC has simply ended up funding projects, as opposed to coordinating between agencies.”

The West Coast Governors’ Agreement (WCGA)

The West Coast Governors’ Agreement on Ocean Health, signed by the governors of Washington, Oregon, and California in September 2006, formalizes a partnership between the three states to address seven regional ocean issues. The governors released a final action plan in July 2008, and then formed work teams to create a set of work plans. The OPC’s involvement in the WCGA has strengthened the overall effort, and increased opportunities for federal support of west coast ocean activities. The new National Ocean Policy recognizes the value of entities like the WCGA and expresses an intention to work with those entities as a foundation for marine spatial planning and to implement the National Ocean Policy in general.

The WCGA released eight work plans in May 2010: (1) climate change, (2) polluted runoff, (3) marine debris, (4) *Spartina* eradication, (5) renewable ocean energy, (6) ocean awareness and literacy, (7) seafloor mapping, and (8) sediment management. The work plans identify and prioritize on-the-ground projects in each area. OPC staff worked on six of the eight multi-entity Action Coordination Teams that developed these work plans. OPC staff representation on the WCGA often provides unique opportunities to collaborate with federal agencies and Oregon and Washington to leverage resources, research, and management lessons.

For example, the renewable ocean energy team includes representatives from four federal agencies (NOAA, DOE, FERC and Bureau of Ocean Energy Management, Enforcement, and Regulation) and representatives from each of the three states. The team is currently working to develop a summary of data and information available to help state and local governments, industry, and stakeholders better understand and plan for offshore renewable

energy. The OPC, and Resources Agency Ocean Management Program, will continue to be involved in the WCGA as it moves forward.

The OPC Steering Committee

The OPC created a steering committee consisting of Department Directors and Division Chiefs from relevant state ocean and coastal management agencies. The concept was that these individuals would meet to discuss and identify common ocean management issues and areas where collaborative efforts were needed. The steering committee met several times, but had not been active prior to a recent meeting in July, 2010.

By all accounts, the early steering committee meetings were unsuccessful. The OPC staff could have provided clearer leadership, understanding, and guidance. The OPC missed an opportunity to effectively utilize these early meetings to identify common problems and potential approaches to resolving them.

Learning from these first meetings, the OPC is now reaching out to Steering Committee members, and at the July 2010 meeting, started to identify potential areas for collaboration.

The OPC has been successful in its coordination and collaboration efforts when it: (1) addresses an issue that involves multiple agencies, (2) understands the relative roles and responsibilities of each entity involved, (3) identifies and fulfills a value-added role that the individual agencies could not fulfill independently, (4) communicates the potential benefits of coordinating to each agency, and (5) works as a supporting and collaborating partner.

To further support successful coordination and collaboration efforts going forward, the OPC should work to: (1) incorporate the success factors identified above, (2) lay out the groundwork for

collaboration, and (3) carefully communicate the potential benefits to other state agencies.

Coordinating Finding

One of the primary goals of the COPA, and arguably the most challenging role for the OPC, is to promote coordination and collaboration of state agencies in order to improve state efforts to protect ocean resources. The OPC has had successes in this area, most notably climate change adaptation and seafloor mapping. However, the OPC has an opportunity to better fulfill its role as coordinators. Going forward, the OPC can enhance efforts to formally and informally reach out to state and federal agencies and identify specific ocean resource problems that could be solved by better coordinating agency efforts and resources. The OPC's coordinating efforts should be part of a strategic, focused approach.

E. Organization and Operations

The Ocean Protection Council is established in state government. The council consists of the Secretary of the Resources Agency, the Secretary for Environmental Protection, the Chair of the State Lands Commission, and two members of the public appointed by the Governor. (Public Resources Code, Section 35600 (a))

Under the direction of the Secretary of the Resources Agency, the executive officer of the State Coastal Conservancy shall act as secretary to the council, administer its affairs, and provide staff services that the council needs to carry out this division... (Public Resources Code Section 35625 (a))

Unlike the four previous subsections that focused on the OPC's accomplishments and challenges through its activities, this subsection focuses on the OPC's accomplishments and challenges inherent in its organizational structure and operational practices. This subsection includes three components:

1. *The Council*
2. *The OPC Organizational Structure and Staffing*
3. *The OPC Annual Support Budget.*

“It was always intended that the OPC would be independent, not seen as an arm of the Governor.”

The OPC was created in California statute in 2004. One of the OPC’s most significant accomplishments may be the simple fact of its existence. The OPC is a unique experiment in ocean governance, and the only such organization nationwide.

In the OPC’s start-up years, it: (1) formed a small but dedicated organizational unit within the SCC and interlinked with the Resources Agency Ocean Management Program, (2) developed a strategic plan, (3) funded projects, (4) conducted projects, and (5) passed resolutions. In hindsight, it is easy to look back and identify problems and missed opportunities, of which there were many. However, one should not lose sight of the fact that the OPC started essentially from “scratch”, as a new entity without a clear path forward. Thus, the fact that the OPC did move forward – far forward – is a notable achievement.

The Council

The intent of COPA was to create a cabinet-level entity to coordinate the state’s many agencies with ocean management responsibilities. Establishing such a high-level entity recognized the critical importance of California’s coastal and ocean resources. The Council consists of five voting members, and two non-voting members:

- State Land Commission Chair (the Lieutenant Governor in odd-numbered years, and the State Controller in even-numbered years)
- Two public members, appointed by the Governor to four year terms
- State Senator (ex officio)
- State Assemblyperson (ex officio).

The Council meets four to five times per year. Most Council meetings are held in Sacramento. Prior to the recent state budget crisis, the Council often held meetings at coastal locations, and still does so on occasion. Council meetings are open to the public, and are broadcast on the Internet.

As the OPC’s decision-making body, the Council plays several important roles. One of the key OPC’s roles is as a “bully pulpit”, providing “a voice for the ocean.” As a high-level public forum, the Council provides a venue to discuss and raise awareness of ocean and coastal management policy issues. The subject-specific expert panel sessions at OPC meetings provide an educational function for both the Council members and the public. OPC meetings also provide a forum for public input on ocean management issues.

As with most such governing bodies, the OPC is a staff-driven organization. The Council reviews, and has always approved, staff recommendations on funding and resolutions. Based on discussions at Council meetings, the Council provides some staff directives, for example to conduct workshops or further analyses on a particular topic.

- Natural Resources Agency Secretary (currently and historically the OPC Chair)
- California Environmental Protection Agency Secretary

“Institutionally, who is responsible?”

“The real issue is the institutional structure: there is a mass of high level people running the show.”

“The Executive Director will take the hit if something goes wrong, but they don’t have the power to make decisions.”

Most staff-Council interaction, with the exception of just prior to meetings, occurs between the OPC Executive Director and/or Secretary, and the OPC Chair. The other Council members have relatively little interaction with the OPC management team and little input into meeting agendas. Perhaps as a result of their limited interactions, Council members often do not attend OPC meetings. Each state agency Council member has a Council alternate and these individuals may be more involved with the Council than their members.

While the Council has been very good at raising ocean policy issues, it has been more challenging to determine and implement an appropriate level of follow through on its policy recommendations. The OPC does not have authority to implement ocean management policies; implementation is in the hands of the regulatory agencies with jurisdiction over ocean management. That does not necessarily mean that the OPC’s role in a particular issue is complete once it passes a resolution.

The current culture within the OPC, at both the Council and management level, could be more focused on ocean policy leadership. The OPC’s role and strength as a leader on policy issues is still evolving. The OPC must learn to balance its role as an “independent agency”, and its role within the Governor’s administration. The OPC is intended to recommend policies to the governor and legislature, but not necessarily to be directly involved in the legislative process. The OPC can leave advocacy to others, but not leadership.⁸

⁸ There is a difference between advocacy and leadership. The following are from Wikipedia: **Advocacy** by an individual or by an advocacy group normally aim to influence public-policy

The OPC Organizational Structure and Staffing

The OPC has an unorthodox organizational structure, illustrated in **Exhibit 2-7**, on the next page. When the COPA was being developed, there was political resistance to creating the OPC as a new state entity. As a compromise, the OPC was essentially added to the SCC, with the SCC Executive Officer appointed as the Secretary of the OPC, and directed to staff and administer the OPC.

In 2006, in response to political concerns that the OPC would become simply an adjunct of the SCC, the Governor and Natural Resources Secretary established an OPC Executive Policy Officer position, at the Assistant Secretary level, based in Sacramento. The Executive Policy Officer position was changed to Executive Director in 2010.

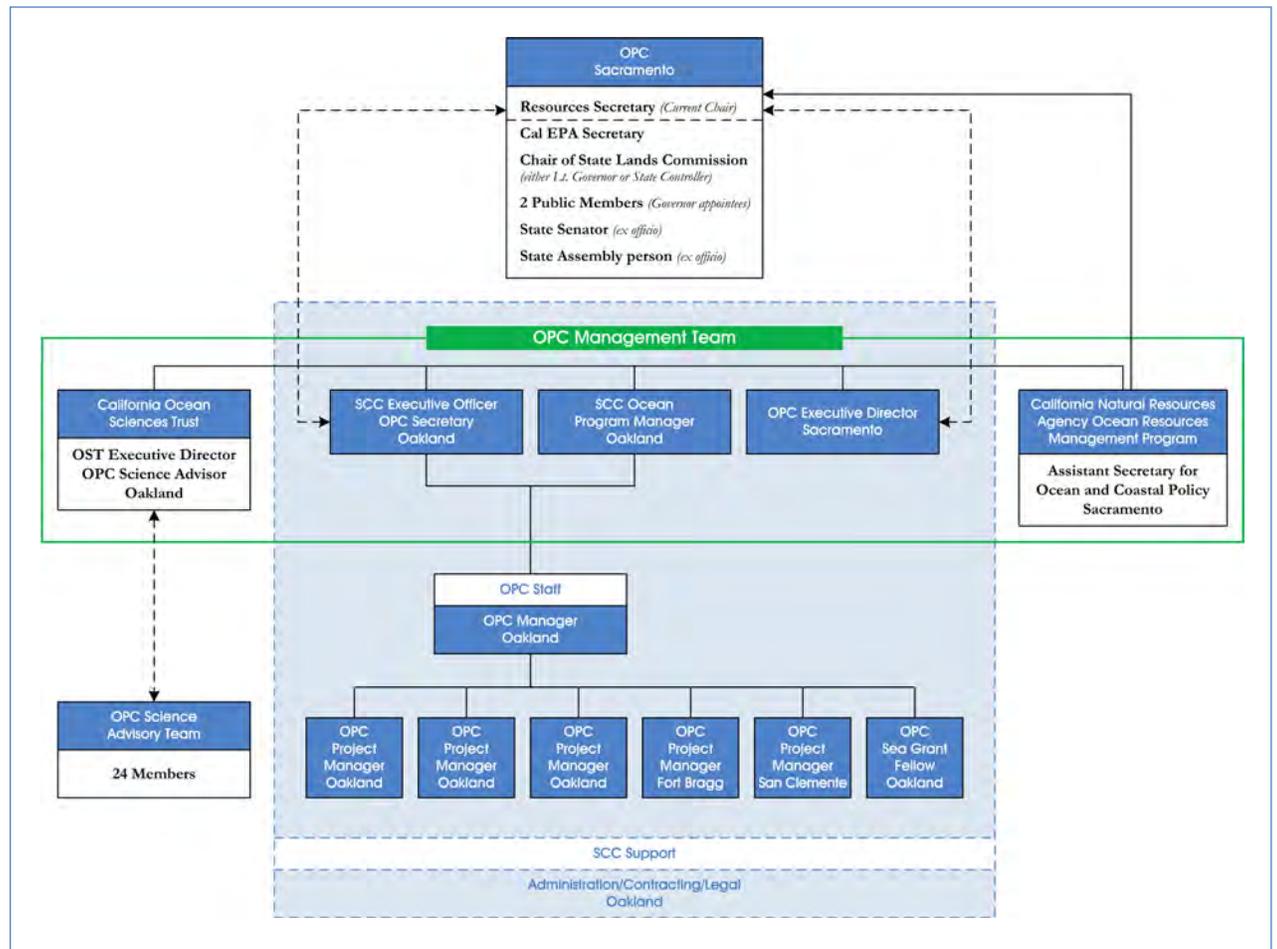
The OPC is currently guided by a five-member management team. This team has been in place for approximately two years; prior to this time, there was no such structure. The OPC management team meets irregularly, and makes decisions based on consensus of the group.

“Success of the institutional structure is dependent on people, and their ability to work together and leave egos at the door.”

and resource allocation decisions within political, economic, and social systems and institutions; it may be motivated from moral, ethical or faith principles or simply to protect an asset of interest. Advocacy can include many activities that a person or organization undertakes including media campaigns, public speaking, commissioning and publishing research polls or the 'filing of friend of the court briefs'. Lobbying is a form of advocacy where a direct approach is made to legislators on an issue which plays a significant role in modern politics. **Leadership** is stated as the "process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task." Definitions more inclusive of followers have also emerged. Alan Keith stated that, "Leadership is ultimately about creating a way for people to contribute to making something extraordinary happen." Tom DeMarco says that leadership needs to be distinguished from posturing.

Exhibit 2-7

Ocean Protection Council Organizational Structure



With this flat organizational structure, the OPC benefits from the extensive experience and expertise of its management team. To some extent, the management team is “interchangeable”, for example in representing the OPC at meetings. A challenge with this unique organizational structure is that its functionality is highly dependent on the specific individuals involved. Without the benefit of good working relationships between the OPC management team members, this structure would be difficult to effectively operate under.

There are currently seven OPC staff – one manager, five project managers, and a Sea Grant

Fellow (a one-year position). Project managers are technically SCC staff as directed by the COPA, and report to the SCC Executive Officer and SCC Ocean Program manager, not the OPC Executive Director. There is an OPC manager position between the OPC management team and project managers that was recently filled after a several month vacancy. OPC project managers sometimes hold dual positions, spending part of their time on SCC activities.

The OPC has a small, enthusiastic, and dedicated staff. Staff split their time between managing funded projects and working on specific

program issues. In large part due to the state's staffing system and budget cuts, many OPC staff are early career and may not have policy expertise, particularly in areas such as policy development, facilitation, knowledge of state processes, and organizational development – skills that would enhance the OPC's ability to coordinate with state agencies. The OPC may also lose some opportunity for internal coordination and synergy, with such a small staff spread in four different geographic locations throughout the state.

By housing the OPC within the SCC, the OPC realizes significant efficiency benefits. The SCC is known as a “nimble” agency that can quickly and efficiently engage, select, and fund projects. Both entities are working to protect ocean and coastal resources. The SCC efficiently provides the OPC's infrastructure needs, including administration, accounting, contracting, and legal services. This support was integral to the OPC's ability to rapidly deploy resources to ocean management issues. Because of the SCC's support, the OPC is able to minimize its administrative burdens, and focus operating costs on projects.

Exhibit 2-6 identifies three other entities supporting the OPC's organizational structure: the Resources Agency Ocean Management Program, the California Ocean Science Trust, and the OPC Science Advisory Team. These other entities help support the OPC, but add to the complexity of the OPC. The Ocean Resources Management Program within the Resources Agency was established in 1990. The Assistant Secretary for Ocean and Coastal Policy is part of the OPC Management Team, and works closely with the OPC. The Ocean Management Program represents the Governor on a variety of boards and panels such as the Outer Continental Shelf Oil and Gas Advisory Committee, the Coastal States

Organization, CCC, BCDC, and other executive branch responsibilities such as the West Coast Governors' Agreement on Ocean Health. The Ocean Management Program and the OPC address similar issues from time to time, and the distinction between the two should be clearly delineated in the next strategic plan.

The Ocean Science Trust was established before the OPC in 2000, as a non-profit entity intended to translate ocean science to management and policy applications. Starting in 2007, the OPC provided funding to the OST for specific projects and for the OST to serve as a scientific advisory arm to the OPC. The Executive Director of the OST serves as the OPC Science Advisor and is on the OPC management team. The OST Executive Director also serves as the co-chair of the 24-member OPC Science Advisory Team (SAT), which provides scientific input to the OPC. The relative roles and relationships between the OST, SAT, and OPC are somewhat confusing to many outsiders, and could be more formally clarified.

The OPC Annual Support Budget

The OPC requires staff resources, equipment, and facilities to deliver its services. **Table 2-2**, on the next page, provides a summary of OPC's total headcount, personnel costs, and other support costs for each of the past five fiscal years.

As a small start-up agency with a large mandate, the OPC makes effective use of its limited staff resources. As Table 2-2 illustrates, since program inception, the OPC has incrementally added staff resources to meet increasing workloads. These increases reflect added staff capacity as the OPC developed programs and initiated projects. However, even with growth in staff, the OPC operates with relatively minimal personnel resources, as compared to its legislative mandate.

Table 2-2
OPC Annual Headcount and Support Budget
Fiscal Years 2005/06 through 2009/10

Item	FY 2005/06	FY 2006/07	FY 2007/08	FY 2008/09	FY 2009/10
Headcount^a					
OPC Funded	1.2	2.5	9.0	9.5	10.5
SCC Funded	1.0	2.3	0.8	2.8	2.8
NOAA Funded	1.1	1.0	0.0	0.0	0.0
Total Headcount	3.3	5.8	9.8	12.3	13.3
Support Budget					
Salaries/Wages	\$287,750	\$515,500	\$878,000	\$1,005,000	\$1,058,225
Support ^b	116,600	152,000	223,000	226,000	217,000
Total Costs	\$404,350	\$667,500	\$1,101,000	\$1,231,000	\$1,275,225

^a Estimated full-time equivalents (or, personnel years) for the entire fiscal year. Actual headcount on any given date could be greater or less than the full-time equivalents shown.

^b Includes operating and equipment expenses.

Funding for OPC personnel and operating costs has been provided from a number of sources. Under the direction of the chair, the SCC Executive Officer administers the OPC, including providing it with staff services.

The SCC's Executive Officer spends approximately one-third of his time on OPC responsibilities. In addition, one of the SCC's two deputy executive officers spends approximately one-half of his time on OPC activities. Both of these SCC positions are funded by the SCC. Funding for the OPC Executive Director has been provided by environmental license plate funds (ELPF).

The ELPF has been the primary source of funding for the majority of other OPC staff, facility, and equipment expenses. Approximately two-thirds of support funding during the OPC's five-year history has been from the ELPF.

In addition to SCC and ELPF funding, the NOAA funded a project manager position during the first two full fiscal years of OPC's operations. The OPC also relied on \$200,000 annually from Proposition 84 during the past three fiscal years for a research position, and for the equivalent of a full-time attorney (relying on SCC legal staff). **Table 2-3**, on the next page, provides a summary of support budget funding, by source.

Organization and Operations Finding

As a new organization, the fact of OPC's very existence is an accomplishment. The OPC's relationship with State Coastal Conservancy (SCC) allowed the Council to get off to a quick start, particularly in terms of efficiently funding research and projects. The OPC's experienced management team brings a broad range of expertise to the organization. Going forward, the OPC's staff capacities can be more clearly aligned with its mission, and the Council itself could be more engaged in OPC activities.

Table 2-3
OPC Annual Support Budget Funding Sources
Fiscal Years 2005/06 through 2009/10

Funding Source ^a	FY 2005/06	FY 2006/07	FY 2007/08	FY 2008/09	FY 2009/10
ELPF	\$201,600	\$369,000	\$812,000	\$819,000	\$863,225
SCC	112,750	208,500	89,000	212,000	212,000
Proposition 84	0	0	200,000	200,000	200,000
NOAA	90,000	90,000	0	0	0
Total Costs	\$404,350	\$667,500	\$1,101,000	\$1,231,000	\$1,275,225

^a ELPF: Environment License Plate Fund
 SCC: California State Coastal Conservancy
 NOAA: National Oceanic and Atmospheric Administration

F. Strategic Planning

Provide a set of guiding principles for all state agencies to follow, consistent with existing law, in protecting and conserving ocean resources. (Public Resources Code, Section 35515 (a))

The OPC's mission is to ensure that California maintains healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations. The OPC relies on COPA provisions to carry out this mission.

The COPA requires that the OPC undertake, among other things, four specific actions:

- Coordinate activities of state agencies to improve the effectiveness of state efforts to protect ocean and coastal resources
- Establish policies to coordinate the collection and sharing of scientific data related to ocean and coastal resources
- Identify and recommend to the Legislature changes in state law and policy needed to achieve the goals of COPA
- Recommend to the Governor and Legislature actions the State should take to encourage needed changes in federal law and policy.

The COPA also establishes the California Ocean Protection Trust Fund to support projects

and activities in a number of specific areas. In the six years since the COPA was enacted the legislature has passed a number of laws that amend the COPA to add specific requirements of the OPC, such as establishing the Science Advisory Team, developing a work plan with the DFG, creating a Dungeness Crab Task Force, and developing the California Sustainable Seafood Initiative. Current legislation (AB 2125, Ruskin), would require the OPC to undertake specified activities related to marine spatial planning.

In order to more effectively carry out its mission, OPC members and staff, with cooperation from a number of state and federal agencies, as well as from numerous stakeholders, developed a strategic plan that identified goals, objectives, and strategies to protect the state's unique coastal natural resources and cultural heritage. In September 2006, OPC members and staff adopted the first, five-year strategic plan, *A Vision for Our Ocean and Coast*. **Appendix C** to this white paper provides an assessment of OPC activities as compared to the strategic plan.

“The OPC brings to bear an efficient administrative organization that is armed with dollars to break through log jams.”

Figure 2-9

OPC 2006 Five-Year Strategic Plan Output and Outcome Measures

Theme	Goal
A. Governance	Enhance the capacity and performance of agency programs to meet the goals of COPA
B. Research and monitoring	Improve understanding of ocean and coastal ecosystems
C. Ocean and coastal water quality	Significantly improve ocean and coastal water quality
D. Physical processes and habitat structure	Significantly improve the quantity and quality of ocean and coastal habitat in California
E. Ocean and coastal ecosystems	Significantly increase healthy ocean and coastal wildlife populations and communities in California
F. Education and outreach	Promote ocean and coastal awareness and stewardship

“The strategic plan is pretty broad.”

The first, five-year OPC strategic plan identified a long-term goal for each of the following six (6) themes, together with objectives and priority action items, which would move the State toward achieving each goal:

- Governance
- Research and monitoring
- Ocean and coastal water quality
- Physical processes and habitat structure
- Ocean and coastal ecosystems
- Education and outreach.

For each goal the plan identified one, or two, outputs or outcomes (“performance measures”) of that goal’s planned activities. The OPC strategic plan noted that outputs are the direct products of program activities, while outcomes are actual effects of program activities and outputs. OPC members believe they should hold themselves to the same high standards that the COPA demands of other governmental units and performance measures facilitate that accountability.

Figure 2-9, above, identifies the six themes and goals of the OPC’s first five-year strategic plan.

“A strategic plan should provide maximum flexibility.”

To meet identified goals, objectives, and measured outputs and outcomes, OPC members and staff developed seventy-four (74) measurable, short-term actions designed to reach the strategic goals. The strategic plan identified the OPC’s specific role in implementing each of the seventy-four action plans, and identified the lead agency and partner organizations (e.g., other state and federal agencies, public and private research institutions, and non-governmental organizations) for each action plan. These OPC roles included: (1) either the lead or support organization in required coordination, collaboration, and integration activities, (2) either the lead or support organization in developing policy guidance on key issues, and (3) either direct expenditures for the action plan or indirect support for other parties to receive funding.

“It is difficult to pick out what is OPC’s unique role.”

“The OPC does a better job communicating with stakeholders than the Legislature.”

This first strategic plan was purposefully inclusive and comprehensive. As a new organization with a wide mandate, the exact direction that OPC might take was not clear at the outset. Thus, a broad strategic plan provided OPC with flexibility in its activities and project funding.

The OPC is guided in multiple directions by its enabling and follow-up legislation, and its first strategic plan. The result is that from the outside, many stakeholders do not have a clear picture of the direction that the OPC is taking. This next strategic planning process, to be initiated in early 2011, provides an opportunity for the OPC to clarify a common vision, purpose, and role, in protecting California’s ocean and coastal resources.

Strategic Planning Finding

In its first year and a half, the OPC conducted an inclusive and open process to develop a strategic plan. As a new organization, the OPC deliberately chose to write a broad strategic plan, allowing the OPC to carry out a wide range of activities, and to respond to emerging issues as they arose. Now, after five years of experience, the OPC has an opportunity to create a more focused strategic plan that brings a clear sense of direction as to where the OPC should focus its efforts. This plan would include specific criteria to guide OPC decision-making, clarify OPC’s role, and articulate a vision for California ocean policy and management. In developing its next strategic plan, the OPC should incorporate specific metrics, and a clear means by which the OPC can measure its success.

“All expenditures are cross-referenced to the strategic plan – that’s good.”

“Is there enough stakeholder involvement?”

G. Communication and Outreach

The council may sponsor conferences, symposia, and other public forums, to seek a broad range of public advice when establishing priorities for ocean resource protection, enhancement, and restoration. (Public Resources Code, Section 35612 (b))

The OPC communicates with stakeholders and other interested parties through a limited number of formal and informal mechanisms. Communication and outreach is intended to (1) inform about OPC activities, or (2) educate on the value of oceans.

Communication Related to the OPC

The OPC web page, www.opc.ca.gov, provides current and historical information on OPC meetings, funding, projects, staff, and links to reports and partner agencies. The OPC is working to update its web page to improve the structure and access to information.

The OPC also has a list-serve consisting of 4,000 individual email addresses. OPC utilizes the list-serve to send out announcements of selected OPC activities.

Public participation at OPC meetings provides a third venue for communication. There is an open public comment period at each Council meeting to provide an opportunity for interested individuals and organizations to comment on OPC or ocean issues. There is also opportunity for public comment on Council meeting agenda items.

“The level of OPC’s communication is fairly issue dependent”

Many stakeholders learn about OPC activities through direct communication with OPC staff. This informal communication mechanism is effective for small numbers of individuals or organizations.

Over its first five years, the OPC has focused on conducting projects, rather than communicating about them. As a result, many ocean stakeholders know very little about the OPC, unless they have been directly involved on a project. As it moves forward, the OPC has an opportunity to reach out to a wider range of stakeholders, and to better communicate its successes, particularly to the legislature and other decision-makers.

Communication Related to the Ocean

The OPC participates in outreach and education initiatives. The Thank You Ocean Campaign is a partnership with the Resources Agency, NOAA, and the Ocean Communicators Alliance. The campaign mission is to raise awareness of the benefits the ocean provides, and to identify ways for people to protect the ocean in their daily lives.

In another broader outreach effort, the OPC has helped fund the last two events in the California and World Ocean conference series. Conferences have been held in 1964, 1977, 2002, 2006, and 2010. These conferences bring together representatives from government, academia, industry, and the public to share ideas and formulate action strategies on emerging ocean policy topics.

The extent to which the OPC should have a role in education and outreach related to the ocean has been the subject of debate. One perspective is that for relatively few dollars, the OPC can teach the public about the value of the ocean, thus enhancing support for ocean protection. Another perspective is that education is not a focus of the COPA, the OPC has many other challenging mandates, and there are others that can take on the education role. The extent to which the OPC should participate in ocean education programs in the future should be addressed within the next strategic planning process.

Communication and Outreach Finding

The OPC has communicated with its immediate stakeholders through its list-serve, web page, and one-on-one communications. The public comment period at OPC meetings provides the public with a unique opportunity to present ocean issues to policy-makers in a public forum. However, there are still many individuals and organizations involved in ocean and coastal issues that are unaware of the OPC. The OPC can improve communication with the legislature, other state agencies, coastal communities (local governments, fishermen, ocean resource and tourism industries), and the public, about its activities and accomplishments.

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3. Recommendations for OPC Improvement ■

OPC

This section of the white paper provides recommendations to enhance the OPC's ability to achieve the goals and intent of the COPA in seven specific areas: policy, science, funding, coordination, organization and operations, strategic planning, and communication and outreach. These specific recommendations are intended to help the OPC better achieve its mission, and provisions of the COPA:

The mission of the California Ocean Protection Council is to ensure that California maintains healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations.

In carrying out this mission, OPC will rely upon the provisions of COPA, which requires that the OPC:

- *Coordinate activities of state agencies to improve the effectiveness of state efforts to protect ocean and coastal resources*
- *Establish policies to coordinate the collection and sharing of scientific data related to ocean and coastal resources*
- *Identify and recommend to the Legislature changes in state law and policy needed to achieve the goals of COPA*
- *Recommend to the Governor and Legislature actions the State should take to encourage needed changes in federal law and policy.*

The eighteen (18) recommendations in this section are drawn from the OPC's accomplishments and challenges, as described in Section 2. In developing these recommendations, we have drawn on the extensive input we received through group and individual interviews, research on other similar entities, and research on the OPC's activities over the last five years. The recommendations are summarized in **Table 3-1**, on the next page. Inherent in these recommendations is the belief that the OPC fulfills a valuable role in the critical charge of maintaining and protecting California's ocean and coastal resources. These recommendations build on the experience OPC has gained over its first five years. As the OPC moves forward, it

OPPC

Table 3-1
OPC Recommendations in Seven Categories

Category	Number	Recommendation
A. Advancing Policies	1	A.1 Prepare a Biannual Work Plan that Identifies Specific Policy Issues that the OPC will Pursue
	2	A.2 Create and Support Leadership, Follow-Through, and Accountability Through OPC Actions
B. Providing Science for Governmental Decision-Making	3	B.1 Improve Effectiveness of the Science Advisory Team by Increasing Participation of the SAT in OPC Activities
	4	B.2 Expand OPC Initiatives to Provide Credible Scientific Information and Data on Controversial Policy Issues
C. Funding Projects and Research	5	C.1 Develop and Follow a Comprehensive OPC Funding Strategy
	6	C.2 Implement a Transparent OPC Project Award and Completion Process
	7	C.3 Increase OPC Efforts to Obtain Private and Federal Sector Funding for Ocean Protection
D. Coordinating Governmental Ocean Activities	8	D.1 Create and Support an OPC Culture Conducive to Coordination and Collaboration with Other State Agencies
	9	D.2 Reestablish the OPC Steering Committee
	10	D.3 Implement a Comprehensive Collaborative Approach for OPC Issue Areas Identified in the Strategic Plan
E. Organization and Operations	11	E.1 Revise Staffing Functions to More Closely Support the OPC's Mission Under COPA
	12	E.2 Increase Involvement and Participation of the Council in OPC Activities
F. Strategic Planning	13	F.1 Develop a Clear Vision for California's Ocean and Coastal Resources
	14	F.2 Develop Criteria to Guide Selection of OPC Issue Areas for the Strategic Plan
	15	F.3 Select Approximately Five Key Strategic Plan Issue Areas for the OPC to Focus on Over the Next Five Years
	16	F.4 Identify Specific Strategic Plan Performance Metrics to Monitor the OPC's Success
G. Communication and Outreach	17	G.1 Increase OPC Outreach and Communication Through a Sustained Communication Strategy
	18	G.2 Increase Opportunities for Public Comment and Input on OPC Activities

has an opportunity to refine and reinforce its role in helping California's ocean and coastal resource policy and management.

There are five overarching themes, or operating principles, that underlie all of these OPC recommendations for improvement. These five themes should factor into future OPC activities and filter into OPC's approach to solving ocean and coastal resource management problems:

- The OPC, with its partners, will develop a clear, strategic, vision for California's ocean and coastal resource management and a focused plan for moving forward with a coordinated set of activities within that vision
- The OPC will exercise a strong intellectual leadership role and interact with other agencies in an open, understanding, and inclusive manner
- The OPC will promote accountability for itself, and for those that it is working with, and use metrics to measure performance
- The OPC will use transparency in its decision-making and its actions
- The OPC will help develop funding sources outside of state government to help support the many needs of California's ocean and coastal management agencies.

“There are only so many people, and so many issues that the OPC can address.”

“The OPC is not fulfilling its name, it needs to be less timid.”

A. Advancing Policies

Policy Finding

The OPC’s resolutions have been an effective tool to inform debate and influence ocean management policies on several issues. At the national level, the OPC is seen as a leader on ocean issues. At the state level, the OPC is still experimenting with exactly how to execute its role as an ocean policy leader. In its first five years, the selection of resolution topics, and OPC policy areas in general, has been opportunistic. Moving forward, the OPC has an opportunity to focus on policy as part of a larger vision.

Recommendations

The recommendations related to advancing policies fall into two general categories: selection and approach. Going forward, the OPC can focus its policy efforts in those areas with the greatest need, and in which the OPC can have the greatest value-added benefits. When the OPC does undertake a policy issue, the best outcomes will occur when it embraces its leadership role, follows through each issue to a logical conclusion, and promotes accountability, both for itself, and its partner agencies. We discuss these two recommendations in more detail, below.

A.1 Prepare a Biannual Work Plan that Identifies Specific Policy Issues that the OPC will Pursue

The number of potential policy issues and ocean and coastal resource threats are substantial, and growing. The OPC must find a way to identify and prioritize the most relevant and timely issues to focus its limited resources, and then follow them through to a logical policy conclusion.

The first level of issue selection should occur within the strategic planning process (see recommendations starting on page 3.15). The current strategic plan provides a wide range of potential areas for action, but does not provide a mechanism for the OPC to actually select among those many actions. The next strategic plan will be developed in early 2011, and thus will not provide direction for the OPC over the next year. With five years of experience, and limited resources available, the OPC will benefit by narrowing its efforts and focusing on doing fewer activities, but doing them well.

One mechanism to help the OPC focus its efforts is to create a biannual work plan. Such a plan would focus on specific actions within the strategic plan that the OPC can effectively pursue in a two-year period. The process of developing a biannual work plan would not be as comprehensive, formal, or inclusive as the strategic planning process. However, the process should still involve discussions with other state and federal agencies and ocean stakeholders to obtain feedback on OPC’s proposed priority actions.

The biannual work plan should provide specific goals, objectives, approaches, methods, and expected outcomes for each project or activity area that the OPC plans to pursue in the coming two years. The biannual work plan can be flexible and updated if needed, but should also provide clear direction, and set expectations, for OPC actions. Once it is completed, the OPC should post the biannual work plan on its web page.

“The OPC needs to carry resolutions through to policy change.”

A.2 Create and Support Leadership, Follow-Through, and Accountability Through OPC Actions

The OPC is tasked by the COPA to: “identify and recommend to the Legislature changes in law needed to achieve the goals of this section.” As a new organization, it has been challenging for the OPC to determine exactly how to fulfill this role. Over time, the OPC is learning to balance its sometimes contradictory roles as an independent agency, ocean policy leader, and member of the Governor’s administration.

Given past experience, the OPC leadership has been hesitant to take a stand on policy issues without the approval of the Governor’s office. There are (at least) two different perspectives on this issue: (1) that the OPC Council members (at least four of them) and Executive Director serve at the behest of the Governor and thus must follow the Governor’s lead; or (2) that the Governor selected the OPC Council members and Executive Director to provide their best effort to protect ocean and coastal resources, and therefore they are obligated to provide the Governor guidance on the best policy decisions for the ocean, and the state.

Moving forward, the OPC has an opportunity to clarify its leadership role in California ocean and coastal resource management and policy. Leadership may also mean elevating state actions and ocean policy discussions. The OPC has a role in demonstrating, from a systemic perspective, the benefits of those actions and policies. It may do so through public discussion, scientific studies, and respectful discourse with other agencies and stakeholders. In addition, the OPC can anticipate and frame policies for the Governor’s consideration.

The OPC has an opportunity to build a stronger culture of leadership, follow-through and accountability. This does not necessarily mean the OPC must promote radical policy change, although

it may do so at times. The OPC must balance its leadership and coordination roles in order to be successful at both. The OPC can utilize its position to influence agencies and others to follow its lead. In fact, the OPC is less likely to be seen as “out-of-step” with the Governor if its policy recommendations evolve from collaborative processes developed in partner with other state agencies in issue areas identified in Recommendations A.1 and F.3. The OPC can develop consensus among the State leadership as policies develop.

Once the OPC and its partners identify policy recommendations, whether they are in the form of resolutions, new regulations, policies, or legislative proposals it is important that the OPC follow-through on those recommendations. What is meant by follow-through will depend on the policy itself, but the concept is that the OPC maintain some level of involvement until there is a logical conclusion to the effort. That logical conclusion should be defined at the outset and may include implementation of new policies, new regulations by another agency, new legislation, or other less formal activities.

The following are suggested actions that would support a strong leadership role for the OPC, while enhancing accountability and follow-through.

- 1) The Council members and Executive Director could support policies and recommendations that they believe offer the best solution for the particular policy issue area at hand. Because any such policy solutions would be developed as part of a broader collaborative effort within one of the OPC’s selected policy issue areas, the OPC would most likely be providing a voice to its partner agencies and advancing policies that would benefit multiple entities. As a result, the OPC could likely to garner the support of others (including the Governor), and would be at less risk of “standing alone”

- 2) At the end of each Council meeting, Council members could discuss next steps that each member would take to their departments, the legislature, or stakeholder groups, as they relate to any OPC decisions that were made. Examples of activities that Council members could take include: nominating members for working groups, communicating a particular problem or perspective, identifying funding sources, or asking department staff to help support an effort or implement a policy
- 3) The OPC could report at each meeting on actions the OPC has taken as they relate to any previous policy areas or recommendations
- 4) The OPC could invite partner agencies and project fund recipients to attend OPC meetings and provide updates as to the actions that it has taken, and are taking, on any particular policy issue area. For example, one to two years after a particular project is completed, funding recipients could report back to the OPC on how the project is being utilized, or what lessons might be learned if the project was not successful
- 5) When the OPC, with its partners, identifies federal legislation and policy changes that would help support a particular issue area, the OPC could publicly communicate that legislation or policy change to the appropriate federal entity
- 6) When the OPC passes a resolution, it could distribute a press release about the resolution, and encourage Council members to discuss the issue with their respective peers
- 7) The OPC could prepare an annual report that includes a section that identifies Legislation, policy recommendations, federal policy recommendations, and/or regulatory changes that were suggested during the previous year, the status of each, and any potential or realized efficiencies resulting from those policies.

“The SAT is underutilized.”

B. Providing Science for Governmental Decision-Making

Science Finding

The OPC has played a valuable role in articulating the importance of science, and in providing a venue through which to incorporate scientific research into the decision-making process. This is the area in which the OPC has arguably had the greatest success. As it moves forward, the OPC has an opportunity to more consistently and strategically apply scientific input to particular policy areas. In addition, as the Science Advisory Team (SAT) becomes more established, the OPC can better utilize the knowledge of these experts.

Recommendations

The recommendations related to providing science for government decision-making are focused on increasing the involvement of the SAT in OPC activities and in promoting the OPC’s ability to contribute credible scientific information to the policy debate. The guiding concept for these recommendations is to create somewhat of a “mini-National Academy of Sciences” model, with a committee of scientific experts providing independent advice on ocean policy issues.

B.1 Improve Effectiveness of the Science Advisory Team by Increasing Participation of the SAT in OPC Activities

Establishing the SAT is widely recognized as a positive achievement for the OPC. Creating the SAT was a significant first step. The next step is to utilize the SAT to its full potential. This will take some time, and the OPC and OST are working on this goal. The following are a number of specific recommendations for better utilizing the SAT. Many of these recommendations are already being implemented, to some extent, and are included here to reinforce their value. Going

forward, it is important that the OPC implement these steps universally and consistently.

- 1) Add one, or more, social scientists (resource economist, anthropologist, or sociologist) to the SAT
- 2) Establish a consistent process to utilize the SAT, and/or the scientific network that the SAT has identified¹, in order to assign scientists to independently review proposals and products
- 4) Provide feedback to reviewers as to how their comments and concerns were incorporated (or very specific justification if the comments are not incorporated)
- 5) Utilize the SAT to identify top threats and emerging issues for issue area selection (see Recommendation F.3)
- 6) Utilize the SAT to identify experts to participate in expert panel sessions at OPC meetings
- 7) Utilize the SAT to identify Sea Grant research priorities for OPC funds.

The COPA tasks the OPC to “identify scientific research and planning that is useful for the protection and conservation of coastal waters and ocean ecosystems, and coordinate and assist state agencies in addressing those needs.” (Public Resources Code Section 35515 (f), emphasis added). The OST and SAT have helped elevate the role of science in OPC activities. As the SAT becomes more established, there may also be opportunities, on a voluntary basis, for the SAT to selectively help advise other state agencies that work on ocean and coastal resource management.

“Science review [by the SAT] of OPC products needs to become procedural.”

¹ One of the SAT’s activities has been to identify a cadre of other qualified scientists to assist with peer reviews. The OPC can draw on these additional scientists to conduct reviews, reducing the time burden on SAT members.

B.2 Expand OPC Initiatives to Provide Credible Scientific Information and Data on Controversial Policy Issues

The OPC is “at its best” when it provides independent, credible, and science-based reports that help inform the debate on ocean and coastal management policy issues. This recommendation is a reaffirmation of this particular role that the OPC has attempted to fulfill by funding “cutting edge” studies on issues such as once-through cooling, ocean energy, low impact development, the Marine Life Management Act, and oil rig platform decommissioning.

Within the more focused approach on ocean issue areas, outlined in Recommendation F.3, the OPC has an opportunity to focus much of its science-efforts on answering science-related questions that surround emerging issues. It may achieve this by working with the SAT, and/or funding focused research studies to address specific science or policy questions. As noted under Recommendation B.1, there is great value in the OPC consistently utilizing, and incorporating, advice from the SAT in preparing these reports.

C. Funding Projects and Research

Project Funding Finding

The COPA established the California Ocean Protection Trust Fund to expend on projects and activities, but also directs the OPC to “use California’s private and charitable resources more effectively in developing ocean protection and conservation strategies.” OPC funded projects such as seafloor mapping, marine monitoring, and specific research projects, have advanced a number of important ocean research and policy issues. Most OPC funding has supported scientific research and monitoring. The OPC has leveraged its \$65.9 million in (primarily) bond funding to generate a total of \$109.1 million in funding for 88 ocean-related projects. Going forward, the OPC has an opportunity to focus project spending through specific strategies or initiatives, to improve transparency in funding

processes, and publicize the final outcomes of projects. Finally, while the OPC has leveraged private foundation monies (\$11.8 million, 27 percent of leverage funds), there is an opportunity to develop additional private and federal support for ocean protection issues.

Recommendations

The recommendations on project funding address three different issues: (1) making a transition from the early opportunistic approach to funding, to a more strategic approach, (2) increasing transparency in funding, and (3) expanding funding sources. Addressing these issues will improve stakeholders' confidence in the OPC, and help provide more stable funding for ocean and coastal resource issues in a time of fiscal crisis.

C.1 Develop and Follow a Comprehensive OPC Funding Strategy

Building on the biannual work plans developed under Recommendation A.1, and going forward into the next strategic plan, the OPC has an opportunity to focus its activities such that in any given year project funding, scientific research, coordination efforts, and policy recommendations are generally limited to the key issue areas in the strategic plan and biannual work plans. Under this approach, funded projects would be part of a larger strategy aligned with other OPC efforts and supporting a common endpoint. Within this strategy, the OPC will prepare a comprehensive project funding budget so that the Council will have an overall picture of funding and can understand the relative trade-offs of funding decisions.

“There needs to be a way for the OPC to be more nimble, and jump in on relevant policy issues.”

“The OPC needs to create more opportunities for public/private funding partnerships.”

The OPC must still have the flexibility to respond to new issues, real time. The OPC may also establish a procedure to support one-time, critical, and emerging issues that may arise. To the extent possible, funding for such one-time projects that are outside of the strategic plan or biannual work plan should be limited. In order to fund such a project, the project should be supported by a state or federal agency and also have the support of the SAT. Projects that might fall into this category include exploratory research on emerging threats, challenge grants to address research and development, and/or topics for which more information is quickly needed in order to understand how the state should address the issue. Such new issue topics would generally not fall within the strategic plan, or biannual work plan, but it might be beneficial to jump-start research on any expected emerging issues before they become critical.

C.2 Implement a Transparent OPC Project Award and Completion Process

As part of a more strategic approach to funding, the OPC has an opportunity to increase transparency of its project funding activities. The OPC has successfully utilized the SCC's funding model and expertise to quickly and effectively fund a wide range of projects. It is important to efficiently utilize limited OPC staff resources, and be “nimble” and able to respond to immediate funding needs. Moving forward, the OPC can build on this responsive funding model, balanced with the need to create a more transparent and strategic system for project funding.

In future funding activities, the OPC has an opportunity to be more consistent and transparent in its processes. Many of these steps are already being implemented and are included here to reinforce their value:

- 1) Identify and publicize specific proposed project and research needs and funding criteria to support the issue areas in the strategic plan and annual operating plan
- 2) Develop RFPs or grant solicitations, as appropriate, to fulfill each funding need. Obtain input from the relevant coordinating agencies, and the SAT, in developing the RFPs or grant solicitations
- 3) Specify a clear evaluation and selection process in the RFP/solicitation, and for each RFP/solicitation
- 4) Select a proposal review committee that includes OPC staff, and staff from other involved state and/or federal agencies. Also, seek technical review as needed
- 5) Follow evaluation criteria to select the most qualified applicant(s) for a particular project
- 6) Require funding recipients to identify and report on project goals and metrics, and to prepare a short project summary that would be published on the OPC web page once the project was completed
- 7) Post a list of project funding recipients and final reports on the OPC web page in an accessible library-style format.

The OPC should generally utilize the above process for all direct funding solicitations. For project funding in which the OPC assigns funding to a state or federal agency (such as NOAA, DFG, or USGS), the OPC can clearly outline the reasoning to support that funding allocation. The OPC could also identify the mechanism(s) that the other agency will utilize to assure transparency in funding.

“The OPC still seems to be taking a scattered approach to the ocean. It is fun to give money away, but hard work to go in and coordinate between agencies.”

C.3 Increase OPC Efforts to Obtain Private and Federal Sector Funding for Ocean Protection

The sources of future project funding monies for the OPC are uncertain. Without project funding resources, the OPC may become irrelevant. Obtaining new sources of revenue is critical to the OPC’s success. The OPC can serve as a conduit to help target private sector², state, and federal funding in support of California’s ocean and coastal management needs.

The OPC must proactively identify a strategy to obtain private and federal funding, particularly for the selected issue areas in the next strategic plan. The OPC should also consider sources of dedicated state funding, although this may be challenging in the current political climate. To most effectively utilize its limited staff resources the OPC should designate one staff person with business development expertise to work with private foundations, the federal government, and corporations, in order to obtain funding to support ocean management and research in California. This staff person would participate in the OPC Steering Committee and work group efforts to identify funding needs within each of the issue areas and then work directly with potential funders to obtain funding for projects. The business development staff person would establish and maintain working relationships with potential funders so that they could readily identify and match funding opportunities. For example, this staff person should have the capability to attend meetings in Washington, D.C. to support California’s efforts to obtain federal funding. When the OPC does utilize non-state funding sources, those funding sources should be transparent, and the OPC should create firewalls between funders and project outcomes.

² Foundation funding for ocean issues can be substantial. For example, in 2000 the Alfred P. Sloan Foundation provided the first \$75 million in funding for the global marine census.

“The OPC can serve as a forum to bring entities together for a common purpose.”

D. Coordinating Governmental Ocean Activities

Coordinating Finding

One of the primary goals of the COPA, and arguably the most challenging role for the OPC, is to promote coordination and collaboration of state agencies in order to improve state efforts to protect ocean resources. The OPC has had successes in this area, most notably climate change adaptation and seafloor mapping. However, the OPC has an opportunity to better fulfill its role as coordinators. Going forward, the OPC can enhance efforts to formally and informally reach out to state and federal agencies and identify specific ocean resource problems that could be solved by better coordinating agency efforts and resources. The OPC’s coordinating efforts should be part of a strategic, focused approach.

Recommendations

The OPC is tasked to “coordinate activities of state agencies to improve effectiveness of state efforts to protect ocean and coastal resources.” The recommendations related to coordination provide a roadmap for the OPC as it transitions to a stronger focus on its coordinating role. The recommendations provide a vision for the OPC’s outlook and culture and identify specific actions that the OPC can undertake to better fulfill its role as coordinators. The purpose of coordinating and collaborating is to work together to solve problems that cannot be solved by one entity alone and/or to obtain resources that might not otherwise be available:

***Collaboration** is a recursive process where two or more people or organizations work together in an intersection of common goals — for example, an intellectual endeavor that is creative in nature- by sharing knowledge, learning and*

building consensus. Most collaboration requires leadership, although the form of leadership can be social within a decentralized and egalitarian group. In particular, teams that work collaboratively can obtain greater resources, recognition and reward when facing competition for finite resources. (Wikipedia)

***Coordination** is the act of coordinating, making different people or things work together for a goal or effect. (Wikipedia)*

D.1 Create and Support an OPC Culture Conducive to Coordination and Collaboration with Other State Agencies

Going forward, the OPC will demonstrate clear support for a collaborative approach from the top level (including the Governor and Council members). This means not only voicing support for such an approach, but recognizing that taking a more comprehensive approach to collaboration will require a shift in mind-set, and perhaps operating procedures and employee skills, from the top down. Because the OPC has faced challenges in its coordinating role in its first five years, it needs to place stronger focus in this area to be successful.

In conducting this work, it is important for the OPC to be very responsive to the needs of other agencies and to be a true partner in the process. OPC’s roles include to support and lead the coordination of agencies on cross-cutting issues identified as a high priority. In doing so, the OPC has an opportunity to improve government efficiency and effectiveness and improve ocean-related policies and programs.

To facilitate this coordination effort, the OPC could enhance staff coordinating functions. For example, the OPC could utilize a staff position as a state and federal agency outreach manager. This person would assist the OPC Executive Director in their outreach efforts to agencies, and support OPC project staff to help them work more effectively with other agencies.

“The key is for the OPC to develop an identity and purpose relevant to its mandate under statute that will encourage cooperation and coordination among agencies in ocean management.”

Other state agencies will need to improve coordination efforts as well. The Natural Resources and Cal EPA Secretaries could enhance the OPC’s coordination efforts by issuing directives to Departments under their control. The recently reinstated OPC Steering Committee provides another mechanism to engage other Departments. A third approach is sharing of staff between OPC and other agencies, detailing of staff, and use of joint Budget Change Proposals to fund shared positions. Finally, the OPC and other agencies could consider joint projects for data collection and management.

The OPC has an opportunity to better understand the implications of its decisions on other agencies. Being an effective leader and coordinator requires the OPC to take a nuanced approach to both. It has not always done this effectively, the result being that neither role was accomplished as well as it could have been. In this era of state budget cuts the OPC should be mindful of activities that add workload to already short-handed state agencies. Most state agencies do not have the flexibility and nimbleness that OPC has. The OPC’s efforts will be more successful if it understands real and perceived institutional limitations and works to address (the real) and dismiss (the perceived) limitations with agencies.

The following operating principles and core values will support a culture of coordination and collaboration:

- Emphasize communication and listening skills
- Understand, and be responsive to, agency needs, limitations, and constraints
- Strive to be an objective and neutral facilitator
- Work with, and between, other agencies
- Create an inclusive environment in which all agency participants are engaged and part of the process
- Focus on what the OPC can “bring to the table” to help agencies fulfill their mandates.

D.2 Reestablish the OPC Steering Committee

The intent of the OPC Steering Committee was to identify and support coordination efforts among state agencies. After a few unproductive meetings early on the Steering Committee essentially dissolved. In its first years of existence, the OPC did not have the experience needed to engage and understand agency needs. Today, a more experienced OPC is better positioned to manage, and benefit from, the input of an OPC Steering Committee.

To make the Steering Committee successful, the OPC will benefit from “doing its homework” prior to bringing the group together. It is the OPC’s role to understand and synthesize the various perspectives and roles of each agency, so that when they come together to meet, there is a basis for discussion. The OPC is already moving in this direction; the Executive Director met with agency directors individually prior to holding a Steering Committee meeting (the first in several years) in July, 2010.

“One can get lots done if you don’t have to take credit for it.”

“OPC has the capacity to be a neutral arbitrator on behalf of the resource [ocean].”

The strategic planning process, as outlined in Recommendation F.3, would provide a forum for significant Steering Committee input, and value-added – both for the Steering Committee members, and for the OPC. In addition, the OPC could work with the Steering Committee to obtain input for the OPC’s biannual work plan described in Recommendation A.1.

D.3 Implement a Comprehensive Collaborative Approach for OPC Issue Areas Identified in the Strategic Plan

As it moves into its next phase, the OPC has an opportunity to focus and align its collaborative efforts with a strategic approach to ocean management in California. While the exact “look and feel” of a collaborative approach will vary for each issue area that the OPC and its partners pursue, the OPC can build on the process to identify the issues OPC outlined in its strategic plan and annual action plan. Coordination efforts will be most effective as part of a comprehensive approach that also includes scientific research, project funding, and policy recommendations.

For the OPC to improve in its role as coordinators and collaborators it first must identify specific problems to resolve through the strategic planning and biannual work plan process. This identification process, in and of itself, will be collaborative. It will be important for the OPC to implement task-oriented coordination, with a specific objective in mind (i.e. solving a problem). Once problems are identified, the OPC could implement a coordinated effort for each issue, along the lines of the following:

- 1) Select a working group that includes OPC staff, and staff from each agency involved in the issue area
- 2) Assign one Council member and/or agency Director to chair the working group (to enhance high-level involvement and buy-in)
- 3) Conduct a start-up meeting with the chair and working group members, with follow on meetings as required. The purpose of the initial meeting(s) would be to:
 - a. Clarify the objective(s), solution(s), and common endpoint(s). What are we trying to do? What will the process look like when it is completed? Prepare a problem summary
 - b. Develop a work plan for the issue area that will lead toward the common endpoint (i.e. solve the problem), building on the problem summary. What is each agency’s role in achieving the endpoint? What specific steps must the OPC and each agency take to achieve the endpoint? How can the OPC utilize its unique role to facilitate the process?
 - d. Describe the scientific resources that will be needed. Are there specific scientific studies that should be completed? Data to gather? Analyses to perform? How can scientific needs for the project be met in a timely, high quality, and independent manner?
 - e. Identify specific immediate and long-term actions for each involved agency
 - f. Develop a master schedule with major benchmarks (balance the need for timeliness and action with the institutional constraints of each agency)
 - g. Identify potential private funding sources, and work with the OPC business development staff person to obtain additional funding to support research and implementation
 - h. Develop a mechanism to report progress to the Council and OPC Steering Committee, especially obtaining input on the work plan prior to implementation

- 4) Implement the work plan. Each work group member should actively participate in the effort. The working process may be somewhat different for each particular issue area, but would involve many of the types of activities that the OPC already conducts: expert panels, facilitated sessions, commissioning studies, gathering data, workshops, SAT input, and study groups.
- 5) Include a section in each staff report presented at Council meetings that discusses the collaboration and coordination efforts that are being undertaken on any issue
- 6) Provide updates to the Council throughout the project, and periodic follow-up after the effort is completed, with relevant staff from the implementing agency(s) reporting on project outcomes
- 7) At the end of each Council meeting, Council members should identify and discuss actions that Council members could take to enhance and support the project.

E. Organization and Operations

Organization and Operations Finding

As a new organization, the fact of OPC's very existence is an accomplishment. The OPC's relationship with the State Coastal Conservancy (SCC) allowed the Council to get off to a quick start, particularly in terms of efficiently funding research and projects. The OPC's experienced management team brings a broad range of expertise to the organization. Going forward, the OPC's staff capacities can be more clearly aligned with its mission, and the Council itself could be more engaged in OPC activities.

Recommendations

The recommendations related to the OPC's organization and operations address two areas:

- (1) recommendations related to staffing, and
- (2) involvement of Council members in OPC activities.

“There is no clear line of decision making in the organizational structure.”

These recommendations do not address the OPC's unique organizational structure, nested within the SCC, with multiple executive managers. The OPC is still a young, evolving, organization and it may be too early to consider changes to the organizational structure. However, it is important to release that while the OPC's unique structure and relationship with the SCC provides significant benefits, it also poses challenges in two areas.

The first issue relates to management and staffing. The current management structure, with a five-member management team, works only because of the commitment and talent of those specific five individuals. This unique organizational structure is highly personality driven, and it is not likely to be sustainable over the long-term.

A second, and underlying issue, is that the two agencies (SCC and OPC) have different foci: projects versus policy. The mission of the SCC is to “act with others to preserve, protect, and restore the resources of the California coast, ocean, and the San Francisco Bay Area.” The SCC's is a “problem-solving agency, emphasizing “doing” projects that solve problems (including needed project planning) rather than “planning” for the purpose of adopting public policy.” Thus, the SCC has an inherent focus on projects, not policy. Not surprisingly, the area in which the OPC has focused the most over the first five years is in projects, not policy. The OPC's current management, staff, expertise, and skills are more aligned with the SCC's mission, than the OPC's mission.

This fundamental difference between the SCC and OPC has important implications for the OPC as it transitions into a new phase. This new phase will have fewer project funding resources, and a greater need for policy leadership. Going forward, the OPC will need to rely less on the SCC's core strengths,

and will need to work harder to develop its own core strengths. The “new” OPC core strengths will need to emphasize policy leadership, coordination, collaboration, and science.

E.1 Revise Staffing Functions to More Closely Support the OPC’s Mission Under COPA

The OPC staff is enthusiastic, motivated, and dedicated to ocean protection. However, below the management level, the current staff structure offers only one functional OPC position, project manager. Some OPC project managers have limited experience, particularly as related to policy development. This relatively narrow set of staff capabilities does not fully support the diverse range of activities that the OPC is mandated to fulfill.

The state faces significant challenges and limitations in hiring. Over the last few years of budget cuts and furloughs, there has been an overall erosion of the state’s personnel capacity that affects all agencies, including the SCC and OPC.

The OPC has lost experienced staff to the both the federal government and private foundations. In addition to this overarching problem, the SCC/OPC’s Department of Personnel Administration job classifications, which are difficult to change, may not best reflect the qualifications that the OPC now needs in its employees.

Although OPC will be constrained by these limitations, the OPC should work, to the extent possible, to modify its staff functionalities, as described below. A shift in staff functionality will enhance the OPC’s effectiveness.

- 1) Management function (including Executive Director) – reports directly to the Council, focuses on interactions with the Council, state and federal agencies and SAT, and supervises all OPC activities and staff
- 2) Business development function –works with federal agencies, private foundations, and

corporations to secure additional funding sources for the OPC and other state agency ocean-related activities

- 3) State and federal agency outreach function – supports the Executive Director and project analysts in coordinating activities with state and federal agencies
- 4) Information/data manager function –provides a single contact for all data issues (mapping, monitoring, data gathering, and analysis), coordinates OPC outreach and web page, and ensures OPC transparency of operations
- 5) Project analyst functions (up to five individuals) – (with expertise/knowledge in some combination of: ocean science, policy development, organizational behavior, facilitation, and state government process) coordinates day-to-day activities in the OPC issue areas. These analyst functions would be somewhat similar to the current project manager functions
- 6) Administrative functions – the OPC would continue to rely on the SCC for legal services, administrative functions, contracts, payroll services, etc.

The intent of these staffing recommendations is to emphasize certain functional roles, rather than the current approach, in which each staff person focuses on project areas. The new functional roles for business development, coordination, and information, would bridge all OPC project areas. Focusing on these functional activities could help reduce internal duplication of efforts, and improve the OPC’s ability to efficiently communicate and coordinate work internally, as well as externally.

As part of this functional focus, the OPC could also provide structured training for new employees that would cover the OPC’s mission, approach, facilitation skills, state agency structures, and other relevant topics.

Finally, the OPC should actively promote opportunities for staffing positions through joint Budget Change Proposals (BCPs) with other agencies and/or detailing staff to and/or from other agencies to facilitate cooperative efforts. Coordinated BCPs are difficult to get approved, and would require a dedicated funding source. Utilizing OPC funding for joint staff positions could enhance the OPC's collaboration role, while supporting implementation of specific ocean policies.

E.2 Increase Involvement and Participation of the Council in OPC Activities

The current structure of the OPC is highly staff-driven. This is a common dynamic among such organizations, because board, commission, and council members generally have other full-time positions. However, the Council could be more engaged in OPC activities and decision-making.

The Council unanimously approves staff recommendations, often with relatively little discussion or consideration. With the exception of the chair, Council members have little contact with the OPC except just prior to the meetings.

Perhaps as a result of the limited involvement, Council meetings are often not well attended by Council members. This, in turn, reflects poorly to the public, conveying a message that the OPC is not important or “does not care”. If Council members were more engaged in OPC decision-making, then perhaps they would be more likely to attend meetings.

There is an opportunity for more active involvement of Council members, particularly the Secretaries, in their actions and directives to staff after Council meetings. The Secretaries could significantly enhance the OPC's ability to effectively coordinate amongst state agencies by issuing directives within departments under their control to support OPC activities.

Increasing involvement of the Council will be difficult. The OPC is not the primary responsibility, or interest, of any one Council member. All Council members have significant and critical responsibilities outside of the OPC. However, there is an opportunity to enhance Council involvement, and the potential benefits make this a valuable effort.

Going forward, in order to more actively involve the Council, the OPC Executive Director could engage Council members on a more regular basis (for example, one-on-one weekly telephone calls or meetings and regular email updates on OPC activities). This engagement could include both “give and take” – informing Council members about OPC activities and also soliciting Council member opinions on the future direction of OPC activities. During these meetings the Executive Director would discuss progress of OPC initiatives, obtain input from Council members on those initiatives, discuss potential agenda items for upcoming meetings, discuss related activities of their respective departments with the Secretaries, and discuss implications of OPC activities in the legislature with the legislative members.³ Council members could also be invited to participate in workshops or other public meetings. Finally, as their availability allowed, Council members could play a role in the issue area working groups.

F. Strategic Planning

Strategic Planning Finding

In its first year and a half, the OPC conducted an inclusive and open process to develop a strategic plan. As a new organization, the OPC deliberately chose to write a broad strategic plan, allowing the OPC to carry out a wide range of activities, and to respond to emerging issues as they arose. Now, after five years of experience, the OPC has an opportunity to create a more focused strategic plan that brings a clear sense of direction as to where the OPC should focus its efforts. This plan

³ The level of one-on-one communications may be constrained by Bagley-Keane requirements, but regardless, could be expanded.

would include specific criteria to guide OPC decision-making, clarify OPC's role, and articulate a vision for California ocean policy and management. In developing its next strategic plan, the OPC should incorporate specific metrics, and a clear means by which the OPC can measure its success.

Recommendations

The recommendations related to strategic planning provide guidance for the OPC as it embarks on developing its next strategic plan, in 2011. These recommendations are intended to help the OPC refine its vision, and to craft a strategic plan that will provide clarity as it moves forward into its second, five years of operations. The recommendations also address performance metrics, which should be part of the OPC strategic planning process.

F.1 Develop a Clear Vision for California's Ocean and Coastal Resources

Over the next year, the OPC has an opportunity to conduct a visioning process to clarify and articulate the OPC's role in California ocean policy and management. To be most effective, this process could be conducted in close partnership with other state ocean and coastal management agencies. In this process, the OPC has an opportunity to:

1. Reflect on the COPA, the U.S. Oceans Commission and PEW studies, agency input, stakeholder input, and the recently released *Final Recommendations of the Interagency Ocean Policy Task Force*. It is important for the OPC to consider these studies, some of which were major drivers in the creation of the OPC, and the original intent of the COPA. The OPC must work closely with the other ocean and coastal management state agencies in defining a vision for California's ocean and coast and in clarifying the OPC's role in realizing that vision. Finally, the OPC must consider the perspectives of a range of ocean stakeholders. However, the OPC cannot meet everyone's needs, and it is important that it

draws most heavily on its founding principles as a primary source in determining its role

2. Determine which specific roles offer the "best fit" with the OPC's mission and vision. The OPC can (and should) wear several hats: bully pulpit, think tank, "swat team" for the ocean, leader, project funder, coordinator, problem-solver, and/or the lead agency on MSP. The OPC could determine which are the most important priority roles for its organization. The OPC needs to determine where it can provide the most value-added, and fill in voids in existing state ocean policy and management
3. Consider other examples of policy and coordinating bodies that the OPC can emulate. The OPC is the "first-of-its-kind" organization for oceans, but there are other governing bodies that the OPC can look to for guidance. For example, the National Academy of Science, and the National Academy of Public Administration, while not exactly like the OPC, are credible, non-political entities that bring their expertise to bear on critical science and policy questions
4. Consider the qualities that are important to the OPC. For example, the fact that the OPC is non-regulatory is important, and allows the OPC to be a neutral facilitator, and a "safe place" to discuss issues and ideas. In addition, because the OPC is not constrained by set regulatory requirements, it can be more visionary in its approach to policy issues. The fact that the OPC has funding to support targeted studies and research can improve government decision-making, and bring reluctant agencies to the table.

F.2 Develop Criteria to Guide Selection of OPC Issue Areas for the Strategic Plan

There are an unlimited number of important ocean policy and management issues, all of which deserve attention. However, the ocean may be better served if the OPC does a few things well, rather than many things with mediocrity. Within its strategic planning process, the OPC will develop criteria to

help narrow down the list of potential activities to those for which the OPC can provide the best value and make the greatest difference. The types of criteria that the OPC will consider include:

1. Is this an issue that threatens ocean health? Does the scientific community consider this to be a critical issue?
2. Is this an issue that concerns other California ocean management agencies? Who has regulatory authority over this issue? Are there multiple agencies involved? Can the OPC fulfill a role that is not being met by other agencies? Is there a coordinating role for the OPC?
3. Is this an emerging issue or information need that will concern other California ocean management agencies in the future, but isn't "on the radar" yet?
4. What are the potential solutions or preferred outcomes? What is the OPC trying to do? Does that fit within the OPC's mission?
5. Can the OPC provide a role to resolving this issue?
6. Does the issue have characteristics that reflect past OPC successes? For example, as noted on page 2.5, resolutions have been most successful when they highlight the importance of a particular ocean policy issue and identify follow-up actions that are within the scope of the OPC.

Recently, the OPC identified criteria to guide it in identifying potential focus activities. The following five criteria overlap somewhat with the areas identified above, and will also be considered in selecting OPC issue areas:

- **Significance** – the issue will have a critical effect on the condition and sustainability of coastal and ocean ecosystems and coastal communities
- **Consistency** – required actions fulfill OPC goals and purpose and are a match to OPC core functions

“The OPC needs more overall vision of where to go.”

- **Timeliness** – the time is right for OPC engagement
- **Probable impacts** – the OPC can make a critical, tangible, and lasting difference. The benefit to cost ratio is high
- **Need** – the OPC's core strengths are required for effective state action.

F.3 Select Approximately Five Key Strategic Plan Issue Areas for the OPC to Focus on Over the Next Five Years

There are only so many critical issues that the OPC can effectively undertake. In addition, some OPC project areas are dictated by legislation, and may actually create a distraction from larger or more critical issues that the OPC may want to undertake. As part of the strategic planning process the OPC should identify approximately five key issue areas to address over the next five year planning cycle. The actual number of issue areas may be slightly more, or less, than five, but the intent is that the OPC take on only as many issues as it can successfully undertake.

For its strategic plan, the OPC has an opportunity to utilize a collaborative process, as described below, laying out a five-year plan for the issue areas that builds, over time, on a coherent strategy. The strategic plan issues may be broad – for example, climate change adaptation – while the focus in any given year may be more specific within a category, such as sea level rise, ocean acidification, or supporting local climate change adaptation plans. Given the complexity of many ocean policy and management issues, most OPC activities will be multi-year efforts.

To select the areas with the greatest need, and greatest potential benefits from the OPC, the OPC could undertake a comprehensive strategic planning process that includes the following types of activities:

“The focus is too broad, because the strategic plan is broad.”

- 1) Task the SAT to identify the most significant current, and impending, threats to ocean and coastal resources. Within each area, the SAT could answer a series of questions: Why is this issue a significant threat? What are the causes? What are the risks and implications? What are the uncertainties? What scientific information and research are needed to better inform the issue? How do the OPC’s existing policy focus areas fit within these most significant threats?
- 2) Meet individually with each state and federal coastal and ocean management agency (Directors, Deputy Directors, and/or senior staff) to identify their most significant ocean management problems and concerns. Focus on state entities, but also identify key issues from the federal perspective. For each agency, ask the following questions: What are the problems? Why are these issues problematic? What are the relevant statutory or regulatory requirements? What is the current level of implementation? What are the barriers to solving this problem? What would the ideal solution look like for your agency? What are the scientific questions and uncertainties? Are there other research and information needs? What other agencies are involved? What are the funding needs and potential sources? Is there a potential role for the OPC, and if so, what is it?
- 3) Synthesize information obtained from the state and federal agencies to develop a series of high level draft issue summaries for each of several potential policy areas for OPC action. For the OPC to be an effective collaborator, it will be important to understand the problem from each of the other agency’s perspectives, and understand how OPC actions could potentially benefit each involved agency. In developing the high level draft issue summaries, the OPC could draw from the SAT’s significant threat list as well as agency input, to select the most relevant issue areas. For each issue area:
 - a. Define the problem(s)
 - b. Define the solution(s)
 - c. What are the barriers to success, differences between entities, commonalities between entities?
 - d. What are the opportunities for improved efficiency and cost savings?
 - e. Who is involved? What are their roles? What does the OPC add to this picture?
 - f. What are the information/scientific needs and uncertainties?
 - g. What legislative, regulatory, or policy changes might be needed? What is the OPC’s role in promoting any policy change?
 - h. What funding is required? What are the potential sources (including private funders)?
- 4) Work with the SAT in developing each draft issue summary to obtain additional scientific input and perspective on these issues. How do these key agency-identified problems relate to the SAT-identified threats? Will the SAT threats impact the agency issues? What type of scientific uncertainty exists? Is there a scientific basis to the agency-selected issues?
- 5) Distribute the draft issue summaries to state and federal agencies and SAT. Invite them to provide comments, and rank the issues
- 6) Present the draft issue summaries to the Council and obtain feedback from the Council on their ranking of the issues, and where to focus OPC resources. The OPC Executive Director would meet with each Council member to present the issue areas, answer questions, and clarify concerns. The OPC staff would follow up with Council members to incorporate Council comments into the draft issue summaries
- 7) Post the draft issue summaries on the OPC web page, conduct a public workshop for stakeholders to discuss the draft issue summaries, and solicit public comments

- 8) Compile and analyze comments and feedback from the Council members, OPC Steering Committee, SAT, and stakeholders, and develop a recommended ranking of the potential issue areas
- 9) Summarize and organize the draft issue papers, based on the recommended rankings, into a draft strategic plan. Distribute the draft strategic plan to Council members, OPC Steering Committee, SAT, and stakeholders, well in advance of the Council meeting where the plan is to be approved
- 10) Present the strategic plan at a Council meeting for Council approval. The strategic plan would identify approximately five issues on which to move ahead. Develop supporting justification for each selected issue area. For those issue areas that are not selected, identify an alternative timeline or approach
- 11) Publish the strategic plan and justification for each selected issue area on the OPC web page. Assign one OPC project staff to each issue area. Initiate a coordinated process for implementing each issue area, as described in Recommendation D.3.

The strategic plan, with approximately five selected issue areas, should guide OPC activities for five years (or longer, as necessary) in implementing comprehensive packages that include: coordination efforts, project funding, scientific research, and ultimately, policy recommendations at both the state and federal levels. In selecting future issue areas, the OPC has an opportunity to focus on problems that need to be solved and not shy away from controversial or “cutting-edge” issues, if that is the best fit for the OPC. The issues that the OPC ultimately selects for its next strategic plan may not be the most pressing from any one perspective, i.e. not the most critical scientific issue, or not the most critical management issue. Rather, the issues that the OPC selects will ideally be the issues where the OPC can add the most benefits, and where

there is the greatest need for OPC input to solve the problem at hand.

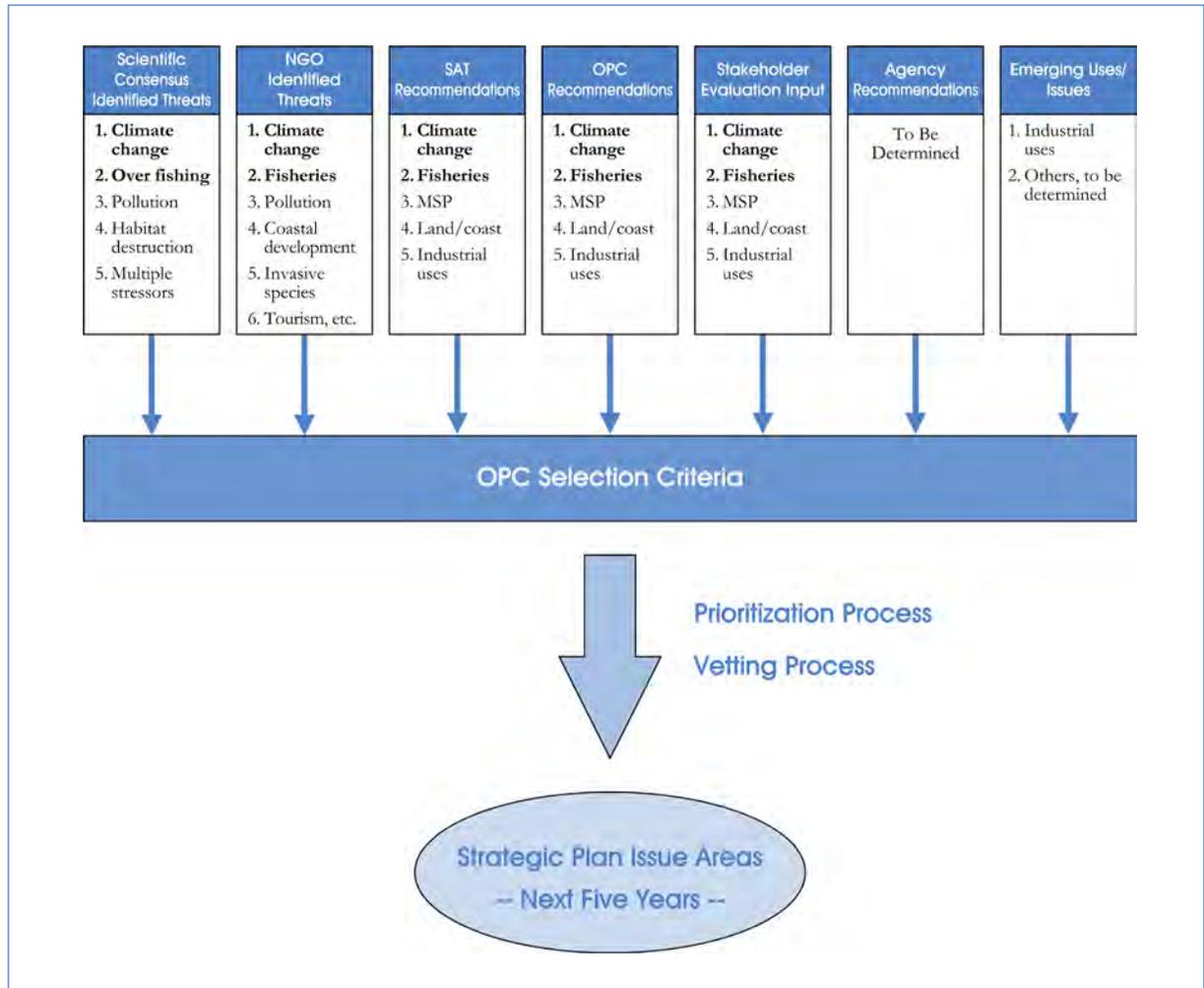
The OPC should practice adaptive management to ensure that it has the capacity and flexibility to address other issues or priorities as they emerge. Within its strategic planning process, the OPC should leave room to address emerging and critical issues that may arise over the next five years, but cannot be predicted in the planning process. It is important for the OPC to have flexibility to address new issues, if necessary. In its next strategic plan the OPC could move ahead in conducting the activities outlined in the strategic plan, yet keep informed of new and emerging ocean issues that may critically affect the state. The OPC should consult with the SAT, OST, OPC Steering Committee and others to keep informed of new and emerging ocean issues. The OPC should maintain the flexibility to develop a strategy to address such issues if determined to be a high priority.

In selecting areas of strategic focus going forward, the OPC can build on its existing experience and partnerships with the SAT, state and federal agencies, and stakeholders. However, the OPC must ultimately select issues that provide the best fit and fill the greatest need. There will be plenty of input on critical ocean issues that entities think the OPC should address – the challenge will be to limit the number of issues to what the OPC can effectively address.

The strategic plan activities that the OPC ultimately chooses for the next five years will ideally reflect some fusion of a range of inputs and issues. **Exhibit 3-1**, on the next page, provides a schematic of various inputs that the OPC should consider. In the final decision, the OPC will not be able to include all topics that stakeholders feel are the most critical. As a result, it will be important for the OPC to specify its reasoning behind the final selection.

Exhibit 3-1

Schematic of Inputs to Strategic Planning Process, for OPC Issue Areas



“There should be more direction in the next strategic plan.”

Strategic Planning Inputs

One input that the OPC should consider in identifying strategic plan issue areas is ocean threats. If the OPC is to protect the ocean, it is helpful to consider the greatest threats to the ocean. In 2008, the Center for Ocean Solutions, a collaborative effort of Stanford University and the Monterey Bay Aquarium Research Institute,

gathered over thirty scientists together to review a synthesis of over 3,400 scientific articles and reports on threats facing the Pacific Ocean.⁴

For the North East Pacific region, which encompasses California, the group identified three severe threats: (1) nutrient pollution; (2) land-based chemical pollution; and (3) artisanal/recreational/ subsistence fishing and commercial fishing. Other

⁴ Center for Ocean Solutions. *Executive Summary of Pacific Ocean Synthesis, Scientific Literature Review of Coastal and Ocean Threats, Impacts, and Solutions*. Monterey, California. May, 2009.

moderate threats for the region were: aquaculture wastewater, fishing lines/nets, solid waste disposal, and ocean waste and toxic dumping.

Scientific Consensus Identified Threats

Following this meeting, the Center for Ocean Solutions published a scientific consensus statement, “Ecosystems and People of the Pacific Ocean – Threats and Opportunities for Action.” This statement, now signed by over 350 scientists, identifies five universal threats: (1) pollution; (2) habitat destruction; (3) overfishing and exploitation; (4) climate change; and (5) multiple stressors multiply harm. Their statement notes that these threats are alarmingly similar across developed, and developing, countries. The Center for Ocean Solutions also identifies invasive species as a significant threat to the Pacific Ocean.

NGO Identified Threats

Many other organizations have their own lists of key ocean threats. There is significant overlap among the key threats, although the lists often reflect the focus of the underlying organization. National Geographic identifies: overfishing, sea temperature rise, marine pollution, ocean acidification, marine habitat destruction, sea level rise, and marine invasive species. Conservation International identifies: fisheries; oil, gas, and mining; climate change; coastal development; invasive species, pollution, and tourism. World Wildlife Fund identifies: poorly managed fishing, inadequate protection, tourism and coastal development, shipping, pollution, aquaculture, and climate change. Mother Nature Network identifies: overfishing, the great Pacific garbage patch, ocean acidification, population displacement due to climate change, mangrove destruction, bycatch, and whaling. Greenpeace identifies: whaling, overfishing, factory fishing, bottom trawling, and global warming.

“There is a need for strong metrics in the strategic plan. With public dollars, the OPC has to show real success.”

Although information on the most significant threats to the ocean should inform the decision, the issues that the OPC eventually selects may not necessarily be the greatest threats. Rather, the issues that the OPC selects will reflect some balance that addresses the threats, state agency management issues, SAT identified issues, and areas in which the OPC can make the greatest contribution.

SAT Recommendations

Another input for selecting issue areas is the SAT. In 2008 the SAT identified five (5) critical emerging issues: (1) desalination, (2) aquaculture, (3) disaster scenario planning, (4) technical innovations, and (5) sedimentation, sand, and beach nourishment. In the context of identifying research topics for Sea Grant projects, the SAT identified five research areas for 2009: climate change, land-sea interactions and water quality, harmful algal blooms, salmon-ocean conditions, and wave and tidal energy. At the most recent SAT meeting in July 2010, the SAT identified five current issue areas for the OPC to focus on. These five areas coincided with the five key issue areas that the OPC management team independently identified in June 2010 (listed below).

OPC Recommendations

In a recent draft planning document, the OPC management team identified five key issues to consider for the next five years:

- Climate change adaptation to address sea level rise and other climate impacts to ocean and coastal ecosystems
- Marine spatial planning to inform decisions about ocean uses off the California coast

Table 3-2
Recommended Issue Areas for OPC
from Stakeholder Interviews

Issue Area
1. Climate change adaptation including: sea level rise, ocean acidification, socioeconomic issues, local government aspects, funding for adaptation
2. Stormwater runoff, coastal/land water quality, land/sea interface, non-point source pollution, sediment, ocean friendly infrastructure
3. Marine spatial planning
4. Ocean renewable energy, aquaculture, offshore oil/decommissioning, desalination
5. Sustainable fisheries/fishery impacts
6. Marine Protected Areas
7. Marine debris
8. Public education, environmental literacy
9. Coastal communities/ redevelopment / working waterfronts. governance and financing package for small ports (Humboldt, Bodega, Morro Bay, Fort Bragg)
10. Salmon
11. Coordination role
12. Science role with OST
13. Ocean observing
14. Information management, repository for all ocean monitoring data
15. Ocean report card
16. Coastal habitat protection
17. Once-through cooling
18. Ports/pollution
19. Funding
20. Mapping

- Sustainable fisheries management to ensure healthy and thriving marine ecosystems and fishing communities
- Land-based activities management to reduce impacts to ocean and coastal resources
- Preparing for emerging industrial uses of the ocean.

“The OPC should have rigorous criteria to guide decision-making.”

Stakeholder Evaluation Input

The stakeholders interviewed for this evaluation of the OPC were asked to identify three to five issues that they thought should be the OPC’s focus over the next five years. Stakeholders identified over twenty different issue areas. These issues reflect a diversity of opinions, although several issues were identified by a large number of stakeholders. **Table 3-2**, left, provides a list of the general issue areas identified by interviewed OPC stakeholders in order starting with the most frequently mentioned areas.

The first six issue areas identified in Table 3-2 each had more than ten “votes”. The last several issues in Table 3-2 were identified by only one or two individuals. The top five stakeholder issue areas coincide directly with the key issues independently identified by the OPC management team in June 2010 and separately identified by the SAT in July 2010. During a comprehensive strategic planning process the OPC, with its partners, must identify what specific activities to undertake within each of these broader areas (or any other areas that might be selected).

Agency Recommendations

State agencies with responsibilities for ocean policy and management will have their own lists of key issues areas, and specific problems to address within those issue areas. These issue areas will reflect not just threats, but regulatory requirements, management issues, and implementation challenges. As part of its strategic planning process, the OPC should meet with directors and managers in each relevant agency to identify key problems from the agencies’ perspectives. Similarly, the OPC should also take into account federal interests

as it selects issue areas. For example, the federal marine spatial planning initiatives contribute to the OPC's interest in taking on this issue.

Ocean Resource Utilization Issues

Finally, there are a number of potential OPC issues that emerge as a result of ocean resource utilization. Examples of these issues include desalination, ocean energy, ocean exploration, aquaculture, shipping, and tourism. Given the OPC's science mandate, there may be a role for the OPC to explore the interface between "cutting-edge" ocean technologies, research, implementation, and policy.

NOAA's Coastal Services Center (CSC) Strategic Plan for 2010 to 2015⁵ may provide a model for the OPC as it works on its next plan. The NOAA CSC strategic plan includes an organizational overview that identifies mission, vision, operating principles, core values, drivers and alignment of strategies, primary customers, key partnerships, expertise, products, innovation, evaluation, and feedback. These lead-in sections describe the CSC's vision, general approach, and practices. The second part of their strategic plan identifies content focus areas – these are the specific issues that the CSC plans to address. For each issue area, the plan discusses the challenge, desired outcomes, specific CSC activities, and strategy. NOAA CSC has just two major content focus areas for the next five years: adapting to the impacts of coastal hazards and climate change, and competing uses of coastal resources. Within each of the two larger focus areas, NOAA's strategic plan identifies just a few specific actions that they will focus on.

⁵ Available at: <http://www.csc.noaa.gov/text/csc-strategic-plan.pdf>.

F.4 Identify Specific Strategic Plan Performance Metrics to Monitor the OPC's Success

With a clearer definition of specific goals and objectives for each key issue that the OPC will be working on, the OPC will be able to develop internal performance metrics to monitor its success and communicate outcomes within each of the new strategic plan action areas. These performance metrics should be specific to the problem that the OPC, and its partners, are working to solve, and developed during the strategic planning process.

In terms of measuring broader metrics on ocean health, the OPC may want to consider a role in the California Water Quality Monitoring Council, a joint effort of the California Natural Resources Agency and CalEPA. The Monitoring Council was established by SB 1070, Statutes of 2006, to improve the efficiency and effectiveness of water quality and associated aquatic ecosystems monitoring (including ocean and coastal ecosystems), and to provide broader access to monitoring data and assessment results.

The Monitoring Council is building on existing efforts, and has three categories of information currently available on its web portal (<http://www.waterboards.ca.gov/mywaterquality/>): (1) Is it safe to swim in our waters?, (2) Is it safe to eat fish and shellfish from our waters, and (3) Are our aquatic ecosystems healthy? (for wetlands only to-date). The Monitoring Council will be developing remaining portals over the next several years. As many of the metrics to be included on the web portal are ocean-related, there may be a role for the OPC, OST, and/or SAT to assist the Council in developing ocean health metrics.

“If you don’t communicate, it will catch up to you.”

“There is always room for more communication.”

G. Communication and Outreach

Communication and Outreach Finding

The OPC has communicated with its immediate stakeholders through its list-serve, web page, and one-on-one communications. The public comment period at OPC meetings provides the public with a unique opportunity to present ocean issues to policy-makers in a public forum. However, there are still many individuals and organizations involved in ocean and coastal issues that are unaware of the OPC. The OPC can improve communication with the legislature, other state agencies, coastal communities (local governments, fishermen, ocean resource and tourism industries), and the public, about its activities and accomplishments.

Recommendations

The recommendations related to communications and outreach build on several of the previous recommendations to provide increased transparency in OPC decision-making, and to let others know how the OPC is doing. In its first five years OPC staff focused their time on projects and the OPC does not have processes in place to communicate to more than its closest stakeholders. In the long-term, this strategy is not sustainable. Key decision-makers need to understand what the OPC does, and how the OPC adds value to the state.

“OPC probably flies under the radar of the legislature.”

G.1 Increase OPC Outreach and Communication Through a Sustained Communication Strategy

As the OPC continues to mature as an organization it is important that it develops an ongoing communication strategy. By expanding communication and outreach the OPC can potentially improve its effectiveness, organizational viability, and public awareness on ocean issues. The OPC will be more accepted as a collaborative and coordinating entity if those that it is working with have a better understanding of OPC accomplishments and OPC objectives.

By broadening the scope of those that it communicates with, the OPC can build a larger constituency. This, in turn, will allow the OPC to more effectively work with these entities in the future. Better communication with the legislature will be critical to the OPC’s viability, as the legislature controls the budget, and any legislative policy changes that the OPC recommends. Thus, the OPC must communicate with the Legislature, but also agencies, local governments, NGOs, fishermen, ocean resource industries, and the public. Many coastal local governments, for example, do not have a clear sense of what the OPC does, and how OPC activities can help them.

“I hope outreach to stakeholders is a big part of the next five years.”

“When there is a significant initiative, there should be an opportunity to discuss the issue publicly before it gets to the resolution phase.”

The OPC could efficiently reach out to local stakeholders by working with existing entities, such as the National Marine Sanctuary Advisory groups. Within an expanded communication program, the OPC should also clearly explain its vision, objectives, and expected actions so that there are clear expectations as to the OPC’s role overall and in particular issue areas.

There are a number of possible mechanisms to utilize in order to reach out to a broader array of stakeholders. The OPC could improve its list-serve by making it more compelling (i.e. to stand out better among the hundreds of emails we all receive daily), make its web page more user-friendly, produce an annual report to the legislature (and others), conduct regular briefings to the legislature, submit news stories, press releases, and utilize social media. The OPC could also employ Council members in helping to “spread the word” about OPC activities and accomplishments. In a recent example of OPC outreach, the OPC’s seafloor mapping project was featured on a Sacramento based, KFBK radio story, on July 19, 2010.

Because OPC staff resources are limited, we recommend that communication activities be managed through one staff person, rather than each staff person handling outreach for their own particular projects.

G.2 Increase Opportunities for Public Comment and Input on OPC Activities

The OPC frequently reaches out to stakeholders to obtain input, as it did in the development of its first strategic plan, and through the public comment agenda item at OPC meetings. Going forward, the OPC can continue to expand on these opportunities to obtain stakeholder input by implementing a consistent plan for stakeholder comment on OPC activities such as the next strategic plan, biannual work plans, project funding, resolutions, and policy issues. Increasing stakeholder input will often increase the time required to conduct a particular activity, but if it improves opportunities for success, acceptance, and the ultimate OPC impact then this extra time is worthwhile.

The OPC may want to consider establishing a formal stakeholder advisory group to provide input to the strategic planning process, as well as other OPC activities. Such a group would provide a formal mechanism to recognize and obtain input from a diverse range of stakeholders.

“It is important that California is in a leadership role nationally on ocean policy issues.”

Appendix A. OPC Projects Approved and Funded Since 2005



This Appendix provides a list of eighty-eight (88) projects funded by the OPC between FY 2005/06 and March 2010. This list is generally in chronological order, based on OPC project numbers. The list includes the project title, grantee, OPC approved funding, and matching funding. The total amount of OPC funds awarded is \$65,948,600. These funds were augmented with \$43,205,245 in matching funds from federal, state, local government, and private sources.

OPC

Exhibit A-1

Projects Approved and Funded by OPC since March 2005

Page 1 of 4

	OPC Project Number	Title	Grantee	OPC Approved Funding	Matching Funding
1.	05-040-01	Derelict Fishing Gear Removal Pilot Project	UC Davis	\$345,000	\$50,000
2.	05-043-01	San Francisco Bay Native Oyster Restoration Plan	UC Davis	150,000	105,000
3.	05-044-01	San Francisco Bay Eelgrass Restoration	San Francisco State University, UC Davis	200,000	402,742
4.	05-049-01	Channel Islands Marine Protected Areas Monitoring Program- Remoter Operated Vehicle (ROV) Survey Project	The Nature Conservancy	765,000	0
5.	05-050-01	Klamath River Sediment Study	Gathard Engineering Consulting, Shannon & Wilson, Inc.	350,000	0
6.	05-063-01	San Francisco Bay Subtidal Habitat Goals Project	Association of Bay Area Governments	125,000	138,000
7.	05-064-01	California and the World Ocean '06	Coastal Conservancy Association	150,000	0
8.	05-068-01	USC Sea Grant Research Program (06)	USC Sea Grant	400,000	0
9.	05-069-01	Sustainable Fisheries Revolving Loan Fund Planning Grant	Environmental Defense Fund	101,300	0
10.	05-092-01	Morro Bay Ecosystem-based Management	Cal Poly San Luis Obispo Center for Coastal Marine Science	500,000	3,000,000
11.	05-102-01	Benthic Habitat Mapping – North Central Coast	Monterey Bay National Marine Sanctuary Foundation	2,710,000	1,550,000
12.	05-107-01	California Aquatic Invasive Species Management Plan	Association of Bay Area Governments	110,000	40,000
13.	06-025-01	Santa Barbara Channel Marine Mapping Project	California State University, Monterey Bay, University Corporation at Monterey Bay (formerly Foundation of CSUMB)	400,000	380,000
14.	06-062-01	Ocean Awareness Campaign Development – Phase 2	National Marine Sanctuary Foundation	110,000	195,000
15.	06-063-01	Aquaculture Programmatic Environmental Impact Report	Jones & Stokes	345,000	0
16.	06-064-01	Engineering and Operational Study of Coastal Power Plants that Use Once-through Cooling	Tetra Tech	320,000	0
17.	06-082-01	Marine Life Protection Act Central Coast Baseline Monitoring – Year 1	UC Sea Grant/UC Regents	2,275,000	0
18.	06-084-01	San Diego Sea Urchin Fishery	San Diego Watermen's Association	114,120	0
19.	06-090-01	Marine Protected Areas Monitoring Enterprise	California Ocean Science Trust	2,000,000	0
20.	06-095-01	San Luis Obispo Sustainable Fisheries Support	City of Morro Bay	130,000	180,000

Exhibit A-1

Projects Approved and Funded by OPC since March 2005 (continued)

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	OPC Project Number	Title	Grantee	OPC Approved Funding	Matching Funding
21.	06-097-02	California Sea Floor Mapping Program	USGS, NOAA, and CSU Monterey Bay Foundation	15,250,000	14,500,000
22.	06-098-01	Permanent Funding Options for Ocean and Coastal Protection	Redefining Progress	49,000	0
23.	06-109-01	OPC-DFG Joint work plan	California Department of Fish and Game	0	2,000,000
24.	06-109-02	DFG Equipment and Operations	California Department of Fish and Game	325,000	0
25.	06-109-03	North Central Coast MLPA Socioeconomic Data Collection	Ecotrust	210,000	0
26.	06-109-04	Deep-water ROV Surveys in the Channel Islands (MARE)	Marine Applied Research and Exploration	660,000	0
27.	06-109-05	Channel Islands SCUBA survey	National Park Service	210,668	0
28.	06-109-06	Channel Islands SCUBA survey	UC Santa Barbara	371,187	0
29.	06-109-07	Lobster and Finfish Trap Surveys	UC Santa Barbara	407,855	0
30.	06-109-08	Nearshore Ichthyoplankton Assessment	UC San Diego	500,000	0
31.	06-109-09	Recreational Fishing Survey Improvement Studies	Pacific States Marine Fisheries Commission	630,000	0
32.	06-109-11	Commercial Fishery Logbook Data Management	Pacific States Marine Fisheries Commission	445,000	0
33.	06-109-12	Commercial Fishery Information System Improvement Study/Business Process Analysis	California Department of Fish and Game	302,571	0
34.	07-001-01	State Agency Budget Assessment	Monterey Bay Aquarium Research Institute	90,000	0
35.	07-002-01	UC Sea Grant Research Program (06 and 07)	UC Sea Grant	1,600,000	0
36.	07-003-01	California Fisheries Fund	Environmental Defense Fund	2,000,000	3,000,000
37.	07-009-01	Moss Landing Fish Market Feasibility Study	Moss Landing Marine Labs	50,000	10,000
38.	07-010-01	Ocean Science Capacity – Science Advisory Team Development	California Ocean Science Trust	200,000	0
39.	07-011-01	Cooperative Kelp Monitoring	Reef Check California	243,500	327,000
40.	07-012-01	San Francisco Fisherman's Wharf Sustainable Seafood Market	Ecotrust	65,468	0
41.	07-014-01	Energy Grid Reliability Study	Jones and Stokes/Global Energy	135,638	100,000
42.	07-025-01	Non-market Ecological Valuation of Coastal Marine Resources in California	National Center for Ecological Analysis & Synthesis – program of UC Santa Barbara	78,738	0
43.	07-026-01	Low Impact Development Regulation Assessment	Tetra Tech	50,000	0

Exhibit A-1

Projects Approved and Funded by OPC since March 2005 (continued)

Page 3 of 4

	OPC Project Number	Title	Grantee	OPC Approved Funding	Matching Funding
44.	07-027-01	UC Marine Council graduate student fellowships	UC Marine Council	60,000	0
45.	07-049-01	San Francisco Bay Hydrodynamic and Sediment Transport Modeling	Regents of the University of California, Regents of the University of California, Berkeley, Stanford University	429,000	0
46.	07-050-01	Santa Monica Bay Gap Analysis	Santa Monica Bay Restoration Commission	210,000	180,000
47.	07-051-01	Ocean Energy Study	HT Harvey/Farallones Institute of Ecosystem Research	83,654	100,000
48.	07-053-01	California Sea Level Rise Projections	UC San Diego	100,000	0
49.	07-093-01	Toxicological Profiles	California Office of Environmental Health Hazard Assessment	176,866	0
50.	07-113-01	UC Marine Council Fellowships	UC Regents	60,000	160,000
51.	08-003-01	UC Davis Marine Wildlife Health Lab	UC Davis	242,000	754,000
52.	08-016-01	UC Sea Grant Research Program (08)	UC Sea Grant/UC Regents	800,000	0
53.	08-017-01	USC Sea Grant Research Program (08)	USC Sea Grant	200,000	0
54.	08-028-01	Tijuana Estuary Sediment Fate and Transport Study	Southwest Wetlands Interpretive Association	677,455	2,347,786
55.	08-042-01	LID Implementation in CA	Dan Cloak Environmental Consulting	25,000	0
56.	08-044-01	Southern Steelhead Resources Project	Center for Ecosystem Management and Restoration	166,021	0
57.	08-052-01	ROV Vessel Support	Institute for Fisheries Resources	247,500	0
58.	08-053-01	Aquatic Invasive Species Vector Risk Assessments	Ocean Science Trust	1,000,000	115,000
59.	08-063-01	Central Coast MPA Baseline Monitoring – Year 2	UC Santa Cruz – San Jose State University Research Foundation	1,703,750	1,133,288
60.	08-067-01	Sea Level Rise: Coastal Infrastructure and Resources Impact Project	Pacific Institute and Philip Williams and Associates	350,000	0
61.	08-068-01	Thank You Ocean – Strategic Planning I	Wundermarx	95,000	0
62.	08-069-01	Thank You Ocean – Strategic Planning II	Tim Jemal	45,000	0
63.	08-072-01	Salmon report	Ecotrust	41,468	0
64.	08-077-01	Facilitation for salmon meetings	Harty Conflict Consulting & Mediation	48,365	0
65.	08-079-01	Sea Otter Recovery Research	UC Santa Cruz	2,571	222,429
66.	08-094-01	Marine Live Management Act Lessons Learned	Harty Conflict Consulting & Mediation	250,000	0
67.	08-095-01	Collaborative Fisheries Research Organization	Pacific States Marine Fisheries Commission	300,000	0

Exhibit A-1

Projects Approved and Funded by OPC since March 2005 (continued)

Page 4 of 4

	OPC Project Number	Title	Grantee	OPC Approved Funding	Matching Funding
68.	08-099-01	Central Coast Groundfish Project	The Nature Conservancy	1,006,500	4,100,000
69.	08-100-01	Climate Change Adaption Report	EcoAdapt	110,000	0
70.	08-121-01	UC Sea Grant Research Program (09)	UC Sea Grant/UC Regents	800,000	0
71.	08-122-01	USC Sea Grant Research Program (09)	USC Sea Grant	200,000	0
72.	08-123-01	California Ocean Science Coordination	California Ocean Science Trust	1,020,000	0
73.	08-124-01	Instream Flow Assessment – Santa Maria River	Still Water Sciences	600,000	0
74.	08-134-01	Southern California Bight Nutrient Loading Study	Southern California Coastal Water Research Project (a JPA)	440,000	0
75.	08-140-01	Toxics Plastics Substance Flow Accounts	Chico State University	90,000	0
76.	08-141-01	Instream Flow Assessment – Shasta River	Humboldt State University	300,000	0
77.	08-142-01	Instream Flow Assessment – Big Sur river	Pacific States Marine Fisheries Commission	100,000	0
78.	08-145-01	CA Fisheries Evaluation	Quantitative Resource Assessment	150,000	0
79.	08-147-01	Oil Decommissioning Study	California Ocean Science Trust	218,405	365,000
80.	08-160-01	MPA Baseline Data Collection – North Central Coast	UC Sea Grant/UC Regents	4,000,000	0
81.	08-173-01	Dungeness Crab Task Force Facilitation	California State University, Sacramento, T.C. Hoffmann & Associates	275,000	0
82.	09-010-01	Synthesis for Coastal Ocean Observing Products	Brock B. Bernstein	200,000	0
83.	09-019-01	National Academies Sea Level Rise Assessment Report	National Academies	100,000	0
84.	09-022-01	MLPA implementation	California Department of Fish and Game	4,400,000	0
85.	09-023-01	OPC Program Evaluation	NewPoint Group	150,000	0
86.	09-099-01	Matilija Dam Ecosystem Restoration Project	Ventura Watershed Protection District	1,000,000	7,750,000
87.	N/A	MPA Baseline Data Collection – South Coast	UC Sea Grant/UC Regents	4,000,000	0
88.	N/A	MPA Baseline Data Collection – North Coast	UC Sea Grant/UC Regents	4,000,000	0
		Total		\$65,948,600	\$43,205,245

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Appendix B. OPC Case Studies and Lessons Learned ■

OPC

This section of the white paper provides case studies of three (3) OPC activities. These three case studies provide a more detailed assessment of OPC policy issues, funding investments, accomplishments, challenges, and lessons-learned. These case studies were selected to illustrate the breadth of OPC activities, as well as the unique issues and challenges inherent within different OPC activities.

The seafloor mapping case study provides an example of successfully combining OPC funding and coordination efforts to conduct scientific research. The marine debris case study demonstrates the OPC's role in raising awareness and OPC challenges in promoting policy change. The sustainable fisheries case study illustrates the OPC's ability to promote positive activities, but without an articulated plan. This latter case study also examines balance and boundary questions in OPC's relationships with other state agencies.

The three case studies are presented as follows:

1. *Seafloor Mapping Case Study*
2. *Marine Debris Case Study*
3. *Sustainable Fisheries Case Study.*

OPC

“Seafloor mapping is foundational.”

1. Seafloor Mapping Case Study

The OPC’s California Seafloor Mapping Project (CSMP) was initiated in 2005, building on previous work by the SCC and others. The CSMP is a collaborative effort that includes universities, industry, and state and federal agencies. The seafloor mapping program represents a major OPC accomplishment across three core areas: coordinating agencies, obtaining and utilizing scientific research, and project funding.

To-date, OPC has collected bathymetry and backscatter data for most of the state waters, from 10 meters depth (the depth of safe navigation), to 3 nautical miles out (the boundary between state and federal waters). The only area remaining to be mapped beyond 10 meters depth is a small region north of Point Conception and south of San Luis Obispo. **Exhibit B-1**, on the next page, provides the seafloor mapping progress map, as of February 2010, for the entire state and an example close-up of the Monterey Bay.

California is far ahead of the rest of the country in their seafloor mapping program, and the state serves as a role model for national efforts to implement coordinated and comprehensive mapping, called for in the federal Ocean and Coastal Mapping Integration Act of 2009. At a November 2009, National Ocean and Coastal Mapping Workshop, California’s seafloor mapping program was repeatedly mentioned as a positive example of how mapping can be accomplished through a coordinated effort.

Prior to California’s seafloor mapping program, no entity had completed mapping on such a large scale – essentially the entire 1,100 mile coast. Previous mapping was limited to “postage stamp” size units, scattered at various

locations. California’s efforts showed the importance of mapping the entire coast, providing a broad perspective on the seafloor. California’s seafloor mapping program also demonstrated that with concerted effort and funding it was technically possible to map large areas of seafloor in a single season. California’s experience created momentum for broader regional and national mapping efforts.

This seafloor mapping case study begins with a discussion of the objectives of seafloor mapping and seafloor mapping consistency with the COPA. The seafloor mapping program is described in the next subsection, Seafloor Mapping History and Partners, followed by next steps and lessons learned. The last subsection provides a primer on seafloor mapping, including example maps.

Seafloor Mapping Consistency with COPA

Seafloor mapping clearly falls within the types of activities that were envisioned within the COPA. Seafloor mapping is consistent with goals of the COPA, including:

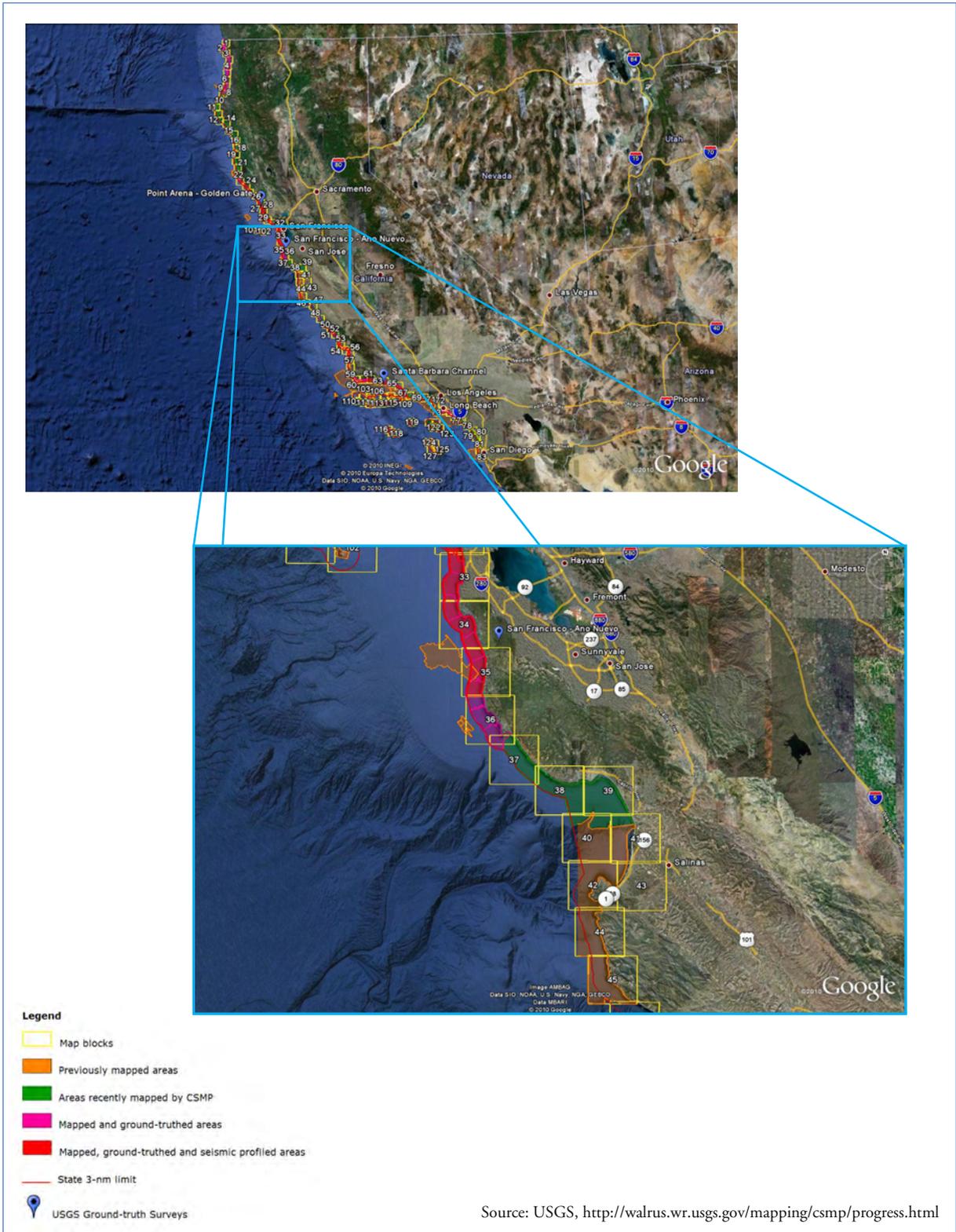
“Identify scientific research and planning that is useful for the protection and conservation of coastal waters and ocean ecosystems, and coordinate and assist state agencies in addressing those needs.” (Public Resources Code, Section 35515 (f)), and

“Establish policies to coordinate the collection, evaluation, and sharing of scientific data related to coastal and ocean resources among agencies.” (Public Resources Code, Section 35615 (a)(2)).

“Seafloor mapping is a good example of the kind of thing that the OPC should be spending its money on – we need accurate maps no matter what we do along the coast.”

Exhibit B-1

California Seafloor Mapping Program Progress, as of February 2010



“California’s seafloor mapping program is an example for the rest of the country.”

The strategic plan identified seafloor mapping as a priority under Research and Monitoring, Objective 2: Monitoring, “Monitor and map the ocean environment to provide data about conditions and trends.” Within Objective 2, there are three strategic plan action items specific to seafloor mapping that direct the OPC to: (1) pursue funding and partnerships to complete seafloor maps of all state waters and implement recommendations in the Statewide Marine Mapping Planning Workshop; (2) develop and maintain state and federal partnerships to leverage investment in mapping projects; and (3) develop and implement a system for data management and a standardized approach to the format and distribution of mapping products. Seafloor mapping also was specifically identified as a funding priority in Proposition 84.

Objectives of Seafloor Mapping

An often-quoted sentiment in ocean policy documents is that “we know more about the surface of the moon than the bottom of the ocean.” Early on, the OPC recognized this data gap, and the need for comprehensive seafloor mapping. Mapping is essential to ensuring that the coastline is understood and effectively utilized.

There are many potential benefits of mapping the seafloor. Initially, the OPC’s seafloor mapping initiative was intended to support implementation of the MLPA, particularly the establishment of a network of Marine Protected Areas. Seafloor maps have been very helpful in the MPA process. However, seafloor mapping has many other applications, and a key reason for the collaborative

nature of this project was that mapping provides different and significant benefits to each of the various entities involved. For example, NOAA saw the CSMP as an opportunity to update navigational maps that were over 200 years old. The USGS saw that mapping would support their efforts to improve seismic information, among other benefits. Applications of seafloor mapping include all the following:

- Improve and advance climate change and ocean circulation models
- Understand and help mitigate impacts of sea level rise
- Understand sediment transport and sand delivery
- Forecast storm inundation and coastal erosion
- Identify tectonic faults and fault dynamics
- Understand coastal earthquakes and any tsunami potential
- Improve navigational maps and maritime safety
- Evaluate sites for renewable ocean energy and aquaculture projects
- Regulate offshore coastal development more effectively
- Contribute to the development of marine spatial planning
- Identify key habitats that should be prioritized for protection or restoration.

Seafloor Mapping History and Partners

In December 2005, the OPC sponsored a Statewide Marine Mapping Planning Workshop. The workshop was organized by the Seafloor Mapping Laboratory at California State University (CSU) Monterey Bay, USGS, and Moss Landing Marine Laboratories. As described in the March 2006, workshop report the objectives of the workshop were to:

“Seafloor mapping would never have been done without the OPC.”

- Summarize existing data holdings, current data needs, and planned data collection efforts for the 38 participating organizations
- Perform a gap analysis to identify priority areas where data were still missing
- Create a prioritized list of areas for future mapping within state waters, and
- Recommend minimum standards for survey specifications, level of data interpretation, and map product creation appropriate for a comprehensive state waters mapping project.

This workshop was an important first-step for the CSMP, because it brought all the respective players to the table and provided an opportunity for in-depth discussions, promoting understanding among various entities as to what information was already available and what information was needed. Attendees at the workshop agreed on basic seafloor mapping requirements and discussed trade-offs between field data collection, interpretation, and map production.

The OPC utilized these workshop findings to develop the pilot phase of CSMP. The initial objective of the CSMP was to test and refine protocols and create geological and habitat maps from the shoreline, out to three (3) nautical miles¹, mainly in support of the Marine Life Protection Act initiative.

¹ The seafloor mapping data discussed in this case study covers from 10 meters in depth, to three nautical miles out. It is not safe to navigate research vessels at shallower depths that would be required to map the near-shore areas. Bathymetric LiDAR was tested in this pilot phase, but it did not provide useful data and it was not carried on into the larger implementation.

The OPC initially gave a grant to the Monterey Bay Sanctuary Foundation to conduct a competitive process for the mapping work. The first awards went to a collaborative team that continue to be core partners in CSMP. Over \$4 million was allocated to this pilot phase, with \$2.7 from the OPC and the remainder from the DFG, USGS, and National Marine Sanctuary Program. These pilot-phase funds were awarded in January 2005, and April 2006, to map the area from Año Nuevo to Bolinas and then from Bolinas to Point Arena, to support the central coast MLPA design process.

Based on success achieved in the pilot phase the OPC prepared a staff recommendation to provide up to \$15 million in Proposition 84 funds for full implementation of the CSMP. The Council authorized the first \$7.5 million in funding, October 2007. This funding was awarded to NOAA (\$5 million, to be awarded entirely to a private industry mapping firm), USGS (\$500,000), and CSU Monterey Bay (\$1.8 million) (through the Foundation of California State University Monterey Bay). In addition, these entities provided approximately \$4 million in matching funds and in-kind services. It was acknowledged at this point that these funds would not be enough to complete the project and data collection would be the primary focus of the OPC funds. Staff then set out to fundraise for other aspects of the program, including ground-truthing and product development.

Although most of the same partners remained involved in this phase of the program, OPC realized that a program this ambitious would require a deeper collaboration with NOAA. Four different NOAA programs: Office of Coast Survey, National Marine Sanctuary Program, National Marine Fisheries Service, and the National Geophysical Data Center, all support the CSMP.

“We need to show that the mapping work is meaningful – what does it mean to taxpayers?”

The Office of Coast Survey (OCS), is required to produce navigational maps for coastal waters of the United States, emphasizing “critical areas”, including San Francisco Bay and Humboldt Bay. The OCS had a fifty-year backlog in mapping just the critical areas, and saw the CSMP as an opportunity speed-up the process of updating navigational charts. The results of the pilot helped peak OCS’s interest, and they immediately authorized funding to integrate these data into the charting program (sometimes updating 150 year old data). OCS was even more committed to the program when the new mapping efforts found hundreds of navigational hazards in the North Coast alone that had not been previously identified.

A major benefit of partnering with NOAA’s OCS was the fact that OCS had five competitively selected mapping service firms under pre-approved government contract. This allowed NOAA to provide a contractor, and contracting services, that the OPC did not have the technical or administrative capabilities to provide. The pre-existing contract also allowed mapping to start more quickly. NOAA also assisted this effort by archiving data at the National Geophysical Data Center.

The CSU Monterey Bay, Seafloor Mapping Laboratory (SFML), was awarded funds to continue mapping in two priority MLPA areas, for equipment purchases to test new technologies, and to evaluate methods to clean and process large amounts of raw data generated by the project. The SFML was one of the early leaders in seafloor mapping efforts, and brought their considerable experience to the CSMP.

The USGS has been another key player in the CSMP, participating in mapping, but more importantly, providing ground-truthing, seismic reflection profiling, and map production. Throughout the CSMP, USGS has provided significant in-kind services, and has continually promoted awareness and utilization of seafloor maps.

In September 2008, the Council authorized expenditure of the remaining \$7.5 million for continued CSMP operations. This funding was to be allocated to the same three entities, with \$6.5 million to NOAA for industry mapping, \$500,000 to USGS, and \$700,000 to CSU Monterey Bay. However, the bond freeze in December 2008, put a stop to all OPC funding for the CSMP (this funding freeze was lifted in mid-2010). At the time of the bond freeze, mapping boats were in the water conducting surveys. Because of the strong relationship developed between OPC and NOAA during the project, NOAA was able to obtain federal funding to maintain the CSMP during the bond freeze. NOAA’s provision of funds was critical to success of the program ; without NOAA’s funding, the mapping would have been put on hold for over one year.

NOAA provided \$6.5 million, to maintain the CSMP during the bond freeze. The OPC is now able to utilize the frozen funds for other elements of the project. In total, the OPC has authorized \$15 million, and spent \$10 million, (excluding the pilot phase) on the CSMP. NOAA, USGS, and others have provided over \$14 million in matching funds and in-kind services. The total cost of the CSMP (excluding the pilot phase) is estimated to be over \$35 million, leaving a current funding gap of at least \$6 million (\$15 million + \$14 million = \$29 million; \$35 million - \$29 million = \$6 million), still to be reconciled with the project partners.

“Information from seafloor mapping is being used directly, and is essential for putting in MPAs.”

While the primary CSMP collaborators are the OPC, NOAA OCS, USGS, and CSU Monterey Bay, the project involves many other entities, including: Moss Landing Marine Laboratories, California Geological Survey, NOAA National Marine Sanctuary Program, NOAA Coastal Services Center, DFG, SCC, NOAA National Geophysical Data Center, NOAA National Marine Fisheries Service, Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), U.S. Geological Survey, U.S. Army Corps of Engineers, Pacific Gas and Electric, and Fugro Pelagos, Inc.

Seafloor Mapping Next Steps

As the data-gathering phases are completed, the CSMP is shifting focus toward map production and data distribution. Over the next few years, the OPC and its partners hope to complete the swath mapping, video ground-truthing, and seismic reflection work, while continually producing useful map products. As time and funds allow, CSMP partners will work on completing the entire map portfolio. The OPC was recently awarded \$1.4 million from the BOEMRE for map product development. The majority of these funds will be allocated to USGS, with smaller amounts to the California Geological Survey (CGS) and Moss Landing Marine Laboratory.

It will be important during this next stage to promote broad application of seafloor maps. This will not happen without outreach, communication, and technical assistance to resource managers and others that could potentially utilize maps. Many state agency managers are used

to making decisions with less-than-adequate information, so they may need assistance in order to incorporate seafloor mapping data into their operations. What are the management questions that can now be better answered with seafloor mapping data? There are many potential applications, such as preventing accidents, fish stock assessments, information to the fishing community on habitats, siting alternative energy operations, and understanding beach erosion and replenishment, and each application may require different data resolutions. Without outreach, many of these applications may be underutilized.

In terms of data-gathering, the OPC’s goal is filling the “white-zone”; from the shoreline out to 10 meters depth, an area of particular interest to many resource managers. Currently, OPC is collaborating with the U.S. Army Corps of Engineers, and hoping to take advantage of their Coastal Mapping Program to acquire nearshore bathymetric LiDAR data. This nearshore portion of the coast poses significant technical challenges on the west coast; LiDAR lasers do not easily penetrate the dense kelp and turbid water of California’s coast. Where LiDAR is unsuccessful, CSMP is testing other technologies, such as boat based LiDAR and swath mapping via jet skis or automated underwater vehicles. The costs associated with this effort are not yet known.

The OPC is an active participant in the West Coast Governors’ Agreement on Ocean Health, Seafloor Mapping Action Coordination Team Final Work Plan. This work plan, released in May 2010, sets a goal of completing the entire seafloor map of west coast states’ waters by 2020. These maps would include areas beyond the three-mile state limit, as well as coastal waters inside 10 meters depth. California’s experience with seafloor mapping has helped influence, and inform, Oregon and Washington’s mapping programs.

“The OPC’s seafloor mapping program makes other [states] realize then can achieve that, also.”

OPC Seafloor Mapping Lessons Learned

The success of OPC’s seafloor mapping program can be linked to (at least) seven characteristics: (1) the fact that maps provided multiple benefits to multiple entities, (2) bringing together key players early on in the project, (3) having a strong anchor client (NOAA), (4) a gradual project build-up and a pilot phase to demonstrate success, (5) ongoing coordination and communication, (6) the opportunity to achieve cost-savings to obtain data that each agency could not have afforded on their own, and (7) the OPC’s significant influx of funding for the seafloor mapping effort.

The fact that seafloor mapping provides fundamental data that can be used for multiple purposes, by multiple entities, was a key to getting the various players to work together and share information. While coordination of expensive data gathering efforts may seem like an obvious thing to do, the simple fact of state and federal agencies sharing data and working together is not the historical norm. Each of the various entities – including several NOAA branches, USGS, academics, and the DFG – were interested in seafloor mapping data for their own purposes. Seafloor mapping would help these entities obtain mutually beneficial goals, through cross utilization of data. In addition, each entity had a role: academics initiated seafloor mapping on a smaller scale, and continued to contribute and ensure good science; government agencies (OPC, NOAA, USGS) were willing to provide funding and resources to sustain the project; and industry provided the technology and manpower to increase the scale of mapping. Another feature of the project that brought entities together

was that seafloor mapping is a cutting-edge technology that had never been conducted on this scale. Data continues to be highly sought by many sectors and has been immediately integrated into new research.

Bringing together key players in the mapping project early in the process was important. The SCC-sponsored Statewide Marine Mapping Planning Workshop brought together each of the relevant organizations and provided an opportunity for them to jointly learn about mapping progress to-date, mapping priorities, technical considerations, and where there were commonalities and differences. This workshop also provided an opportunity to identify anchor clients – i.e. who was really behind the project.

Early one-on-one meetings to ensure that various players were on-board were helpful. For example, the OPC met with NOAA’s Office of Coast Survey, an agency mandated to map all U.S. coastal waters, including defined “critical areas”. Once NOAA saw that the OPC was willing to fund the mapping effort, NOAA added \$3 million to create navigational maps. By participating in the CSMP, NOAA was able to map California’s critical areas right away (as compared to the 50 year backlog that the agency’s mapping efforts were facing), and was instrumental in helping the program continue during the state budget freeze.

The workshop, followed by a pilot mapping project, provided a period of discovery that allowed agencies to see how, and why, mapping would be beneficial. The gradual project build-up and smaller-scale pilot phase were helpful to get the various agencies on-board. Working with the various entities that will benefit from the new data at the outset was important. It is much harder to “sell” research or data after it has been gathered.

“There was great support for the program, even through the budget crisis.”

The CSMP has benefited from active and hands-on management by the OPC. This includes conversations with project partners, often several times per week, to keep them all informed and involved. There is a significant amount of coordination required to balance and stagger the timing of data gathering, ground-truthing, map production, and staying ahead of the MLPA process. The OPC plays an active role in managing the overall effort, but at the same time the OPC is just one of many involved entities in the partnership. All partners are willing participants, because all partners benefit from the program.

Prior to the CSMP, seafloor mapping efforts were typically conducted by single entities and localized to address particular research or planning needs. By combining mapping resources the CSMP was able to do more, for less, or “map once and use many times”. NOAA, USGS, and the universities supplemented the OPC’s funds to support their specific needs. This will allow mapping of navigational hazards and seismic profiling of the entire coast, for example, rather than just small areas. The opportunity for cost efficiencies helped bring, and keep, these entities in the program.

The commitment of the OPC to provide a significant amount of funding to support seafloor mapping in California served as a catalyst to the entire effort. Without the OPC’s resources, seafloor mapping in California would have slowly continued in a piecemeal approach. The fact that the OPC was willing to make a major investment spurred others, but it would not have happened without that initial, substantial commitment of OPC resources.

A Seafloor Mapping Primer

Seafloor mapping is a complex, technical, and expensive undertaking. The remainder of this case study provides a description of seafloor mapping for non-experts. There are three data-gathering steps that utilize field vessels, deployed at three different times. The first step, called swath mapping, uses multibeam and bathymetric sidescan sonar systems to methodically collect high-resolution bathymetry (ocean floor topography) and acoustic backscatter data. Bathymetry data displays the shape of the seafloor, and the acoustic backscatter data helps determine the seafloor geology (rock, sand, and mud). These data are typically processed on the ship. Most of the swath mapping is being conducted by a private contractor, Fugro Pelagos Inc., and CSU Monterey Bay.

Advances in sonar technology and data storage and management over the last decade have helped make this type of data-intensive effort possible. For example, the ability to operate several sonar sensors simultaneously allows research vessels to cover wider areas of the seafloor more efficiently. In addition, the ability to compactly store and manage large volumes of data is critical to seafloor mapping. Before improvements in data storage capabilities, simply getting the sonar data from the boat to the office was a huge hurdle. Now, data can be initially processed on the boat and ultimately transferred to NOAA’s data storage center in Colorado.

The second phase of seafloor mapping is video ground-truthing. In ground-truthing, a research vessel tows a camera sled approximately one meter over the seafloor at speeds of approximately one knot. The camera sled houses video cameras and lasers. Video feed is sent to the ship for real-time observations, and also recorded into a database. The camera records observations at set intervals for a sample of locations. These data provide geological observations such as composition,

complexity, and local slope; and biological observations such as biological complexity, cover, and species. These video observations are added to a geographic information system (GIS) and compared with the swath bathymetry and backscatter data. The USGS is conducting all of the video ground-truthing and has completed nearly one-half of the 83 mapping blocks along the California coast.

The final data-gathering phase is seismic profiling. Seismic profiling is being conducted and funded by the USGS, and involves imaging the area beneath the seafloor using several types of sub-bottom profilers. Typically, a research vessel tows an acoustic source and receiver. The source emits acoustic energy that is reflected back to a receiver with different acoustic impedances, reflecting different types of sediment. These profilers produce seismic reflection profiles of bedrock and sediment, at depth. The USGS is now updating low resolution data from the 1970s with new high resolution data. Seismic profiling data show a cross section of the earth's crust, and can demonstrate how sedimentary deposits have been altered by fault zones. The CSMP has identified a new fault near the Diablo Valley nuclear plant. The USGS has completed seismic profiling in approximately one-third of the 83 mapping blocks.

The final stage of seafloor mapping is map production. Map production is an expensive and time-consuming effort in and of itself. There are four tiers of map production. Tier 1 consists of cleaned bathymetry soundings and backscatter data. Tier 1 maps illustrate the information obtained in the swath mapping phase. **Exhibit B-2**, on the next page, provides an example of a Tier 2 map.

Tier 2 maps are produced relatively easy from Tier 1 datasets by converting data into GIS, and using autoclassification of substrates and surface models. Tier 2 maps provide GIS-ready imagery

and data layers (such as slope, aspect, rugosity, contours, and relief). **Exhibit B-3**, on page B.12, provides an example of a Tier 2 map.

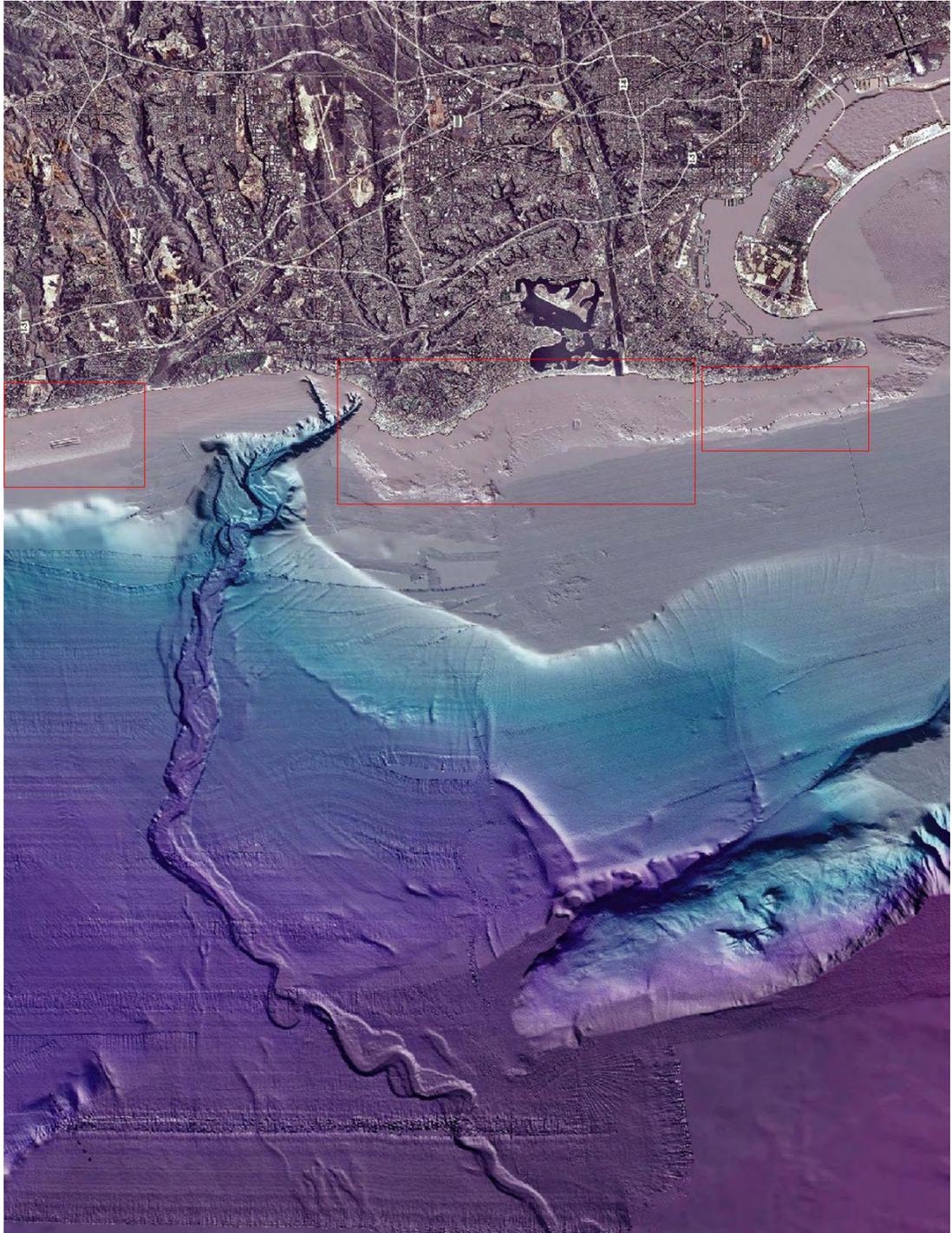
Tier 2.5 maps can also be derived efficiently through automated GIS processes from the raw data and are often tailored for a particular audience. These map products are of high value to management agencies because many of the patterns they reveal (e.g. rocky versus soft bottom habitats, bed forms, and depth zones) are easily discernable at this intermediate level of data analysis. The benthic habitat maps being utilized for MLPA planning are Tier 2.5 maps. **Exhibit B-4**, on page B.13, provides an example of a Tier 2.5 map depicting seismic data.

Tier 3 maps are fully interpreted, classified, and attributed geological and habitat maps created from the previous tiers (and other data sources) by geologists and biologists that integrate, interpret and apply complex classification schemes. Tier 3 maps can only be produced where there is ground-truthing data (and seismic data for geology maps) available. These maps provide significant value, but at a much higher cost than the other tiers. **Exhibit B-5**, on page B.14, presents an example of a Tier 3 map.

The USGS is responsible for the majority of map production with some assistance from CSU Monterey Bay, Moss Landing Marine Laboratory, and the California Geological Survey. The CSMP will eventually create up to ten different maps for each mapping block, including 83 coastal mapping blocks and 44 additional mapping blocks surrounding islands (for 127 total mapping blocks at a 1:24,000 scale). Tier 3 maps will be peer-reviewed and all maps will be formally published and made available in both digital and hardcopy formats. While individual maps are currently completed in some areas, the first complete set of maps will likely be finished in the fall of 2010. Maps will be available to resource managers, academics, and the public.

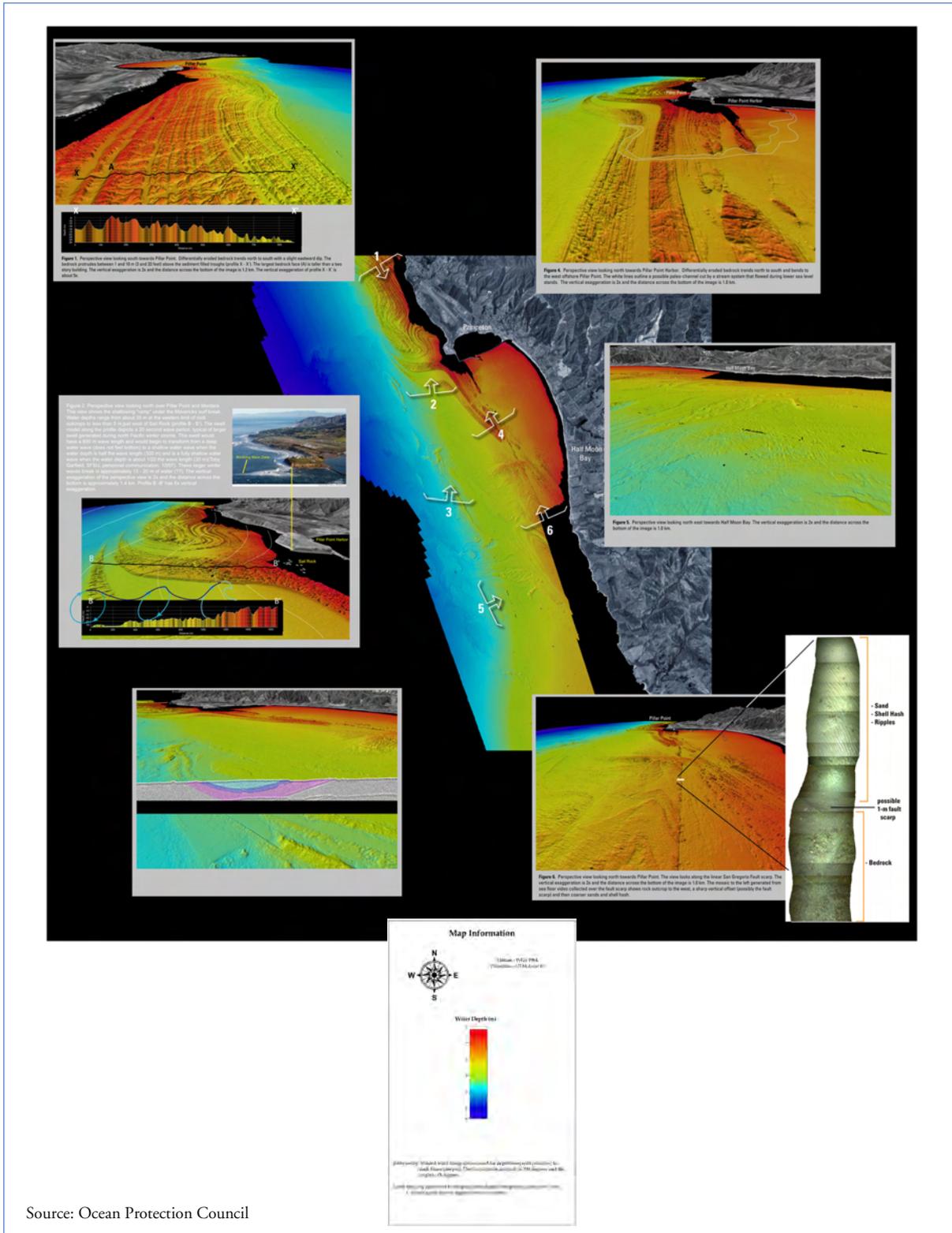
Exhibit B-2

California Seafloor Mapping Program, Example Tier 1 Map (Offshore La Jolla)



Source: Ocean Protection Council

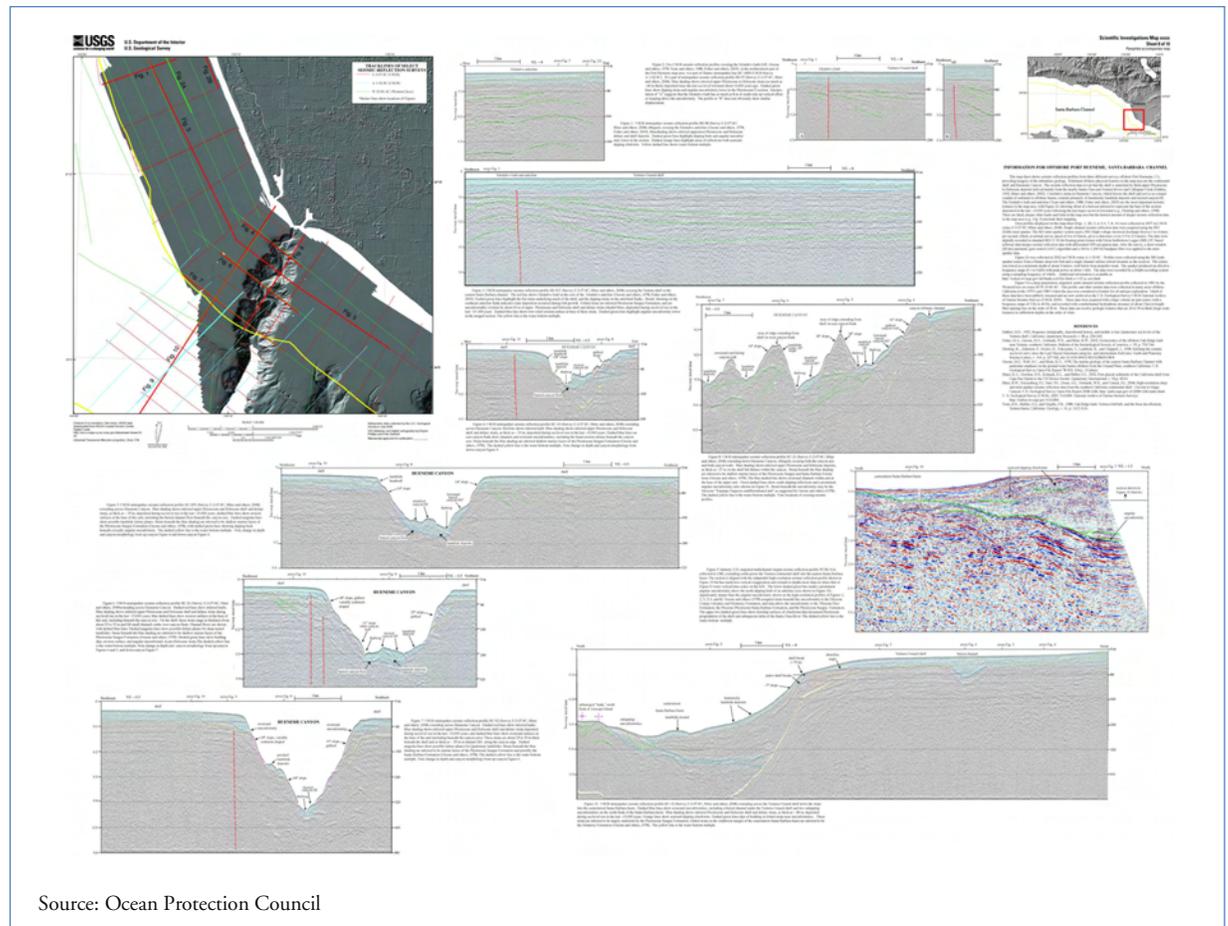
Exhibit B-3 California Seafloor Mapping Program, Example Tier 2 Map



Source: Ocean Protection Council

Exhibit B-3

California Seafloor Mapping Program, Example Tier 2.5 Map



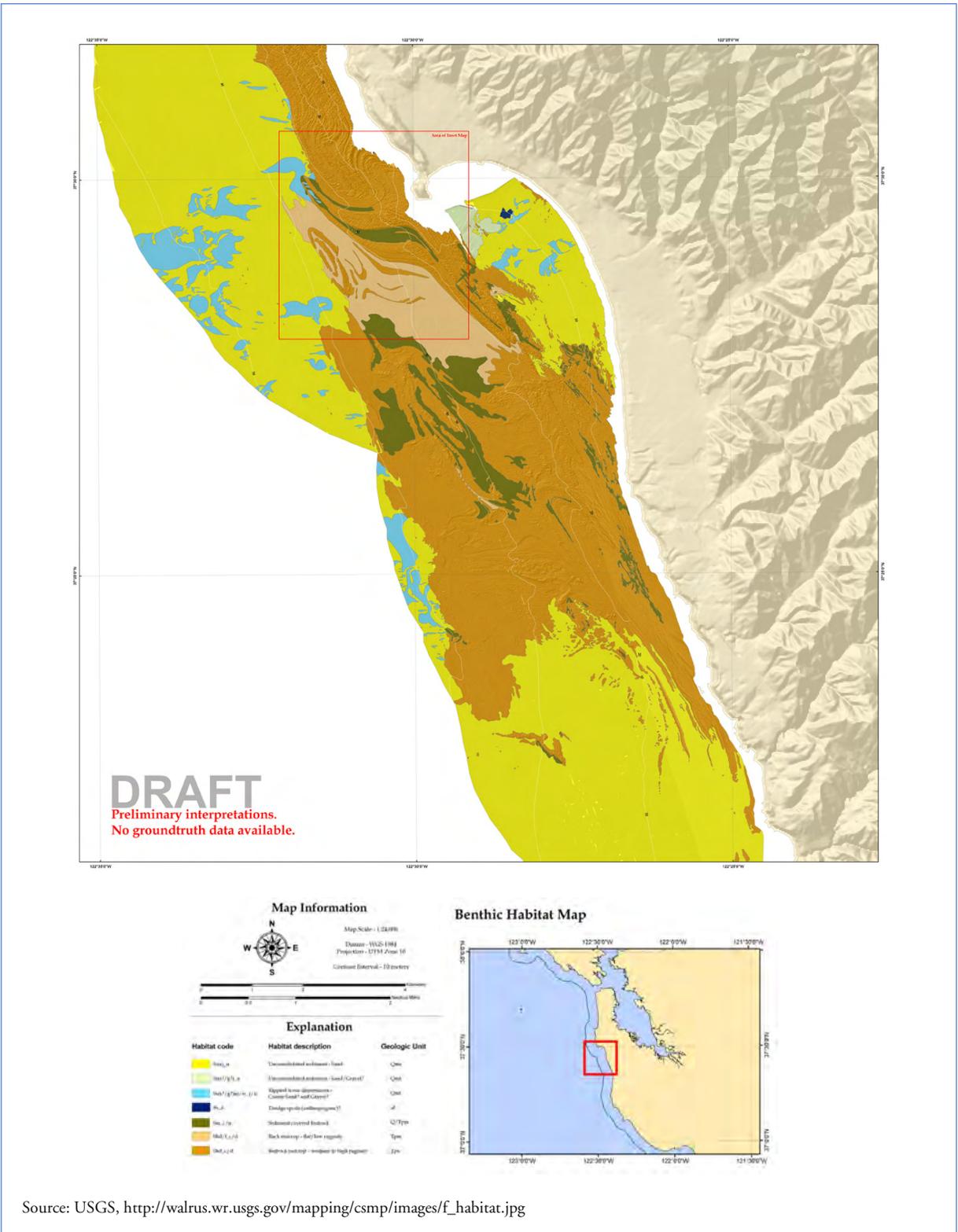
In addition to the geological maps, NOAA's Office of Coast Survey utilizes the bathymetric data to create digital navigation maps, in some cases, updating navigational maps that contain data collected back in the 1800s. Traditional charting methods relied on depth sounds taken in discreet locations, and could easily miss pinnacles or ridges. Modern seafloor mapping provides comprehensive coverage of the seafloor and therefore is able to fill these data gaps. **Exhibit B-6**, on page B.15, provides a comparison of navigational data. In Exhibit B-6, the new data depth measurements (in feet) are in red, and the old navigational chart data is in black, with seafloor shaded relief in the background. The two stars illustrate newly identified examples of

pinnacles that were previously missed. This map illustrates the value of seafloor mapping in providing accurate navigational information.

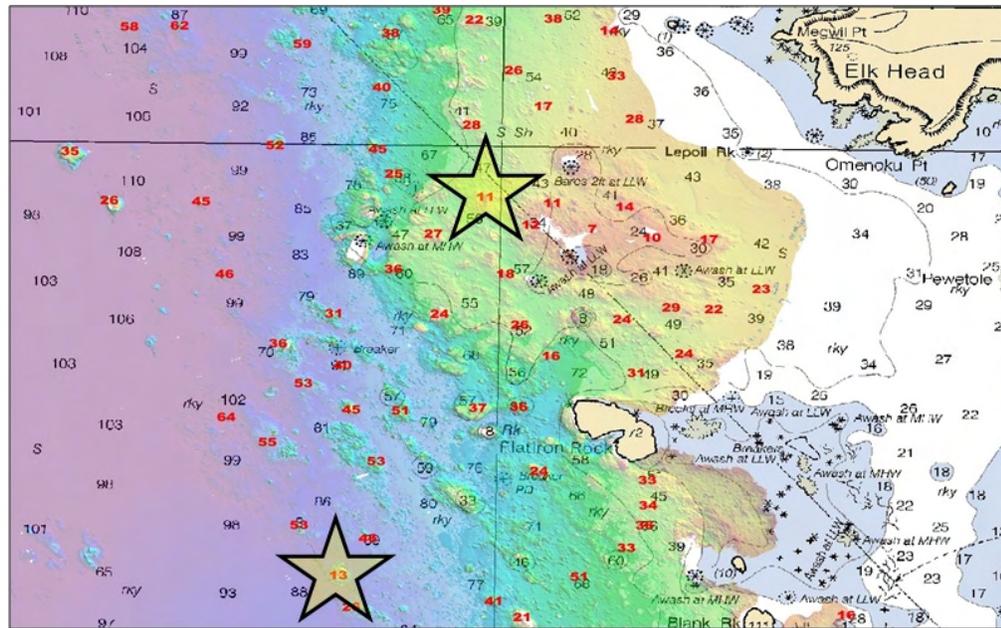
2. Marine Debris Case Study

This marine debris case study begins with a discussion of the consistency of the marine debris issue with COPA and the OPC's strategic plan. The next subsection provides a background description of the marine debris issue, followed by discussion of the OPC's marine debris resolution, the Marine Debris Task Force, and implementation strategy. The case study concludes with a discussion of implementation results, next steps, and lessons learned.

Exhibit B-5
California Seafloor Mapping Program, Example Tier 3 Map (Benthic Habitat)



Source: USGS, http://walrus.wr.usgs.gov/mapping/csmf/images/f_habitat.jpg

Exhibit B-6**California Seafloor Mapping Program, Example Comparison of Old and New Navigational Data**

Source: Ocean Protection Council

“The OPC has brought important marine management issues, like marine debris, to the table.”

Marine Debris Consistency with COPA and the Strategic Plan

There are a number of provisions within the COPA that are directly or indirectly related to the OPC’s marine debris efforts. Within the findings, COPA states: “terrestrial sources of ocean pollution in the state contribute to significant water quality degradation, causing deleterious impacts to public health and marine ecosystems, as well as coastal and recreational economics that are essential to the state’s future.” (Public Resources Code Section 35505 (g))

As it relates to the marine debris resolution, COPA specifies that the OPC is to: “identify and recommend to the Legislature changes in law needed to achieve the goals of this section.” (Public Resources Code Section 35615 (a)(6)) Finally, “improve water quality” is among the activities for which the California Ocean Protection Trust Fund can be expended. (Public Resources Code Section 35650 (b)(2)(D))

Within the OPC’s strategic plan, under Ocean and Coastal Water Quality, Objective 5 is to reduce ocean and coastal debris and its impact to ocean ecosystems. Action 5a under this objective relates specifically to the marine debris program: “support the implementation of the 2006 California Marine Debris Action Plan – A Plan of Action to Reduce Land-based Discharges of

Marine Debris in California – including the creation of a state Interagency Task Force on Litter and Marine Debris.”

The strategic plan includes one performance measure related to marine debris: “By 2011, tonnage of debris along the coastline and in coastal waters is decreased by 50 percent from 1999.” Unfortunately, there was, and is, no way to accurately measure tonnage of debris along the coastline and in coastal waters.

The California Coastal Commission collects data on beach litter at its annual Coastal Cleanup Days, and there have been a number of localized studies that quantified ocean and coastal debris. The United States Environmental Protection Agency, with the Ocean Conservancy, conduct a National Marine Debris Monitoring Program (NMDMP). The NMDMP quantified changes in coastal debris between September 2001 and September 2006, and found no significant change in debris. None of these efforts provides a means to actually determine whether the OPC’s performance metric will have been met in 2011. However, given the NMDMP results, it is safe to predict that if it could be measured, debris will not have been reduced 50 percent by 2011.

Marine Debris Background and Partners

Marine debris, or ocean litter, has been a growing concern, particularly since 2001, when the Los Angeles Regional Water Quality Control Board (LARWQB) began to phase in strict total maximum daily load (TMDL) standards for litter entering the region’s waterways through the storm water system. The problem is highlighted when heavy rains in Southern California wash tons of garbage, much of it plastic, into the ocean, as illustrated in **Figure B-1**, on the next page. Between 60 to 80 percent of marine debris

originates from land-based activities. The deleterious effects of plastic on marine wildlife are well documented – particularly problems arising from ingestion or entanglement. The discovery of the North Pacific Gyre “garbage patch” of plastic in 1997 (at least the size of Texas) generated extensive publicity and raised public alarm.

In light of this growing marine debris concern, in 2003 the California Coastal Commission (CCC) and Algalita Marine Research Foundation, initiated the Plastic Debris Project (funded by the State Water Resources Control Board (SWRCB)). In June 2006, the Plastic Debris Project completed a report, *Eliminating Land-based Discharges of Marine Debris in California: A Plan of Action from the Plastic Debris Project*. The focus was to address the largest source of marine litter (land-based activities), and the largest component of marine litter (plastic).

The Plastic Debris Project included broad input from an advisory board, a Marine Debris Work Group, a conference, and workshops. A June 2006 report provides a discussion of the sources and impacts of marine debris, efforts to address marine debris, recommended actions to reduce marine debris, and funding options. There was not agreement among all of the Marine Debris Work Group on the recommended actions; industry representatives did not support actions that would have prohibited, taxed, or banned products.

The *Plan of Action* included sixty-three (63) recommended activities in four categories:

- The need for improved coordination (two actions)
- Research needs (six actions)
- Specific sources of land-based discharges (forty-one actions)
- Product wastes (fourteen actions).

Figure B-1
Plastics Litter Is Predominant in
California's Storm Drain Runoff



Source: NewPoint Group, Plastic White Paper

“The OPC’s role in convening marine debris was important – OPC could get the traction and attention that [marine debris] needed.”

OPC’s Marine Debris Resolution

Building on efforts of the Plastic Debris Project, in January 2006, the California Integrated Waste Management Board (CIWMB) established an Anti-Litter Task Force to identify high priority activities to address litter in California. This group

included a number of state agencies, including the CCC, California Department of Transportation (CalTrans), DOC, SWRCB, as well as other organizations, such as Keep America Beautiful. In June 2006, following release of the Plastic Debris Project Report, the OPC joined the Task Force. The Task Force, with support from OPC staff, worked to develop a marine debris resolution for the Council. This resolution generally reflected a consensus of the Task Force.

The resolution was publicized and presented to the Council just prior to the February 7, 2007, OPC meeting. An expert panel discussed marine debris issues at the meeting, and there was extensive public comment at the meeting, all in support of the resolution. The environmental group, Heal the Bay, submitted amendments to the resolution (one day prior to the meeting) that added new recommendations, numeric goals, and targets. A number of other environmental organizations spoke in support of these amendments. Upon direction of the Council, OPC staff incorporated amendments into the original resolution during the meeting. This amended resolution passed unanimously.

The marine debris resolution is one of the more specific, and ambitious, of the nine (9) OPC resolutions. This resolution includes a number of findings, a resolve to “call attention to this problem by widely distributing the resolution,” and thirteen (13) top priority solutions. The thirteen solutions cover a wide spectrum of activities, from actions requiring legislation, to education, to coordinating actions:

1. Reduce the sources of plastic marine debris by examining alternatives such as expanding the California Redemption Value (CRV) to cover additional packaging
2. Increase enforcement of anti-litter laws, especially to eliminate pollution by plastic resin pellets

3. Seek innovative methods to reduce plastic waste
4. Continue and expand watershed-based cleanups
5. Increase availability of trash, recycling, and cigarette butt receptacles in public places
6. Promote environmental education and outreach on the impacts of plastic debris and litter prevention
7. Coordinate a Marine Debris Steering Committee (a continuation of the Anti-Litter Task Force)
8. Coordinate a regional effort to set marine debris reduction targets
9. Reduce single-use plastic packaging
10. Remove derelict fishing gear
11. Ban toxic plastic packaging
12. Advance environmental education
13. Prepare an education plan, working with the Ocean Communicators Alliance (“Thank You Ocean” campaign).

The OPC marine debris resolution brought widespread attention to the issue of marine debris. While many state agencies and NGOs had been working on the marine debris issue, the fact that the Council passed such a far-reaching resolution elevated the topic to a new level. In the three years since the resolution was passed, it has been cited in several pieces of legislation, and has been utilized to support local government laws to ban, or reduce, plastic products such as bags and Styrofoam.

Several bills were introduced in the Legislature to address some of the recommendations in the resolution, including expanding the CRV program, and regulating plastic resin pellets. While all of the public comments on marine debris at the February OPC meeting were in support, many of the recommendations were controversial and generated strong opposition from industry. The most controversial resolution provisions were the expansion of CRV, reduction

of single-use plastic packaging, and a ban on toxic plastic packaging. Legislation for all three provisions was introduced in the 2007-08 legislative session, but only AB 258 (Krekorian), to increase regulation of preproduction plastic pellets, was signed into law.

OPC’s Marine Debris Task Force and Implementation Strategy

Following the OPC resolution, the Marine Debris Task Force, the same group as the Anti-Litter Task Force, refocused its efforts to develop *An Implementation Strategy for the California Ocean Protection Council Resolution to Reduce and Prevent Ocean Litter* (Strategy). The OPC published a draft Strategy in July 2008, and received approximately fifty (50) comment letters, mostly positive. Staff incorporated some suggestions, such as promoting a fee, rather than prohibition, on plastic bags; creating a deposit program, rather than a penalty, for derelict fishing gear; and clarifying and expanding background information and studies. The final Strategy was approved by the Council in November, 2008.

There were sixteen (16) recommendations in the Strategy. The three primary recommendations were (1) supporting Extended Producer Responsibility (EPR) programs for convenience food packaging, to be developed and implemented by the CIWMB, (2) prohibiting single-use products that pose significant ocean litter impacts where a feasible less damaging alternative is available, such as a fee on plastic grocery bags and a ban on polystyrene take-out food containers, and (3) imposing fees on other commonly littered products.

“Some of this issue may have been more ‘pomp and circumstance’, I’m not sure what has come out of it.”

“The marine debris action plan was a good notion, but it hasn’t been utilized to the greatest extent.”

The OPC has continued to work on the marine debris issue since its resolution was passed in 2007. However, the December 2008 bond freeze, one month after the strategy was approved, and the 2009 contract freeze diminished the OPC’s ability to develop projects to implement the recommendations. The OPC did fund two studies on plastics in the marine environment:

- A study, conducted by the Office of Environmental Health Hazard Assessment, to conduct a literature review and develop toxicological profile reports of three chemicals found in plastics: bisphenol-a (BPA), nonylphenol, and di-(2-ethylhexyl) phthalate. The goal of this project was to inform decisions related to item #11 in the marine debris resolution, to consider bans for the most toxic types of plastic packaging. OEHHA completed reports for this \$176,866 project in mid-2010
- A study, in coordination with the Department of Toxic Substances Control (DTSC), to examine substance flow accounts related to plastic packaging. The goal of the study was to better understand the potential toxic hazards posed by plastic packaging waste in the ocean. The study supported item #3 in the marine debris resolution, to encourage new innovations to reduce packaging waste. Dr. Joseph Greene, of Chico State University, is conducting the \$90,000 project for the OPC. The project is to be completed in 2010.

The OPC also served as a reviewer on a Master Environmental Assessment on Single-Use and Reusable Bags, completed in March 2010 by Green Cities California. The purpose of this study was to inform local governments as they

consider various alternatives to reduce the use of single-use grocery bags. The OPC was originally planning on funding the assessment, but could not due to the bond freeze. The OPC has been able to implement the Marine Debris Steering Committee to improve coordination of state agency efforts to address marine debris.

Marine Debris OPC Implementation Results and Next Steps

The OPC’s marine debris activities have not been a primary area of OPC focus. Nonetheless, OPC has been involved in addressing the marine debris problem.

The two studies noted above were OPC funded. They will help inform the scientific debate on plastics in ocean environments, and plastic chemicals, two areas which have received significant attention and resources in recent years.

The OPC continues to work with CalEPA on their Green Chemistry Initiative as it relates to toxic chemicals entering the ocean via plastic products. The OPC is also working with the SeaDoc Society to publicize a reporting hotline for fishermen who have lost their gear at sea, related to item #10 in the marine debris resolution on fishing gear.

The OPC, through its involvement with the West Coast Governor’s Agreement on Ocean Health, is following through on item #8 in the resolution, to coordinate a regional effort to reduce marine debris. The May 2010, *Marine Debris Action Coordination Team Work Plan* identifies five (5) specific work plan deliverables, including a marine debris strategy, guidelines to prioritize actions, an inventory and set of recommendations, a proposed implementation plan, and formation of a permanent West Coast Marine Debris Alliance.

Each year, there are a number of bills introduced in the legislature that relate to the marine debris

resolution, although to-date, none have been signed by the Governor. As of August 25, 2010, AB 1998 (Brownley), a bill to ban plastic bags at grocery stores, pharmacies, and convenience stores, has passed the State Assembly, and is being re-heard in the Senate Rules Committee. This is the first time that a bill to ban plastic bags has garnered the support of the California Grocers Association, and environmental groups.

OPC Marine Debris Lessons Learned

Reinforcing the complexity of the OPC's role in ocean policy, the marine debris resolution can be viewed as a both a "wild" success and a "dismal" failure. The simple existence of the resolution and the fact that OPC brought much-needed public attention to the marine debris problem was significant. The OPC's actions publicized the problem and lended authority to local governments in passing local laws to reduce components of plastic waste. One must give credit to the OPC for wholeheartedly "jumping into" this complex issue.

Yet, marine debris is still a critical problem and OPC actions have not yet resulted in the types of statewide policy change that were envisioned and recommended in the OPC resolution or the Strategy. The marine debris resolution was very ambitious and the OPC has found that it is much easier to draw attention to issues than to follow through on them. There are several lessons to take home from the marine debris resolution.

The marine debris resolution was only the third resolution passed by the Council. The high profile and controversial nature of the resolution highlights the OPC's struggle to determine its appropriate role in policy-making. Opposition to the resolution did not become apparent until after it passed, but opposition was heated. The resolution generated strong criticism from the

plastic industry (including workers), some of whom brought their complaints to the governor's office. Between the controversial nature of the resolution, and the reactive response of industry, the OPC found itself at odds with the Governor on several of the resolution recommendations.

Some of this conflict might have been avoided if the OPC had adopted the resolution over a longer time-frame. The OPC marine debris resolution built on momentum and concern about marine debris. The Plastic Debris Project that preceded the resolution was an inclusive effort to address the issue of marine litter, but there was no consensus among those involved on some of the more controversial recommendations. In moving from the Plastic Debris Project recommendations to the OPC's resolution, there was no thorough assessment of the impacts of OPC recommendations, particularly socioeconomic and political. The OPC had "not done its homework" to justify its recommendations. The OPC might have been more successful if it had worked through the controversial aspects of its recommendations to develop solutions that were more broadly supported. Without that broad support, several pieces of legislation that were based on the OPC resolution were eventually vetoed by the Governor.

Experiences gained through the marine debris resolution demonstrate the importance of the OPC carefully defining its role, the role of its agency partners, and expected outcomes before it embarks on an issue. Marine debris is a complicated and widespread issue, with many causes and sources.

Prior to initiating the marine debris issue the OPC did not have a clear path forward, a way to measure its success, or an exit strategy. While the OPC can define these parameters after the fact, it would have been helpful to have them clearly defined at the start. More specificity would help guide the OPC, and also its stakeholders. What exactly did the OPC hope to achieve? What

could the OPC realistically achieve? What is the OPC's role in recommending and/or supporting new legislation?

OPC's bringing attention to the marine debris issue was extremely valuable. The original intent of the OPC's involvement, based on its resolution, was clearly much broader. By defining its role at the start of the process, the OPC could better manage expectations.

Experiences gained by the OPC in the marine debris resolution also highlight the need to follow-through on activities, and "not bite off more than you can chew." The OPC has funded two studies (one starting in 2007, and one in 2008). The Marine Debris Task Force developed a comprehensive (and ambitious) implementation strategy, but most activities within the plan have not been implemented.

The marine debris implementation strategy was ambitious, but not particularly realistic. The OPC did not have adequate staff capacity to follow through on the marine debris strategy. Implementing any one of the three primary recommendations (EPR, bans, or fees), would require a long-term, highly political, facilitated effort to bring relevant players to the table. Actually negotiating this type of highly controversial legislation, and generating enough support for a bill to pass the legislature and be signed into law, is a major undertaking.

The OPC has successfully elevated the marine debris issue, providing a clear example of the OPC's bully pulpit role. The expectations about what the OPC could do on the marine debris issue were unrealistically high among some stakeholders and perhaps among the OPC, as well. In its eagerness to take on this large and controversial issue, the OPC may have slightly stepped ahead of itself, in terms of matching its level of involvement with its capabilities at that time.

"There are opportunities on the recreational fishing side."

3. Sustainable Fisheries Case Study

Fisheries encompass a wide range of international, federal, state, and local laws, regulations, agencies, commissions, and organizations. The OPC, a small organization with no regulatory authority, has created a unique niche in this field. The OPC's sustainable fisheries program has evolved over time, and been shaped by legislation, to reflect different needs and interests. The OPC's sustainable fisheries "practice" can be categorized as supporting three general areas: (1) sustainable fishing practices, (2) fisheries management, and (3) salmon.

Taken together, the OPC's sustainable fisheries activities over the last five years have included twenty-two (22) projects, \$8.2 million in OPC funds, and \$7.3 million in matching funds. This activity represents the greatest number of individual projects in any one area, and the third largest area of funding, behind mapping and monitoring.

This sustainable fisheries case study begins with a discussion of the consistency with COPA and the strategic plan. The case study then provides a discussion of sustainable fisheries projects overall, followed by more detailed descriptions of each of the three project areas: sustainable fishing practices, fisheries management, and salmon. The case study concludes with a discussion of sustainable fisheries lessons learned.

"The fisheries program is going in the right direction."

“The MLMA Lessons Learned study has the potential to greatly inform marine management in California.”

Consistency with COPA and the Strategic Plan

The OPC’s sustainable fisheries activities fall within the scope of the COPA, and the OPC’s strategic plan. The initial language of the COPA stated that, “Improving the quality of coastal waters and the health of fish in coastal waters should be a priority for the state.” (Public Resources Code, Section 35510 (b)(6)) A later amendment to the COPA added language within Section 35650, which identifies projects and activities for which the California Ocean Protection Trust Fund can be expended. This new language within Section 35650 is specific to fisheries:

(B) Improve the management of fisheries through grants or loans for the development and implementation of fishery management plans pursuant to Part 1.7 (commencing with Section 7050) of Division 6 of the Fish and Game Code, a part of the Marine Life Management Act of 1998, that promote long-term stewardship and collaboration with fishery participants to develop strategies that increase environmental and economic sustainability. Eligible projects and activities include, but are not limited to, innovative community-based or cooperative management and allocation strategies that create incentives for ecosystem improvement. Eligible expenditures include, but are not limited to, costs related to activities identified in subdivisions (a), (b), and (d) of Section 7075 of the Fish and Game Code, fishery research, monitoring, data collection and analysis to support adaptive management, and other costs related to the development and implementation of a fishery management plan pursuant to this subparagraph.

(C) Foster Sustainable Fisheries, including grants or loans for one or more of the following:

(i) Projects that encourage the development and use of more selective fishing gear

(ii) The design of community-based or cooperative management mechanisms that promote long-term stewardship and collaboration with fishery participants, scientists, and other interested parties

(iii) Collaborative research and demonstration projects between fishery participants, scientists, and other interested parties

(iv) Promotion of value-added wild fisheries to offset economic losses attributable to reduced fishing opportunities

(v) The creation of revolving loan programs for the purpose of implementing sustainable fisheries projects.

The actions related to sustainable fisheries are within the Ocean and Coastal Ecosystems theme in the strategic plan. The overall goal within ocean and coastal ecosystems is to “significantly increase healthy ocean and coastal wildlife populations and communities in California.” Two objectives within the ocean and coastal ecosystems theme relate directly to sustainable fisheries:

1. Marine Life Management Act – help to establish ecologically and economically sustainable fisheries
2. Market-based Fisheries – support market-based approaches to fisheries management.

The MLMA objective includes four (4) action items:

- 2a *Support implementation of Fishery Management Plans (FMPs) adopted under the MLMA and the development of new FMPs for priority fisheries. Complete priority stock assessments and FMPs, and promote the enforcement of associated regulations. Support cooperative research and facilitate data sharing among fishers, academics, and agency personnel to enhance DFG stock assessments and other regulatory decisions*
- 2b *Make resources available to support DFG’s work on the MLMA*
- 2c *Investigate regulatory and legislative changes that may be needed to restructure DFG’s fee system*

“Fisheries management is heavily regulated.”

2d Install new technologies for permitting, such as electronic licensing for commercial and recreational fishermen, and investigate and implement new technologies for enforcing regulations.

The Market-based Fisheries objective includes three (3) action items:

- 4a Develop a California Fisheries Fund or similar strategy that will facilitate a transition to improved fisheries management and sustainable fishing practices, including new fishing techniques to reduce bycatch*
- 4b Investigate the feasibility of various sustainable fishery management approaches, such as vessel buy-backs, different quota systems, and limited entry programs. Encourage the development of sustainable fishing gear*
- 4c Investigate the potential for consumer-oriented market approaches, such as a California sustainable seafood certification program or direct-to-consumer sustainable seafood markets.*

The OPC has conducted activities that fall within all of these action items, although it has done the least under Action 2a, related to FMPs. The OPC will be framing its priorities with respect to fishery-related projects as it updates its strategic plan, and will consider the importance of FMP proposals within this process.

Sustainable Fisheries Projects

Much of the OPC’s work in sustainable fisheries has been focused around funding specific projects. **Exhibit B-7**, on the next page, provides a summary of the twenty-two (22) sustainable fisheries projects, OPC funding, and matching funding. The OPC’s sustainable fisheries portfolio has

focused on improving fishery populations and better fishery management. A subset of these projects emphasizes sustainable fishing practices that focused on working with the fishing community to transfer to practices of fishing that are less harmful to the fish populations and the marine environment, and to build markets to support sustainably caught seafood. The list of funded projects does not reflect the fact that the majority of these projects are collaborative efforts involving partnerships between the OPC, NGOs, fishermen and fishing groups, DFG, FGC, and/or other entities such as the Pacific Fisheries Management Council.

Sustainable Fishing Practices

The first work that OPC funded in the fisheries area was a planning grant to the Environmental Defense Fund (EDF) to develop a revolving loan fund to support fishing communities working to improve the sustainability of their fisheries. This initial planning grant evolved into the California Fisheries Fund, a \$5 million revolving loan program, seeded with \$2 million from the OPC.

In November 2006, the OPC passed a Resolution of the OPC Supporting Innovative Approaches to Sustainable Fisheries Management. This resolution formalized the OPC’s role in improving management of fisheries, creating economic opportunities for fishermen, and fostering sustainable fisheries.

Over the last five years, the OPC has funded ten (10) projects (for almost \$4.4 million) that support sustainable fisheries practices. All of the \$7.29 million in matching funds for sustainable fisheries has been in this area. These projects are summarized in **Exhibit B-8**, on page B.25. The legislature has also passed bills that direct the OPC to work in specific areas related to sustainable fisheries, such as the Dungeness crab

Exhibit B-7

Sustainable Fisheries Projects Approved and Funded by the OPC since March 2005

	OPC Project Number	Title	Grantee	OPC Approved Funding	Matching Funding
1.	05-069-01	Sustainable Fisheries Revolving Loan Fund Planning Grant	Environmental Defense Fund	\$101,300	
2.	06-084-01	San Diego Sea Urchin Fishery	San Diego Watermen's Association	114,120	
3.	06-095-01	San Luis Obispo Sustainable Fisheries Support	City of Morro Bay	130,000	\$180,000 (private funds)
4.	06-109-07	Lobster and Finfish Trap Surveys	UC Santa Barbara	407,855	
5.	06-109-09	Recreational Fishing Survey Improvement Studies	Pacific States Marine Fisheries Commission	630,000	
6.	06-109-11	Commercial Fishery Logbook Data Management	Pacific States Marine Fisheries Commission	445,000	
7.	06-109-12	Commercial Fishery Information System Improvement Study/ Business Process Analysis	California Department of Fish and Game	302,571	
8.	07-003-01	California Fisheries Fund	Environmental Defense Fund	2,000,000	3,000,000 (private funds)
9.	07-009-01	Moss Landing Fish Market Feasibility Study	Moss Landing Marine Labs	50,000	10,000 (state funds)
10.	07-012-01	San Francisco Fisherman's Wharf Sustainable Seafood Market	Ecotrust	65,468	
11.	08-044-01	Southern Steelhead Resources Project	Center for Ecosystem Management and Restoration	166,021	
12.	08-072-01	Salmon Report	Ecotrust	41,468	
13.	08-077-01	Facilitation for Salmon Meeting	Harty Conflict Consulting & Mediation	48,365	
14.	08-094-01	Marine Life Management Act Lessons Learned	Harty Conflict Consulting & Mediation	250,000	
15.	08-095-01	Collaborative Fisheries Research Organization	Pacific States Marine Fisheries Commission	300,000	
16.	08-099-01	Central Coast Groundfish Project	The Nature Conservancy	1,006,500	4,100,000 (private funds)
17.	08-121-01	UC Sea Grant – The Future of the California Chinook Salmon Fishery	UC Sea Grant to NOAA, Humboldt State University, and UC Davis	800,000	
18.	08-124-01	Instream Flow Assessment – Santa Maria River	USGS	600,000	
19.	08-141-01	Instream Flow Assessment – Shasta River	Humboldt State University	300,000	
20.	08-142-01	Instream Flow Assessment – Big Sur River	Pacific States Marine Fisheries Commission	100,000	
21.	08-145-01	CA Fisheries Evaluation	Quantitative Resource Assessment	150,000	
22.	08-173-01	Dungeness Crab Task Force Facilitation	California State University, Sacramento, T.C. Hoffmann & Associates	200,000	
		Total		\$8,208,688	\$7,290,000

Exhibit B-8

Summary of OPC Sustainable Fishing Practices Projects

	Status	Title	Grantee	Summary
1.	Complete	Sustainable Fisheries Revolving Loan Fund Planning Grant	Environmental Defense Fund	This planning grant was to generate a concept paper and business plan for a Sustainable Fisheries Revolving Loan Fund. Upon completion of the business plan, it was determined that "revolving loan" was an inaccurate term and the project is now known more broadly as the California Fisheries Fund, which has now been implemented (See #4, below).
2.	Complete	San Diego Sea Urchin Fishery	San Diego Watermen's Association	The project conducted a survey of the condition of the urchin fishery in San Diego and developed ideas for improvement. The survey obtained data on health of the urchin fishery, research on market values for urchin, and development of urchin business plans for improving sustainability of fishery. The project built capacity by urchin fishermen to collaborate with the scientific community and agencies to assess urchin stock, develop management recommendations, and build business ideas for improving fishery health and market value.
3.	April 2011	San Luis Obispo Sustainable Fisheries Support	City of Morro Bay	This project provided immediate assistance to local San Luis Obispo fishermen seeking to test innovative low impact trawling fishing gear on high value groundfish. The project also included a marketing campaign to promote locally caught fish with sustainable methods to high-value markets. The grantees completed a commercial business plan and conducted sea trials of new trawl gear. The project will next test trawl gear improvements to see if this gear reduces impacts to the marine environment.
4.	Complete	Lobster and Finfish Trap Survey	UC Santa Barbara	This project funded a team of UC Santa Barbara researchers to collaborate with commercial lobster fishermen to conduct trap-based surveys in the Channel Islands to measure growth rates, abundance and movement patterns of California spiny lobster and several live-fish species in the Channel Island MPAs. The project established a framework for collaborative scientist-fishermen data collection and protocols for this type of research, and informed the five-year MPA evaluation conducted by DFG. The pilot collaborative research with the fishing community in Santa Barbara developed into CalLobster, Collaborative Lobster and Fishery Research Project. CALobster's mission is to advance research and education partnerships between fishermen, scientists, resource agencies, and environmental groups dedicated to generating democratic forms of resource management.
5.	Complete	California Fisheries Fund	Environmental Defense Fund	The California Fisheries Fund offers loans to California fishing communities, groups, associations, and businesses to assist them with a transition to more environmentally and economically sustainable fishing practices. This revolving loan program supports fishing reforms that improve health of fisheries and industry. The program was formally launched in April 2009, and has issued three loans, to-date. The OPC's \$2 million in funding to launch the program generated another \$3 million in private funds.
6.	Complete	Moss Landing Fish Market Feasibility Study	Moss Landing Marine Labs	This project conducted a feasibility study for a sustainable fishing off-loading and processing facility in Moss Landing Harbor. Since the study was completed, Moss Landing Lab is now looking to pilot a sardine offloading and selling project in collaboration with fishermen. The project included infrastructure upgrades and business marketing.
7.	Complete	San Francisco Fisherman's Wharf Sustainable Seafood Market	Ecotrust	The project evaluated the economic and technical feasibility of establishing a fish market on Pier 47 at Fisherman's Wharf which would promote sustainable fishing practices and provide a new source for local seafood. The San Francisco Crab Fisherman's Association is now pursuing this.
8.	April 2012	Collaborative Fisheries Research (CFR) Organization	Pacific States Marine Fisheries Commission (PSMFC)	PSMFC will establish a CFR organization that will support collaborative research throughout the state. The CFR organization will create an ongoing vehicle for conducting data gathering with the assistance of the fishing community. The project will help build consensus on fishery health and management strategies.
9.	October 2010	Central Coast Groundfish Project	The Nature Conservancy	This project provided funding to The Nature Conservancy to support the Central Coast Groundfish Project (CCGP) that is assessing the sustainability of new approaches to the Central Coast groundfish fishery in California. The project established a community-based fishing association, is testing hook and line and trap techniques, and testing potential improvements of trawling techniques and gear. The project will inform groundfishery management, including trawling restrictions, and will also develop more sustainable fishing and marketing principles for the groundfish fishery.
10.	March 2010	Dungeness Crab Task Force Facilitation	California State University, Sacramento, T.C. Hoffmann & Associates	OPC developed and administered a Dungeness crab task force (DCTF), pursuant to SB1690. The DCTF, composed of various stakeholders, was directed to review and evaluate the Dungeness crab fishery management with the objective of making recommendations related to the fishery's management. This project supports the work of the DCTF including funding a facilitator, reimbursing task force members for their travel costs, and funding additional studies, when needed, to inform task force recommendations. The Department of Fish and Game, the Joint Committee on Fisheries and Aquaculture, and the Fish and Game Commission will use the DCTF recommendations to inform Dungeness crab management decisions. The DCTF is continuing to meet, beyond the scope of the critical project.

“The groundfish project is huge in terms of potential impact.”

task force and the sustainable seafood initiative. The sustainable seafood initiative (AB 1217, Monning, 2009) requires the OPC to develop and implement a voluntary seafood promotion program for California fisheries. This program is in the early implementation phase.

The breadth of projects described in Exhibit B-7 demonstrate the OPC’s ability to bring a variety of diverse stakeholders together in support of a common effort. Many of these projects are relatively young, but there are already signs of success in supporting sustainable new approaches for California’s declining fishing industry. For example:

- The San Luis Obispo Sustainable Fisheries Support is a joint effort between The Nature Conservancy (TNC), City of Morro Bay, and local fishermen to test alternatives to trawling. Trawling was the primary means of fishing in the groundfish industry, but also has significant environmental impacts and was prohibited in 3.8 million acres on the central coast. The project tested methods that would allow the fishing community to switch to different fishing techniques, and a lower volume/higher value business model
- The Central Coast Groundfish Project (CCGP) is a larger effort building on the San Luis Obispo Sustainable Fisheries Support, again working with TNC, the fishing industry, and central coast communities. This project was funded by the OPC in mid-2009, with substantial matching funds from TNC. The goal of the project is to improve both the economic and environmental performance of the local groundfish fishery and to test innovative concepts in sustainable fishing. The TNC purchased bottom trawling permits from fishermen and leased them back out to fishermen to test different gear in specified locations. TNC is researching how diverse types of gear and cooperative harvest planning can help maintain fish populations, protect seafloor habitat, and result in a more viable fishery business model. The fishing industry in Morro Bay is already reaping benefits, rebounding from extremely low harvests in 2007, to the highest harvest in over a decade in 2009. Local fishermen have established the Central Coast Sustainable Groundfish Association, reflecting a noteworthy shift from a competitive approach, to a cooperative approach. TNC is also researching the impact of trawling, and habitat recovery processes from trawling, as part of this project
- The California Fisheries Fund (CFF) is a \$5 million revolving loan program to support fishing communities working to improve the sustainability of their fisheries. The program offers fishing association loans, infrastructure loans, and business loans. To-date, the CFF has issued three loans, and is actively seeking to expand. The existing loans have supported a sustainable seafood distributor, a cooperative fishing company, and a commercial fisherman. Factors contributing to the limited number of loans are that fishermen may not be aware of the program, and/or need assistance in the loan process
- Dungeness Crab Task Force Facilitation (DCTF) is an effort to bring stakeholders in the Dungeness crab industry together to identify recommendations to inform future Dungeness crab management changes. The DCTF was established pursuant to SB 1690 (2008), and required to report to the Legislature, DFG, and FGC by January 15, 2010. SB 1690 designated the OPC to establish and administer the DCTF. The California Dungeness crab industry is one of the most profitable fisheries remaining in California, thus the interest in assuring the long-term viability of the fishery. The commercial Dungeness crab fishery is managed by the DFG, pursuant to the Fish and Game Code, while the recreational Dungeness crab fishery is managed by the FGC. The OPC convened the DCTF and with the help of a

facilitator, convened four meetings between May 2009, and October 2009. The DCTF developed initial recommendations to the Legislature by January 15, 2010, and follow-up recommendations in March 15, 2010. These recommendations have been incorporated into legislation, SB 1093 (Wiggins). The Task Force recommended a pilot program for crab trap limits, which has been incorporated into SB 1093.

One of the OPC's most recent sustainable fisheries projects has potential to further inform new fishing practices. The Collaborative Fisheries Research (CFR) Organization will be managed by the Pacific States Marine Fisheries Commission. The Commission is an organization that promotes and supports policies and actions to conserve, develop, and manage fishery resources in California, Oregon, Washington, Alaska, and Idaho. The intent of the CFR is to support ongoing data collection and assistance to the fishing community. The CFR recently hired a director, and will be getting underway shortly.

Fisheries Management

The 2006 Budget Act included an \$8 million appropriation to the OPC to implement the MLPA and MLMA, with the funds to be expended "pursuant to a work plan developed jointly by the OPC and the DFG." DFG received an additional \$2 million for the joint work plan. In November 2006, the OPC and DFG created a joint work plan that included four categories: data collection, data analysis, program support, and general infrastructure. Many of the activities supported in the joint work plan were focused on MPAs, and are not discussed in this case study. However, there were four OPC fishery management projects that resulted from the work plan. These projects are focused on improving data-gathering, management and reporting efforts related to fisheries. **Exhibit**

B-10, on the next page, summarizes the five (5) fisheries management projects. OPC funding for these five projects totaled \$1.78 million.

The fifth fisheries management project, included in Exhibit B-8, on page B.29, is the Marine Life Management Act Lessons Learned Project. This project was a joint effort of the Fish and Game Commission and the OPC to evaluate the effectiveness of the MLMA and Fishery Management Plans (FMP), in order to streamline fishery management efforts in the future. The recently released study provides recommendations to "improve prospects for achieving the MLMA's broad goal of sustainable fisheries in future years."²

Salmon

The third sustainable fisheries area that the OPC has been active in is salmon. The decline of salmon and steelhead fisheries in California has been a growing concern for many years, particularly when salmon runs declined to extremely low levels, and salmon fisheries were closed. The problem of declining salmon is currently being addressed by numerous state and federal agencies.

Rather than step into an already crowded field of state and federal agencies, the OPC has focused its salmon efforts in a few specific areas. The OPC has funded projects designed to "fill in the gaps" with scientific information intended to better explain salmon and steelhead status, recovery strategies, and restoration alternatives. While only two of the OPC's seven salmon projects have been completed, the intent is that these projects will inform restoration and recovery activities, providing much-needed information for resource managers. **Exhibit B-10**, on page B.29, summarizes the OPC's seven salmon projects, totaling \$2 million in funding.

² Harty, J.M. et al. Lessons Learned from California's Marine Life Management Act. Harty Conflict Consulting & Mediation. May 18, 2010.

Exhibit B-9

Summary of OPC Fisheries Management Projects

	Status	Title	Grantee	Summary
1.	Complete	Recreational Fishing Survey Improvement Studies	Pacific States Marine Fisheries Commission	The California Recreational Fisheries Survey was begun in 2004 to provide catch and effort estimates for marine recreational finfish fisheries to inform sustainable management of these resources. This survey is a collaborative effort between DFG and the PSFMC. The funds were used to analyze how to improve catch and effort data collected for private access fishing and also to gather essential fisheries information on the recreational spiny lobster fishery. These studies were completed in close coordination with DFG staff and results will inform changes to the survey in future years.
2.	April 2011	Commercial Fishery Logbook Data Management	Pacific States Marine Fisheries Commission	The Pacific States Marine Fisheries Commission (PSMFC) will oversee the creation of electronic database shells for 15 of the Department of Fish and Game's (DFG) fisheries logbooks. Electronic logbooks will improve data analysis and application for management decisions by DFG. All future fisheries data will be logged in the electronic system.
3.	January 2011	Commercial Fishery Information System Improvement Study/ Business Process Analysis	California Department of Fish and Game	A consultant will perform a business analysis and process improvement study of the informational and data needs of the Department of Fish and Game to support the work of managing the state's marine resources. The objective is to promote long-term improvement of DFG fisheries data management and analysis capacity
4.	Complete	Marine Life Management Act Lessons Learned	Harty Conflict Consulting & Mediation	A study evaluating the implementation successes and challenges of the Marine Life Management Act (MLMA). The evaluation summarizes lessons learned and provides recommendations to assist and direct future MLMA efforts.
5.	February 2011	CA Fisheries Evaluation	Quantitative Resource Assessment	This project is comprised of two components. First, the contractor will develop and evaluate appropriate and supportable management approaches for species that are data-poor. Second, the contractor will develop a stock assessment for California halibut.

Exhibit B-10

Summary of OPC Salmon Projects

	Status	Title	Grantee	Summary
1.	November 2010	Southern Steelhead Resources Project	Center for Ecosystem Management and Restoration	The project is prioritizing watersheds south of the Golden Gate bridge for restoration activities to benefit anadromous fish. The project will prepare a report and maps of priority watersheds for steelhead and salmon recovery south of San Francisco. The report identifies priority projects for funding and potential partners for funding recovery efforts in this region.
2.	Complete	Salmon Report	Ecotrust	An overview of the state of wild salmon in California and review of existing data and literature on status of wild salmon and recovery strategies. The report provides a comprehensive summary to inform discussions of state policies for salmon recovery.
3.	Complete	Facilitation for Salmon Meeting	Harty Conflict Consulting & Mediation	The consultant facilitated two regional meetings on salmon conservation issues.
4.	January 2013	UC Sea Grant – The Future of the California Chinook Salmon Fishery: Roles of Climate Variation, Habitat Restoration, Hatchery Practices, and Biocomplexity	UC Sea Grant to NOAA, Humboldt State University, and UC Davis	A research project to provide managers with tools for weighing the pros and cons of various restoration options for Central Valley and Klamath run Chinook salmon. The project will include a retrospective analysis of links between climate variation, human activities, and salmon numbers. A second phase will determine critical stages in the life history of salmon that impact fish production.
5.	December 2011	Instream Flow Assessment – Santa Maria River	Still Water Sciences	A study to determine the amount of waterflow needed in the river to sustain various life stages of salmonids. The study will inform water management decisions to recover and sustain anadromous fish populations.
6.	December 2011	Instream Flow Assessment – Shasta River	Humboldt State University	A study to determine the amount of waterflow needed in the river to sustain various life stages of salmonids. The study will inform water management decisions to recover and sustain anadromous fish populations.
7.	December 2011	Instream Flow Assessment – Big Sur River	Pacific States Marine Fisheries Commission	A study to determine the amount of waterflow needed in the river to sustain various life stages of salmonids. The study will inform water management decisions to recover and sustain anadromous fish populations.

Sustainable Fisheries Lessons Learned

The OPC's portfolio of sustainable fisheries projects and programs provides a comprehensive package that has evolved into one of its main focus areas. This was not necessarily the OPC vision at the outset, but the outcome, to this relatively early point, has been positive. The OPC built on different core strengths to create a full agenda of fishery activities.

The sustainable fisheries practices work builds on the OPC's ability, as a non-regulatory agency, to bring diverse stakeholders to the table in a neutral setting. Some fishing groups are inherently somewhat suspicious of the OPC, and the environmental groups that it often partners with. However, each successful project leads to additional opportunities, and brings more stakeholders to the table.

The OPC's work in fisheries management was driven by the legislature's actions related to the budget (i.e. the \$8 million given to the OPC to assist DFG). Part of the impetus for the \$8 million funding was the OPC's ability to quickly and efficiently fund projects and activities. That is not to say that the OPC's efforts in this area have not been without challenge.

One of the OPC challenges has been in establishing a positive working relationship with the DFG, something that both agencies are addressing. The DFG, with the FGC, has regulatory authority over fisheries. The DFG is

historically underfunded and understaffed. The OPC came into the fisheries arena as a brand new agency with no regulatory authority, but with access to funding. These two vastly different mind-sets created an underlying tension between the two agencies that they are still working on to address. That said, there are significant opportunities for the two agencies, along with the FGC, to work together to promote sustainable fishery practices in California. A key to this collaboration is that the three organizations work together to develop a unified vision for fisheries management in the State.

The OPC's activities related to salmon build on its role of promoting science in governmental decision-making. The OPC does not have the resources, authority, or capability to become fully engaged in addressing California's problems in the salmon and steelhead fisheries. However, as a science-based organization, the OPC can pinpoint its resources to answer specific questions and address issues that will assist the state's broader efforts to improve the status of salmon.

Fishing, and the need for sustainable fisheries, are consistently identified as key ocean issues. Thus, it is likely that the OPC will continue to work to promote innovative approaches to fishery management. Moving forward, the OPC has an opportunity to build on its strong existing portfolio, but to do so in a more strategic manner, and in a closer partnership with the DFG and FGC.

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities



This appendix provides an assessment of the OPC's activities as they compare to the September 2006, five-year strategic plan, *A Vision for Our Ocean and Coast*. This appendix is not a critique of the OPC's strategic plan.

The strategic plan included six themes:

- A. Governance*
- B. Research and Monitoring*
- C. Ocean and Coastal Water Quality*
- D. Physical Processes and Habitat Structure*
- E. Ocean and Coastal Ecosystems*
- F. Education and Outreach.*

The strategic plan identified between one and seven objectives under each theme, and between one and nine action items under each objective. In total, the strategic plan included 24 objectives, and 74 action items. For each action item, the strategic plan identified the OPC's role, lead agency, and partners.

The strategic plan provided a long list of specific activities for the OPC to undertake, or support, over the five-year strategic plan period, from 2006 through 2010. **Exhibit C-1**, starting on page C-3, provides an assessment of the status of each of the 74 strategic plan action items, and an overall assessment of each of the 24 strategic plan objectives. The final column in Exhibit C-1 provides an overall assessment of the OPC's performance, to-date, as it relates to that objective.

The 74 action items in the strategic plan were not equivalent, in terms of level of effort. For example, some action items involved comprehensive multi-year efforts, while other action items involved completing a single study. In addition, some action items involved one activity, while other action items included a series of

OPC

different actions. Exhibit C-1 identifies the lead agency for each action item. The OPC was not the lead agency for many of the action items. In these cases, the OPC was to have a supporting role. In many instances, the OPC was to have a supporting role in regards to collaboration and/or policy, but a direct role in funding. Acronyms and abbreviations for lead agencies are provided at the end of this appendix.

In order to assess the OPC's performance as it relates to these action items, Exhibit C-1 identifies the action item, and describes the status of each action item. The status description identifies specific related actions that the OPC has undertaken. The status column also includes a summary descriptive word or phrase, as follows:

- Complete – the action item has been finished
- Partial complete – some, but not all, of the activities identified for the action item are complete
- Ongoing – the OPC is continuing to work in this area; many of the action items do not have a defined end-point, and thus fall into this category
- Limited action – the OPC has done some work on this action item, but has not undertaken a comprehensive effort, to-date
- No action taken, to-date – the OPC has not yet undertaken this activity.

In assessing the OPC's activities in total, the Council has, to some extent, addressed the majority of action items in the strategic plan. Given the number of action items and extremely broad scope of the plan, this represents a significant accomplishment. Most of the action items identify several specific activities for the OPC, or its partners, to undertake. In most cases, the OPC has taken steps to implement some, but not all, of the activities that fall under that action item. Many of the 74 action

items involve a supporting role by the OPC, with the primary action to be taken by another agency. In these cases, the OPC could not necessarily ensure that an action item was accomplished.

The fact that the OPC accomplished many of the strategic plan action items does not necessarily mean that the OPC achieved the objectives in the strategic plan. Because of the nature of this first strategic plan, there is no viable means to assess how well the OPC has done in achieving the 24 objectives within the strategic plan. The strategic plan objectives are generally subjective, and not measurable.

Table C-1, on page C.18, identifies eight performance measures included in the strategic plan. Unfortunately, none of these performance measures is specific to OPC activities, and all are beyond the OPC's control. In addition, most of these performance measures are not quantifiable. These eight performance measures do not provide a gauge of the OPC's performance as it relates to its strategic plan.

Specific recommendations regarding development of the OPC's second five-year strategic plan are included in Section 3. However, this assessment of the OPC's performance as compared to the strategic plan highlights three steps that the OPC should consider in developing its second strategic plan:

1. Reduce the number of goals, objectives, and actions to that which the OPC can reasonably and effectively address during the strategic planning period
2. Include action items that the OPC can undertake. This does not mean that OPC action items should not include other agencies, only that the OPC should be the lead agency in conducting the particular activity, and the action should specify steps that the OPC will take, rather than another agency
3. Identify performance measures specific to the problems that the OPC, and its partners, are working to solve. Performance measures should be linked to the objectives.

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
A. Governance – A goal of the OPC is to enhance the capacity and performance of government programs to meet the goals of COPA				
<i>Objective A1: Funding – Maximize the effectiveness of funding spent to protect and conserve coastal resources</i>				
A-1a	By February 2007, complete a comprehensive study of all state agency budgets for ocean and coastal protection activities. The study shall include: an assessment of existing special funds and whether those funds have been fully expended in existing operating budgets; an assessment of the range of existing and potential uses for any identified funds; and an assessment of whether there is a duplication of funding efforts.	OPC	Partial complete. Study by the National Ocean Economics Program completed May 2008. The study is a comprehensive summary of budgets for FY 2005/06 and FY 2006/07. The study provides the budgets, but not an assessment of the implications for ocean and coastal management, or implications for OPC decision-making.	The OPC completed the two studies that were identified in the strategic plan, but still has an opportunity to improve funding for ocean-related management. This has been difficult, given the current fiscal climate in the state.
A-1b	By February 2007, complete a comprehensive study of all potential new funding sources for ocean and coastal protection.	OPC	Complete. Study by Redefining Progress completed December, 2007. The study evaluates a range of different fees, taxes, and fines.	
A-1c	By May 2007, work with all relevant state agencies to develop necessary regulations, legislation or other tools to improve the way ocean-related activities are funded.	OPC	No action taken, to-date.	
<i>Objective A2: Interagency Collaboration – Maximize the effectiveness of state agency efforts to protect and conserve ocean and coastal resources</i>				
A-2a	By December 2006, inventory laws and identify gaps or overlapping jurisdictions affecting priority ocean and coastal issues.	OPC	Partial complete. Inventory completed (no date). The study provides a thorough inventory of laws; however, there is little analysis of gaps or overlapping jurisdictions.	The OPC's work in this area has been project specific, and is developing over time. The OPC has an opportunity to develop a more comprehensive and strategic approach for its coordinating activities.
A-2b	By May 2007, work with all relevant state agencies to develop necessary legislation, regulations, or other tools to improve ocean governance. Identify and promote administrative, regulatory, and legislative measures that will enhance the effectiveness of state coastal and ocean programs by reducing gaps and conflicts in policies and programs.	OPC	Ongoing. The OPC is conducting ongoing activities in this area. Related projects include: the OPC-DFG Joint Work Plan projects, development of the Aquatic Invasive Species management plan, and supporting interagency collaboration for managing geospatial information addressing climate change, and marine debris.	

Exhibit C-1

Summary of the OPC's Accomplishments as

Compared to the September 2006, Five-Year Strategic Plan (continued)

Page 2 of 15

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective A3: Enforcement – Improve the enforcement efforts of California’s ocean and coastal protection laws				
A-3a	By December 2006, identify all ocean protection enforcement authorities, programs, and budgets, and convene a task force to provide recommendations to OPC on more efficient ways of conducting and coordinating enforcement, including integrating enforcement actions across agencies.	OPC	Limited action. The OPC convened an enforcement working group with the Los Angeles RWQCB and DFG. The project was discontinued.	The OPC has had limited success in improving enforcement efforts. Because the OPC has no enforcement authority, its actions must be achieved through coordination and/or funding.
A-3b	By May 2007, work with all relevant state agencies to develop necessary legislation, regulations, or other tools to improve the enforcement of ocean protection laws.	OPC	Limited action.	
Objective A4: Ecosystem-Based Management (EBM) – Develop practical approaches to implementing ecosystem-based management and encourage implementation throughout the state				
A-4a	By May 2007, work with all relevant state agencies to develop proposed legislation, regulations, or other tools to integrate EBM principles into agency operations.	OPC	Limited action. OPC funded several efforts to gather socio-economic data to support ecosystem based management (EBM) in decision-making. These projects included: socio-economic studies of north coast and a Non-Market Ecological Valuation of Coastal and Marine Resources in California.	The OPC has only minimally addressed this objective, to-date. The WCGA EBM action team and the EBM network were already working to develop tools and approaches for incorporating EBM into agency operations.
A-4b	Support the development of ecosystem-based management pilot programs in several regions throughout California.	OPC, SCC	Limited action. The OPC funded a pilot project in Morro Bay, and has funded ecosystem-based management research through the Sea Grant program.	
Objective A5: Federal Influence – Engage federal government support for California’s priorities				
A-5a	Actively engage on the following issues by working with the President, Congress, Council on Environmental Quality, National and Western Governors’ Associations, and Coastal States Organization to: <ul style="list-style-type: none"> ■ Maintain California’s moratorium on offshore oil and gas leasing ■ Support California’s non-point source pollution program ■ Call for the ratification of the Law of the Sea Treaty ■ Support California’s ocean observing systems ■ Reauthorize a strong Coastal Zone Management Act ■ Support adequate funding for state and federal coastal programs. 	OPC	Ongoing. The OPC is conducting ongoing outreach and work in these areas, including support for specific objectives of House of Representatives bill Oceans Conservation, Education, and National Strategy for the 21 st Century Act (H.R. 21), and adoption of comments on the draft National Policy and Implementation Strategy from President Obama’s Interagency Task Force on Ocean Policy	The OPC has successfully engaged and influenced federal ocean policy on a number of different levels. The OPC has been particularly engaged in building California’s ocean observing systems.

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective A6: Regional Coordination – Pursue regional governance approaches to improve coordination of ocean management along the West Coast				
A-6a	By September 2006, adopt a tri-state agreement between the states of California, Oregon and Washington that focuses on initiatives by all three states to improve ocean and coastal management.	OPC, RA	Ongoing. The WCGA was adopted in September, 2006 and the action plan was released in July, 2008. The WCGA completed eight work plans in May, 2010.	The WCGA was established, and continues to move forward to complete and implement work plans in specific areas. The OPC has been integrally involved in these activities.
Objective A7: Performance Metrics – Build the foundation for identifying outputs and outcomes for objectives and actions supported by the OPC				
A-7a	Identify outputs and outcomes for at least one objective under each goal and evaluate activities in producing that outcome over the next five years.	OPC	Limited action. There has been no additional identification of outputs and outcomes. This OPC evaluation provides an assessment of OPC activities.	This strategic plan includes many specific outputs, but few measurable outcomes. The current OPC evaluation includes an overall assessment of the OPC's performance, but not specific performance metrics.

B. Research and Monitoring – A goal of the OPC is to improve understanding of ocean and coastal ecosystems				
Objective B1: Research – Improve scientific understanding of our ocean resources				
B-1a	Implement the IRO recommendations and information and research priorities: <ul style="list-style-type: none"> ■ Make research part of the council's funding strategy ■ Make California's ocean observing system a national model ■ Seek federal support for California's research needs. 	OPC	Ongoing. Research has been a primary focus of the OPC's funding strategy. OPC has helped make California's OOS system a national model. The OPC has also sought and obtained federal funds for research, supported the OST, and developed a partnership with California Sea Grant to support California's research needs.	The OPC has, and continues to, work to support scientific research critical to understanding and managing California's coast and oceans. This has been one of the OPC's most successful activity areas.
B-1b	Work with the California Sea Grant Programs to review and award grants that meet the OPC guidelines and priorities. Support or collaborate with the research activities by agencies, universities, and programs that seek to provide a better scientific understanding of impacts to ocean and coastal ecosystems.	Sea Grant	Ongoing. The OPC has been actively working with the Sea Grant programs, and has provided approximately \$5 million to Sea Grant to fund research that jointly meets OPC and academic priorities. The OPC has also funded a number of related academic research, including: UC Marine Council Graduate Fellowships, Sea Level Rise Assessments, Sea Otter Recovery Research, and Nutrient Loading in the Southern California Bight.	

Exhibit C-1

Summary of the OPC's Accomplishments as

Compared to the September 2006, Five-Year Strategic Plan (continued)

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Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective B2: Monitoring – Monitor and map the ocean environment to provide data about conditions and trends				
B-2a	Create state-sponsored ocean observing programs that will work with the federal Integrated Ocean Observing System (IOOS), the Regional Associations (RAs), and other entities to plan and build an integrated ocean observing system in California.	SCC, UC, CSU, NOAA	Ongoing. The OPC is working with California's two IOOS systems, and federal and regional entities, to support IOOS.	The OPC has been directly engaged in building the regional OOS programs and in developing tools for translating OOS data into formats that are easily accessible to local, state, and federal resource managers. The OPC has also supported the development of more comprehensive monitoring programs, through the OOS systems and the MPA Monitoring Enterprise. The OPC has supported mapping of the California seafloor.
B-2b	Complete a statewide management information needs assessment that will guide the development of future ocean observing systems. Develop and implement a comprehensive state or regional approach for acquiring, managing, and disseminating observing data in a way that is responsive to management priorities and numerous stakeholders. Work to integrate data collection techniques between the California RAs, and among the Californian systems, the Pacific regional systems, and the national IOOS. Complete installation of the Coastal Ocean Currents Monitoring Program (COCMP) and ensure it is fully maintained and coordinated with other state and regional observing system components.	SCC, UC, CSU, NOAA	Ongoing. The OPC is currently funding an evaluation of IOOS, Synthesis for Coastal Ocean Observing Products, which is intended to improve information dissemination and access for resource managers. OPC is also seeking additional funding for the COCMP.	
B-2c	Support and expand existing ocean observing and monitoring programs, data management capabilities, and continued operations and necessary improvements. Support monitoring programs such as Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Cooperative Research and Assessment of Nearshore Ecosystems (CRANE), California Cooperative Oceanic Fisheries Investigation (CalCOFI), the Water Boards' Surface Water Ambient Monitoring Program (SWAMP), the Statewide Wetlands Monitoring Program, and other regional, long-term data collection efforts. Integrate the data generated from these different systems.	SCC, UC, CSU, DFG, SWRCB, NMFS, NOAA	Partial complete and Ongoing. Activities in this area are part of the OPC's general support of ocean observing and monitoring programs. The OPC has supported the integration of data into the regional OOS programs and funded the development of MPA Monitoring Enterprise which integrates PISCO and other data collection efforts to gauge changes in the MPAs.	

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective B2: Monitoring – Monitor and map the ocean environment to provide data about conditions and trends (continued)				
B-2d	Pursue funding and partnerships to complete sea floor maps of all state waters. Ensure the distribution of marine habitat and substrate maps to promote effective management of fisheries, design of marine protected areas, and other management efforts. Mapping includes data acquisition, interpretation, and creation of habitat maps. Work with the federal government to map essential areas of federal waters. Implement the recommendations from the December 2006 Statewide Marine Mapping Planning Workshop and Report, and require all future mapping projects to use standards identified in the Workshop Report.	OPC	Ongoing. The OPC and partners have nearly completed seafloor mapping, and are moving to the map production and distribution phases. OPC recently funded coastal mapping (LiDAR) for the near-shore mapping component.	(see above)
B-2e	Develop and maintain state and federal partnerships to leverage investment in mapping projects.	OPC	Ongoing. The OPC worked closely with state and federal partners to fund seafloor mapping, leveraging almost \$18 million in OPC funding (including the pilot phase) with an additional \$14.5 million in mostly federal funds, to-date. Mapping partners include USGS, NOAA, CSU Monterey Bay, DFG, and the National Marine Sanctuary Foundation.	
B-2f	Develop and implement a system for data management and a standardized approach to the format and distribution of mapping products.	OPC, DOC/CGS	Ongoing. In-progress, as the seafloor mapping focus shifts from data collection to map production.	
B-2g	Support the establishment of a comprehensive monitoring program focused on MPAs established under the MLPA and structured to be beneficial to other programs, including the MLMA. Ensure that this monitoring effort is integrated with other state and federal monitoring programs.	DFG, OPC	Ongoing. The OPC has provided \$16 million to support baseline monitoring for the MPAs. The OPC provided \$2 million in funding to the OST to support development of the MPA Monitoring Enterprise. OST completed a monitoring plan for the North Central Coast, and is beginning work on a South Coast plan. Additional related OPC funded projects include: Channel Islands ROV and SCUBA projects, and Cooperative Kelp Monitoring.	
B-2h	Develop a set of statewide standardized indicators for biological, physical, social, and economic disciplines.	DFG, CalEPA, SWRCB, JPAs, LA	No action taken, to-date.	
B-2i	Establish a mechanism or organization to provide data synthesis services with the goal of assembling scientific results from state and national efforts and producing products for diverse scientific, public, and policy audiences.	SCC, UC, CSU, NOAA	Ongoing. The MPA Monitoring Enterprise works with the OOS and others to produce data produces useful for ocean and coastal managers.	

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan (continued)

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Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
C. Ocean and Coastal Water Quality – A goal of the OPC is significant improvement in ocean and coastal water quality				
Objective C1: Enforce Pollution Controls – Coordinate and support the personnel and programs needed to enforce existing water quality standards				
C-1a	By December 2006, evaluate the efforts of all agencies that enforce water quality laws.	OPC	No action taken, to-date.	The OPC has faced challenges in implementing this objective. The OPC has no enforcement authority, and must rely on coordination and/or funding to improve enforcement. Water quality enforcement is largely the responsibility of the Water Boards. The SWRCB, with SCWRP, has been active in monitoring to support ASBS designation, and SWRCB is developing a Draft EIR.
C-1b	By May 2007, work with all relevant agencies to develop regulations, legislation or other tools to improve and streamline enforcement efforts.	OPC	No action taken, to-date.	
C-1c	Support funding for additional enforcement personnel as warranted.	OPC	Limited action. The OPC considered funding for a DFG position to work on enforcement with the Los Angeles RWQCB, but the position was not funded due to administrative and budget constraints.	
C-1d	Establish Special Protections to eliminate or limit waste discharges into Areas of Special Biological Significance (ASBS). These Special Protections will require, by 2011: 1) the elimination of dry weather flows from municipal storm drains into ASBS, and 2) that pollutants in municipal storm runoff will be minimized in order to protect beneficial uses in ASBS.	SWRCB	No action taken, to-date.	
C-1e	Support local governments in addressing land use planning issues affecting ocean and coastal water quality, including updating local coastal programs.	CCC, BCDC	Ongoing. The OPC's low impact development (LID) resolution and a study on LID Regulatory Assessment and LID Implementation in California contribute to this action. The OPC's climate change activities may also address this area in the future.	
C-1f	Prepare policy responses and address conflicts between state and federal authorities as necessary relating to offshore development proposals impacting ocean and coastal water quality. Review proposals for co-locating other offshore industries with existing offshore oil platforms and for decommissioning aging platforms to determine potential impacts to ocean and coastal resources.	OPC	Limited action. The OPC provided funding to the OST to conduct an evaluation of alternatives for offshore oil platform decommissioning.	

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
<i>Objective C2: Innovation – Support the development of new technologies and approaches to reduce non-point source pollution</i>				
C-2a	Work with the Coastal Nonpoint Pollution Control Program to develop and implement innovative approaches to address nonpoint source pollution. Encourage innovative approaches to improve storm water management (such as increased permeable surfaces that allow storm water and urban runoff to percolate into the soil rather than flow to the ocean). Promote source control through improved public information and low impact development. Support the development of consistent statewide procedures for monitoring emerging pollutants, such as endocrine disrupters and PBDE.	SWRCB, RWQCB	Partial complete. The OPC passed a resolution on low impact development in May 2008, and funded the study identified under C-1e.	The OPC has undertaken limited activities under this objective, to-date. Many other entities were already working on LID. The Regional Boards have been active in implementing C-2b.
C-2b	Reduce sediment, nutrient, and chemical laden runoff due to forestry, viticulture, and agricultural operations through implementation of the State Water Board's nonpoint source pollution program, and acquisition of property interests, voluntary certification programs, and grant programs to install source controls.	SWRCB, SCC, WCB	No action taken, to-date.	
<i>Objective C3: Once-through Cooling – Work to eliminate the harmful environmental impacts of once-through cooling at coastal power plants</i>				
C-3a	Implement OPC's "Resolution Regarding the Use of Once-Through Cooling Technologies in Coastal Waters" as follows: <ul style="list-style-type: none"> ■ By December 2007, complete an engineering study of the existing coastal power plants to assess the possibility of implementing alternative technologies and operational changes ■ Urge the State Water Resources Control Board to implement the most protective controls to achieve a 90-95 percent reduction in impacts of entrainment and impingement ■ Establish an interagency coordinating committee to coordinate the activities of regulatory authorities that address once-through cooling ■ Investigate possible non-regulatory incentives that can accelerate desirable conversions away from once-through cooling. 	OPC, SWRCB	Complete. The OPC funded two studies to support OTC: Energy Grid Reliability and Engineering and Operational Study, both completed in 2008. The OPC's resolution and actions related to OTC contributed to ongoing discussions on OTC. The SWRCB approved new regulations to phase out OTC in May 2010.	With the SWRCB's adoption of water quality control policies to phase out OTC, the OPC has successfully met this objective.

Exhibit C-1

Summary of the OPC's Accomplishments as

Compared to the September 2006, Five-Year Strategic Plan (continued)

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Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective C4: Water Quality Testing – Improve water quality testing programs and warning systems				
C-4a	Develop and implement rapid indicators of pathogen contamination to provide for more timely notice of beach closures and openings.	SWRCB	Limited action. The OPC, in conjunction with the SWRCB, provided funding for research in this area in 2006, and approved \$10 million in joint projects with the SWRCB to help protect and restore coastal water quality. A pilot project in Orange County is testing rapid indicators.	The OPC has conducted limited activities under this objective. The authority for water quality lies with the SWRCB; the SWRCB has made significant progress in the area of rapid indicators. The OPC has focused its efforts on scientific research gaps and coordinating OOS systems to help inform managers with monitoring and forecasting. OEHHA and the Regional Boards have addressed methyl-mercury contamination.
C-4b	Investigate options for detection and treatment of pharmaceuticals, pathogens, and endocrine disruptors in wastewater and runoff.	SWRCB	Limited action. The OPC co-sponsored a workshop on chemicals of emerging concern.	
C-4c	Promote improved monitoring and forecasting of harmful algal blooms to provide advance warning of possible beach closures.	SWRCB, DPH	Ongoing. The OPC funded research on harmful algal blooms through the Sea Grant program, and the Southern California Bight Nutrient Loading Study included the effects of associated algal blooms. The OOS information is also focused on harmful algal bloom detection.	
C-4d	Investigate solutions to methyl-mercury contamination in the food chain and improve public education on the potential health risks.	SWRCB, OEHHA	No action taken, to-date.	
Objective C5: Marine Debris – Reduce ocean and coastal debris and its impacts to ocean ecosystems				
C-5a	Support the implementation of the 2006 California Marine Debris Action Plan—A Plan of Action to Reduce Land-based Discharges of Marine Debris in California—including the creation of a state Interagency Task Force on Litter and Marine Debris.	CCC, DBW	Partial complete. The Task Force was created, and the OPC passed a resolution on marine debris that brought widespread attention to the topic. The OPC funded two related studies: Toxicological Profiles, and Toxic Substances Flow Account, to evaluate the impact of plastics in the ocean. The Task Force developed an implementation strategy, there has been limited activity in implementing the strategy.	The OPC has been very successful in increasing awareness about marine debris, and less successful in implementing policies to reduce marine litter.
C-5b	Promote and expand the Adopt-a-Beach program and Coastal Cleanup Day, including expanding these programs inland to include coastal watersheds.	CCC	No action taken, to-date.	
C-5c	Support and expand the California Derelict Fishing Gear Program, in cooperation with the fishing community, to reduce impacts from lost commercial and recreational fishing gear.	SCC	Complete. The OPC funded a pilot project for derelict fishing gear removal. Other state and federal entities are now funding the program.	

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective C6: Vessel Pollution – Reduce or eliminate point source pollution from vessels				
C-6a	Work with the US EPA and NOAA to prohibit sewage, sewage sludge, graywater, and all other waste disposal from ocean-going ships and large passenger vessels (greater than 300 gross registered tons).	SWRCB	No action taken, to-date.	The OPC has not addressed this objective, although other agencies have. The US EPA recently announced new rules that will support a 2005 California law banning dumping of sewage from cruise ships and large commercial ships in California water. Previously, the SWRCB issued a water quality certification to address all waste from vessels except sewage.
C-6b	Promote the development of alternatives to antifouling chemicals in hull paints used on vessels that would continue to be effective growth inhibitors of vessel fouling organisms.	Various	No action taken, to-date.	
C-6c	Support clean marinas and improve water quality at harbors. Improve boater education programs.	DBW	No action taken, to-date.	
C-6d	Assist ports by developing innovative and/or beneficial disposal of dredge materials, and support efforts to improve water and air quality.	LG, LA	No action taken, to-date.	

D. Physical Processes and Habitat Structure – A goal of OPC is to significantly improve the quantity and quality of ocean and coastal habitat in California				
Objective D1: Habitat Restoration – Restore and maintain valuable ocean and coastal habitats and resources				
D-1a	Fund priority restoration projects, including those involving wetlands, eelgrass, kelp, and native oysters. Implement ten subtidal restoration projects including eelgrass, kelp, native oyster or other subtidal habitats.	SCC, NOAA, DFG	Limited action. The OPC funded two restoration projects: the San Francisco Bay Native Oyster Restoration Plan, and San Francisco Eelgrass Restoration.	The OPC has undertaken limited activities to implement this objective. Most activities in this area have been undertaken by other entities, particularly the SCC.
D-1b	Implement actions to remove barriers to fish passage identified in the CalFish database and work toward measuring and monitoring stream flows on key coastal streams.	SCC, NOAA, DFG	Ongoing. The OPC funded three in-stream flow studies in the Santa Maria, Shasta, and Big Sur rivers. The projects were delayed due to the bond funding freeze, but have just been reinitiated. The OPC also funded three related salmon projects: the Southern Steelhead Resources Project, Salmon Report, and Facilitation of Salmon Meetings.	

Exhibit C-1

Summary of the OPC's Accomplishments as

Compared to the September 2006, Five-Year Strategic Plan (continued)

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Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
Objective D1: Habitat Restoration – Restore and maintain valuable ocean and coastal habitats and resources (continued)				
D-1c	Support efforts to restore riparian corridors including the Ventura River, Klamath River, and San Francisco Bay-Delta, focusing on restoration of habitat connectivity and quality within coastal watersheds. Complete planning for the restoration of rivers and stream corridors to promote the recovery of native salmonid species. Support large scale dam removal and associated watershed restoration projects that require additional funds to complete, such as Matilija Dam, Rindge Dam, and San Clemente Dam. Examine the removal of dams on the Klamath River to determine future state roles, and consider restoring the Klamath River as a keystone project.	DFG, SCC, WCB, SWRCB, ACOE, LG, DOI, tribes	Limited action. The OPC funded a Klamath River Sediment study, and Matilija Dam Ecosystem Restoration Project.	(see above)
D-1d	Complete planning and begin implementation for restoration of at least 30,000 acres of coastal or San Francisco Bay wetlands. Complete planning and begin ecosystem-scale wetlands restoration projects (e.g., South Bay Salt Ponds), including adaptive management and monitoring.	SCC	No action taken, to-date.	
D-1e	Test different management regimes for protecting coastal strand ecosystems, including tide pools and rocky intertidal habitat, and establish best management practices based on these investigations.	DPR	Limited action. The OPC is funding related research through the Sea Grant program and research on rocky intertidal zones for MPA mitigation.	
D-1f	Complete the San Francisco Bay Subtidal Habitat Goals Project by June 2008 and support full implementation of its recommendations. Initiate similar restoration planning projects in key bays and estuaries at representative locations along the coast, such as Humboldt Bay or Tomales Bay. Integrate the San Francisco Bay Subtidal, Baylands, and Uplands Habitat Goals projects to develop a comprehensive protection and restoration plan for the Bay Area.	NOAA, BCDC, SCC	Limited action. The OPC funded a San Francisco Bay Subtidal Habitat Goals Study, which provided recommendations for research and restoration, as well as the San Francisco Bay Native Oyster Restoration Plan and San Francisco Eelgrass Restoration.	
D-1g	Support the work of the Southern California Wetlands Recovery Project, San Francisco Bay Joint Venture, Pacific Coast Joint Venture, and other regional restoration coordination efforts.	SCWRP, SFBJV, PCJV	No action taken, to-date.	

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
<i>Objective D1: Habitat Restoration – Restore and maintain valuable ocean and coastal habitats and resources (continued)</i>				
D-1h	Develop rapid assessments or inventory procedures for watersheds to facilitate prioritization of watershed projects where a comprehensive assessment is not feasible. Investigate and recommend future policies to protect streams and watersheds.	SWRCB	No action taken, to-date.	(see above)
D-1i	Install and establish a system for long-term maintenance of stream gauges statewide. Determine flow rates necessary to protect water quality in coastal lagoons and estuaries consistent with the water pollution control policies of the Regional Water Boards.	SWRCB, DWR	Limited action. The three in-stream flow studies in the Santa Maria, Shasta, and Big Sur rivers will support this action.	
<i>Objective D2: Regional Sediment Management – Support the implementation of regional sediment management throughout California as a means of protecting, restoring and enhancing California's coastal sediment/beach resources</i>				
D-2a	Work with the CSMW (California Coastal Sediment Management Workgroup) and local partners to complete and implement the California Coastal Sediment Master Plan.	RA, ACOE	Limited action. The SCC and Resources Agency provided some funding for the Plan, which is still in development. The US Army Corps of Engineers and Resources Agency are co-chairing this effort. The OPC has funded studies that contribute to sediment management, including: Tijuana Estuary Sediment Fate and Transport Study, Klamath River Sediment Study, and San Francisco Bay Hydrodynamic and Sediment Transport Modeling.	The OPC has funded some projects, but had a limited role in this objective.
<i>Objective D3: Impacts of Climate Change – Support state efforts to detect the impacts of climate change and to develop strategies to respond to them</i>				
D-3a	Work with the Climate Action Team to investigate the long-term impacts of sea level rise and develop statewide adaptive management policies that will help agencies deal with these impacts.	OPC	Ongoing. The OPC adopted a resolution on climate change, led the Coastal and Ocean Working Group for the Climate Change Action Team in developing an adaptation strategy and implementation plan, and is now working on implementing the plan. The OPC funded studies including: California Sea Level Rise Projections, Climate Change Adaptation Report, National Academies Sea Level Rise Risk Assessment, and ocean acidification research through the Sea Grant program.	The OPC has been actively involved in achieving ongoing objective.

Exhibit C-1

Summary of the OPC's Accomplishments as

Compared to the September 2006, Five-Year Strategic Plan (continued)

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Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
E. Coastal and Ocean Ecosystems – A goal of the OPC is to significantly increase healthy ocean and coastal wildlife populations and communities in California				
Objective E 1: Marine Life Protection Act – Help complete and implement a statewide network of Marine Protected Areas (MPAs)				
E-1a	Identify and fill critical needs in executing the MLPA Initiative. Support DFG and the Fish and Game Commission in implementation of the MLPA beyond the Central Coast region to include other areas in the State, and help secure funds that DFG will need to manage a statewide network of MPAs.	DFG	Ongoing. The OPC provided \$16 million for baseline MLPA monitoring and \$4.4 million in funding to the DFG for MLPA implementation. In addition, many activities in the \$8 million joint DFG-OPC work plan further support the MLPA.	Through monitoring and funding support, the OPC has played a valuable role in implementing the MLPA.
E-1b	Make resources available to design and implement a comprehensive MPA monitoring program that can be implemented statewide, and that will measure changes in these ecosystems and inform future management decisions.	DFG	Ongoing. The OPC has provided \$16 million in funding for baseline monitoring to support MPA development. The OPC provided \$2 million in funding to the OST to support development of the MPA Monitoring Enterprise. The OST completed a monitoring plan for the North Central Coast, and is beginning work on a South Coast plan. The OPC has also funded ROV vessel support for monitoring.	
Objective E2: Marine Life Management Act – Help establish ecologically and economically sustainable fisheries				
E-2a	Support implementation of FMPs adopted under the MLMA and the development of new FMPs for priority fisheries. Complete priority stock assessments and FMPs, and promote the enforcement of associated regulations. Support cooperative research and facilitate data sharing among fishers, academics, and agency personnel to enhance DFG stock assessments and other regulatory decisions.	DFG	Ongoing. The OPC funded the MLMA Lessons Learned study to evaluation implementation of the MLMA. The OPC may provide future funding specifically for FMPs. The OPC also funded several DFG joint projects that obtained data needed for stock assessments.	The OPC has, and continues to, provide support for this objective through a variety of different activities.
E-2b	Make resources available to support DFG's work on the MLMA.	DFG	Complete. The OPC funded projects related to MLMA implementation through the joint DFG-OPC work plan, including development of an electronic fish logbook system and upgrades to DFG data systems for fisheries.	
E-2c	Investigate regulatory and legislative changes that may be needed to restructure DFG's fee system.	OPC, DFG	Limited action. The OPC's Dungeness Crab Task Force addresses broader regulatory and legislative changes in one fishery.	
E-2d	Install new technologies for permitting, such as electronic licensing for commercial and recreational fishermen, and investigate and implement new technologies for enforcing regulations.	DFG	No action taken, to-date.	

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
<i>Objective E3: Invasive Species – Significantly increase the capacity of government agencies and the private sector to reduce and respond to invasive species</i>				
E-3a	By November 2006, complete the California Aquatic Invasive Species (AIS) Management Plan and the State Rapid Response Plan. Support the full implementation of those plans and the California Noxious and Invasive Weed Action Plan.	DFG, SCC	Partial complete. The OPC provided funding to complete the AIS Management Plan. The OPC provided funding for a vector analysis, one of the plan's priority recommendations. The project was postponed due to the bond freeze, and has recently been reinstated.	The OPC played a valuable role in funding the completion of the AIS Management Plan, and in bringing agencies together to work on this issue. Lack of funding for invasive species has hampered further progress.
E-3b	Improve regulatory coordination and enforcement to prevent or quickly respond to invasive species introductions. Establish a rapid response emergency fund for coastal invasive species in areas determined to be a high priority for response.	DFG, SLC, DFA	No action taken, to-date.	
E-3c	Improve research and data collection on invasive species and coordinate information dissemination on coastal invasions.	NGO, DFG	Limited action. The vector study noted in E-3a, above, will address the research and data component of this action.	
<i>Objective E4: Market-Based Fisheries – Support market-based fishery management approaches</i>				
E-4a	Develop a California Fisheries Fund or similar strategy that will facilitate a transition to improved fisheries management and sustainable fishing practices, including new fishing techniques to reduce bycatch.	NGO	Complete. The OPC's \$2 million investment in the CFF was leveraged with another \$3 million in private funding. The CFF has issued three loans to-date.	The OPC has, and continues to be, heavily involved in supporting market-based fishery management approaches, and in advancing market-based fisheries in the state.
E-4b	Investigate the feasibility of various sustainable fishery management approaches, such as vessel buybacks, different quota systems, and limited entry programs. Encourage the development of sustainable fishing gear.	NGO, DFG	Ongoing. The OPC passed a resolution on sustainable fisheries, and has funded a number of projects under this action, including: the Central Coast Groundfish Project, San Diego Sea Urchin Fishery, California Fisheries Evaluation, San Luis Obispo Sustainable Fisheries Support, Collaborative Fisheries Research Organization, and Dungeness Crab Task Force.	
E-4c	Investigate the potential for consumer-oriented market approaches, such as a California sustainable seafood certification program or direct-to-consumer sustainable seafood markets.	NGO, DFG	Ongoing. The OPC is coordinating a Sustainable Seafood Initiative, and has funded the Moss Landing Fish Market Feasibility Study, San Diego Sea Urchin Fishery, and San Francisco Fisherman's Wharf Sustainable Seafood Market Study.	

Exhibit C-1

Summary of the OPC's Accomplishments as

Compared to the September 2006, Five-Year Strategic Plan (continued)

Page 14 of 15

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
<i>Objective E5: Encourage Sustainable Economic Activity – Encourage emerging coastal and ocean economic activities that will provide new economic opportunities for the state, can be conducted in a sustainable manner, and are consistent with the goals and objectives of the COPA</i>				
E-5a	Encourage and support new and innovative economic activities that can be conducted in a sustainable manner along or off the California coast.	SCC, NGO	Ongoing. The OPC funded two related studies, the Ocean Energy Study, and Aquaculture Programmatic Environmental Impact Report.	The OPC has undertaken few initiatives in this area, to-date. Some ongoing activities, such as ocean energy, have significant potential.
E-5b	Preserve working harbors through investments in infrastructure such as small-scale fish processing facilities.	DBW, LG, LA, SCC, NGO	Limited action. The OPC funded the Moss Landing Fish Market Feasibility Study and San Francisco Fisherman's Wharf Sustainable Seafood Market Study.	
E-5c	Inventory existing commercial leases of state-owned submerged tidelands and assess the adequacy of standards, practices, and resource protection for these areas. Recommend changes as necessary to current laws and regulations that will ensure adequate protection and valuation of these resources.	SLC	No action taken, to-date.	
E-5d	Develop and implement strategies to balance increasing recreational beach access with resource protection. Implement three projects to determine the impacts of various management techniques in representative locations.	DPR	No action taken, to-date.	
E-5e	Complete the San Francisco Bay Area Water Trail Plan by January 2008 and begin construction of associated infrastructure. Investigate options for water trails in other coastal locations.	BCDC, SCC, DBW, NGO	No action taken, to-date. The SCC is undertaking this action.	

Appendix C. Crosswalk Comparison of OPC's Strategic Plan and OPC Activities

Exhibit C-1

Summary of the OPC's Accomplishments as Compared to the September 2006, Five-Year Strategic Plan *(continued)*

Number	Strategic Plan Action	Lead Agency	Status	Assessment of Objective
F. Education and Outreach – A goal of the OPC is to promote ocean and coastal awareness and stewardship				
Objective F1: Public Awareness – Increase public awareness of ocean and coastal issues and encourage individual stewardship				
F-1a	Implement the recommendations and priorities on outreach in the IRO Strategy, including: <ul style="list-style-type: none"> ■ Improve access to and coordination of ocean and coastal information through a comprehensive ocean and coastal web portal ■ Incorporate ocean and coastal science into K-12 and adult education programs by supporting Cal/EPA's Education and the Environment Initiative ■ Build a public media campaign with the National Marine Sanctuary Program and the Ocean Communicators Alliance. 	OPC, CalEPA, CCC, NMS, RA, OPC	Partial complete. The OPC has provided \$250,000 in funding for the Ocean Awareness Campaign and Thank You Ocean public media campaign.	The OPC has provided some funding for education, but has not focused on this objective.
F-1b	Support targeted outreach to decision-makers and state elected officials on the impacts of stewardship decisions (e.g., impacts of land use on ocean and coastal resources). Coordinate an Oceans Forum to discuss issues and brainstorm solutions to problems, similar to the national Ocean Week held annually in Washington, DC.	OPC	Limited action.	
F-1c	Support environmental education for children and adults, including docent programs, nature and interpretive centers, bilingual education, live webcasts to schools, and on-the-water ocean experiences.	CCC, DPR, NGO, SCC	No action taken, to-date.	

Table C-1
OPC Performance Measures

Category	Performance Measure	Performance Measure Assessment
A. Governance	1. By 2011, ecosystem-based management approaches guide government policies and programs that affect ocean and coastal ecosystems	<p>None of the eight performance metrics is specific to the OPC, and most of the performance metrics are not quantifiable.</p> <p>The SWRCB does monitor beach closures (#4); however, beach closures have not declined in recent years. The number of over-exploited species (#7) could potentially be measured through state and federal lists of threatened and endangered species, although there is no such specification in the metric, and no definition of “significantly reduce”. The polling data (#8) could be measured, although it has not been recently.</p>
B. Research and Monitoring	2. By 2011, the state has sufficient scientific understanding of biological, physiological and socio-economic processes to implement ecosystem-based management statewide 3. By 2011, consistent monitoring data is accessible to resource managers and the public	
C. Ocean and Coastal Water Quality	4. By 2011, water quality is improved such that the number of beach closures is decreased by 75 percent from 1999 5. By 2011, tonnage of debris along the coastline and in coastal waters is decreased by 50 percent from 1999	
D. Physical Processes and Habitat Structure	6. By 2011, there will be measurable and significant improvements in the quantity and quality of the state’s ocean and coastal habitat types	
E. Coastal and Ocean Ecosystems	7. By 2011, California will have significantly reduced the number of over-exploited species	
F. Education and Outreach	8. By 2011, as measured by polling data, a majority of Californians: are aware of their individual impact on the coast and ocean; and practice conservation principles in their home, work, and recreational activities	

Lead Agency Acronyms and Abbreviations in Exhibit C-1

1. ACOE	United States Army Corps of Engineers
2. BCDC	San Francisco Bay Conservation and Development Commission
3. CalEPA	California Environmental Protection Agency
4. CCC	California Coastal Commission
5. CGS	California Geological Survey
6. CSU	California State University
7. DFA	California Department of Food and Agriculture
8. DFG	California Department of Fish and Game
9. DOC	California Department of Conservation
10. DPH	California Department of Public Health
11. DPR	California Department of Parks and Recreation
12. DWR	California Department of Water Resources
13. EBM	Ecosystem based management
14. FMP	Fishery Management Plan
15. JPAs	Joint Powers Authorities
16. IOOS	Integrated Ocean Observing Systems
17. LA	Local Authorities
18. LG	Local Governments
19. NGO	Non-Governmental Organizations
20. NMFS	National Marine Fisheries Service
21. NMS	National Marine Sanctuaries
22. NOAA	National Oceanic and Atmospheric Administration
23. OEHHA	California Office of Health Hazard Assessment
24. OOS	Ocean Observing Systems
25. OPC	Ocean Protection Council
26. PCJV	Pacific Coast Joint Venture
27. PISCO	Partnership for Interdisciplinary Studies of Coastal Oceans
28. RA	California Natural Resources Agency
29. RWQCB	Regional Water Quality Control Boards
30. SCC	California State Coastal Conservancy
31. SCWRP	Southern California Wetlands Recovery Project
32. SFBJV	San Francisco Bay Joint Venture
33. SLC	California State Lands Commission
34. SWRCB	California State Water Resources Control Board
35. Tribes	Sovereign Tribal Nations
36. UC	University of California
37. WCB	California Wildlife Conservation Board
38. WCGA	West Coast Governors' Agreement on Ocean Health

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Appendix D. Selected California Legislation Impacting
California Ocean and Coastal Resources

OPC

This Appendix provides a brief summary of California legislation identified in the report. These nine (9) laws each address some measure of managing and/or protecting California's ocean and coastal resources.

OPC

Exhibit D-1

Selected California Legislation Impacting California Ocean and Coastal Resources

California Law	Description
1. California Ocean Resources Management Act (CORMA)	The California Ocean Resources Management Act of 1990 created the Ocean Resources Management Program, within the Resources Agency, to coordinate the policies of state departments with jurisdiction over ocean and coastal resources, coordinate state agency management of ocean resources with local government, and ensure effective participation in federal planning and management.
2. Marine Life Management Act (MLMA)	The objective of the Marine Life Management Act, passed by the California Legislature in 1998, is to “conserve the health and diversity of marine ecosystems and marine living resources”, and to “allow and encourage only those activities and uses of marine living resources that are sustainable. The MLMA mandated ecosystem based management of ocean fisheries, and established a process for management. The MLMA focuses primarily on fisheries, addresses both commercial and recreational fisheries, and promotes scientific research and public input in guiding decision-making.
3. Marine Life Protection Act (MLPA)	The 1999 MLPA (Assembly Bill 993) directs the State to reevaluate and redesign California’s system of marine protected areas (MPAs) to: increase coherence and effectiveness in protecting the State’s marine life and habitats, marine ecosystems, and marine natural heritage; and improve recreational, educational, and study opportunities provided by marine ecosystems subject to minimal human disturbance. The MLPA requires that the best, readily available science be used in the redesign process, as well as the advice and assistance of scientists, resource managers, experts, stakeholders, and members of the public.
4. California Ocean Resources Stewardship Act of 2000 (CORSAs)	The California Ocean Resources Stewardship Act of 2000 (AB 2387) created the California Ocean Sciences Trust (OST), a non-profit 501(c)(3) public benefit corporation tasked to encourage coordinated, multi-agency, and multi-institutional approaches to translating ocean science to management and policy applications. The Act charges the OST with determining that the best available science is applied to California policies and ocean management to successfully maintain a healthy, resilient, and productive ocean and coast.
5. California Ocean Protection Act (COPA)	The California Ocean Protection act of 2004 (SB 1319) created the OPC to coordinate, and fund, new actions to protect and manage California’s coastal waters and ocean resources. The stated purpose of the COPA is to integrate, and coordinate, the state’s laws and institutions responsible for protecting and conserving ocean resources. The OPC is charged with implementing the COPA.
6. California Global Warming Solutions Act of 2006	The California Global Warming Solutions Act of 2006 (AB 32) set the 2020 greenhouse gas emission reduction goal into law, and directed the Air Resources Board to begin developing early actions and long-term reduction measures to achieve the 2020 greenhouse gas limits. In November 2008, Governor Schwarzenegger signed Executive Order S-13-08, directing the Resources Agency to coordinate the development of a state Climate Adaptation Strategy, including a directive for the OPC to coordinate the ocean and coastal resources component.
7. Water Quality, Plastic Discharges	AB 258 (2007) requires the SWRCB and RWQCB to implement a program for the control of discharges of preproduction plastics from point and nonpoint sources, including waste discharge, monitoring, and reporting requirements that, at a minimum, target plastic manufacturing, handling, and transportation facilities, and the implementation of specified minimum best management practices for the control of discharges of preproduction plastic.
8. Dungeness Crab Task Force Legislation	The Dungeness Crab Task Force (DCFT) was created pursuant to SB 1690 (2008). SB 1690 required the OPC to establish and administer a 27-member task force to review and evaluate Dungeness crab management measures and develop management recommendations. The DTCF was to report back to the Legislature, DFG, and FGC by January 15, 2010.
9. California Sustainable Seafood Initiative	The California Sustainable Seafood Initiative (AB 1217, 2009) requires the OPC to develop and implement a voluntary seafood promotion program for California fisheries. The intent of AB 1217 is to encourage California fisheries to seek certification in accordance with internationally accepted standards for sustainability and to promote the purchase and consumption of certified sustainable California seafood.

Appendix E. White Paper Interviewees

OPC

In preparing this evaluation of the OPC, NewPoint Group conducted over sixty interviews, in group and individual settings, in person, and by telephone. These interviews took place between April 27, 2010, and July 29, 2010. Interviewees had varying levels of involvement with the OPC, and cover eight different types of organizations. NewPoint Group would like to acknowledge these individuals for their time, and valuable input to this evaluation.

Federal Government

National Oceanic and Atmospheric Administration

1. Christine Blackburn, Office of the Undersecretary
2. Christina Cairns, NOAA Coastal Services Center
3. William J. Douros, Office of National Marine Sanctuaries
4. Rebecca Lunde, NOAA Coastal Services Center
5. Becky Smyth, NOAA Coastal Services Center

United States Geological Survey/OPC Science Advisory Team

6. Sam Johnson

State of California Government

7. Jonathon Bishop, California State Water Resources Control Board
8. Drew Bohan, California Department of Conservation
9. Ryan Broddrick, California Department of Fish and Game (retired)
10. Dan Chia, California State Assembly
11. Karen Finn, California Department of Finance
12. Catherine Freeman, Legislative Analyst's Office
13. Caroline Godkin, Legislative Analyst's Office
14. Dominic Gregorio, California State Water Resources Control Board
15. Sonke Mastrup, California Department of Fish and Game
16. John Moffatt, Governor's Office

State of California Government *(continued)*

17. Rob Schladale, California Department of Finance
18. Craig Shuman, California State Fish and Game Commission
19. Michael Sutton, California State Fish and Game Commission
20. Paul Thayer, California State Lands Commission
21. Will Travis, San Francisco Bay Conservation and Development Commission
22. Al Wanger, California Coastal Commission

California Ocean Protection Council Members, Designees, Staff

23. Cindy Aronburg, Office of the State Controller (designee for John Chiang)
24. Brian Baird, California Natural Resources Agency
25. Bill Craven, California State Senate (designee for Senator Fran Pavley)
26. Abe Doherty, OPC Project Specialist
27. Laura Engeman, OPC Project Manager
28. Neal Fishman, SCC Chief Deputy Executive Officer
29. Doug George, OPC Project Manager
30. Susan Golding, Public Member
31. Geraldine Knatz, Public Member
32. Amber Mace, OPC Executive Director
33. Pam Rittelmeyer, OPC Sea Grant Fellow
34. Sam Schuchat, OPC Secretary and SCC Executive Officer
35. Sheila Semans, OPC Project Specialist
36. Valerie Termini McCormick, OPC Project Manager
37. Cindy Tuck, California Environmental Protection Agency (designee for Linda Adams)
38. Ben Turner, California State Assembly (designee for Pedro Nava)

Environmental Organizations

39. Kaitlin Gaffney, Ocean Conservancy
40. Mary Gleason, The Nature Conservancy

41. Mark Gold, Heal the Bay
42. Leila Monroe, Natural Resources Defense Council
43. Linda Sheehan, California Coastkeeper Alliance

Universities/OPC Science Advisory Team

44. Meg Caldwell, Stanford University, Center for Ocean Solutions
45. Ken Coale, California State Universities, Moss Landing Marine Laboratories
46. Gary Griggs, University of California, Santa Cruz
47. Tony Haymet, University of California San Diego, Scripps Institution of Oceanography
48. Steve Wiesberg, Southern California Coastal Wetlands Research Project/OST Board

Non-Governmental Organizations

49. Adina Abeles, Center for Ocean Solutions
50. Skyli McAfee, California Ocean Sciences Trust
51. Tom Raftican, United Anglers of Southern California/Sportfishing Conservancy
52. Catherine Reheis-Boyd, Western States Petroleum Association
53. Jerry Schubel, Aquarium of the Pacific

Foundations

54. Mike Chrisman, National Fish and Wildlife Foundation
55. Barry Gold, Moore Foundation
56. Mike Weber, Resources Legacy Fund
57. Kate Wing, Moore Foundation

Consulting and Lobbying Firms

58. Reed Addis, Conservation Strategy Group
59. Tegan Hoffman, T.C. Hoffman and Associates
60. Astrid Scholz, Ecotrust

Corporate Firms

61. Ian Caliendo, Pacific Gas and Electric Company
62. Edward Saade, Fugro Pelagos, Inc.

Appendix F. White Paper Expert Advisory Panel and OPC Staff Acknowledgements

NewPoint Group and the OPC would like to thank and recognize the eight-member expert advisory panel for their useful contributions to this evaluation. The expert advisory panel brought vision, strategic thinking, and pragmatic knowledge to the evaluation process.

The primary role of the expert advisory panel was to provide guidance in conducting the evaluation and in producing useful and actionable recommendations. Panel members participated as individuals, and not as representatives of their respective agencies or organizations. The panel was an advisory body, and it did not engage directly in information gathering, interviews, analysis, or report writing. Because the panel did not author the study or findings, they did not need to reach consensus on the final report.

The expert advisory panel held an initial webinar in March, 2010, and two in-person meetings in May 2010, and July, 2010. The panel provided comments on a preliminary draft and final draft of the evaluation. Individual panel members also participated in the June 2010, and September, 2010, OPC meetings.

The panel members have broad knowledge and expertise in policy development, state and federal agencies, legislation, funding, academia, and the private sector. Following, we provide a brief biography for each expert advisory member.

In addition to the expert advisory panel acknowledgements, NewPoint Group would like to acknowledge the OPC management team and staff for their sincere assistance on this evaluation. In particular, we want to acknowledge the enthusiastic support of the OPC Executive Director, Dr. Amber Mace, and the OPC project manager for this evaluation, Ms. Laura Engeman.



California Ocean Protection Council Expert Advisory Panel Members

1. Richard Frank (Chair)

Executive Director, the Center for Law, Energy & the Environment (CLEE) at the University of California at Berkeley School of Law

Mr. Frank, who joined the U.C. Berkeley Law School faculty in 2006, also serves as a Lecturer in Residence at the law school, where he teaches courses in environmental law, climate change, and public interest litigation. During calendar year 2010, Mr. Frank is serving as a visiting lecturer at the U.C. Davis School of Law. Before coming to CLEE and U.C. Berkeley, Mr. Frank practiced law with federal and state agencies for 32 years, most of that time with the California Department of Justice. Immediately before joining Berkeley Law, he served California's Chief Deputy Attorney General for Legal Affairs. In 2006, Governor Schwarzenegger appointed Mr. Frank to the Delta Vision Task Force, an advisory body asked to develop policy recommendations for the Governor and Legislature, addressing environmental problems confronting the California Delta. He served in that capacity in 2007 and 2008. In May 2009, he was appointed to the Economic Allocation & Advisory Committee, an advisory body formed to assist the Air Resources Board in implementing California's landmark Global Warming Solutions Act (AB 32). Mr. Frank earned his J.D. from the U.C. Davis School of Law in 1974, and his B.A. from U.C. Santa Barbara in 1971.

2. Steve Blank

Entrepreneur and California Coastal Commissioner

Mr. Blank is a faculty member of the University of California Berkeley Haas Business School where he teaches classes on entrepreneurship which focus

on how to start and manage new companies and new product introductions. Appointed to the California Coastal Commission by Governor Schwarzenegger, February 2007, Mr. Blank has over 25 years of experience in high technology companies and general management as a founder and executive. He has been a founder or participant in eight Silicon Valley startups since 1978. His last company, E.piphany, started in his living room in 1996. Other startups include two semiconductor companies (Zilog and MIPS Computers), a workstation company (Convergent Technologies), a supercomputer firm (Ardent), a computer peripheral supplier (SuperMac), a military intelligence systems supplier (ESL) and a video game company (Rocket Science Games). In addition to the Coastal Commission, Mr. Blank is on the Board of the California League of Conservation Voters (CLCV), Peninsula Open Space Trust, Audubon California (and its past chairman.) and is a trustee of U.C. Santa Cruz foundation.

3. Celeste Cantú

**General Manager,
Santa Ana Watershed Project Authority**

Celeste Cantú joined the Santa Ana Watershed Project Authority (SAWPA) three years ago and has been working on the Crest to Coast, Corner to Corner Integrated Regional Watershed Management Plan called One Water, One Watershed (OWOW) that addresses all water-related issues, joins all entities, and hundreds of stakeholders seeking to create a new vision of sustainability for the Santa Ana River Watershed. SAWPA owns the Santa Ana River Interceptor, a large brine line utility that collects salt from the upper watershed to improve water quality in the Santa Ana River. Celeste served as the Executive Director for the California State Water Resources Control Board, which is responsible for water rights and water quality for the State. During the

Clinton Administration Celeste served as the USDA Rural Development State Director for California. Celeste was born and raised in the Imperial Valley to a pioneer family. There she served first as Planning Director for her hometown, Calexico, and later as Executive Director for the Imperial Valley Housing Authority. Celeste has a BA from Yale in Urban Planning and Policy and a Masters in Public Administration from Harvard's Kennedy School of Government.

4. Fred Keeley

Santa Cruz County Treasurer

From 1996 to 2002 he was a member of the California State Assembly, representing District 27 which included parts of Santa Cruz County and Monterey County. In 1998, Mr. Keeley was selected by Assembly Speaker Antonio Villaraigosa to be Speaker pro Tempore. Mr. Keeley was the author of the Marine Life Management Act and the statute that established the California Ocean Science Trust. He also authored the two largest park and environmental protection bonds in the nation's history, Proposition 12 on the California ballot in March 2000, and Proposition 40 on the California ballot in March 2002. Prior to his election to the California Assembly, Mr. Keeley served for eight years as a member of the Santa Cruz County Board of Supervisors. Mr. Keeley is a 1974 honors graduate of San Jose State University.

5. Paul A. Sandifer

Senior Science Advisor to the NOAA Administrator

At NOAA, Dr. Sandifer provides input regarding the overall NOAA science enterprise, the President's Ocean Policy Task Force, NOAA's coastal and marine spatial planning efforts, and development of science policy related to coastal management, aquaculture, oceans and human health, and other areas. Previously, he served as

Senior Scientist in Coastal Ecology for NOAA's National Ocean Service. In that role, his responsibilities included NOAA's Oceans and Human Health Initiative and aspects of ecosystem science, aquaculture, marine animal health, and external partnerships. Dr. Sandifer serves on the US National Committee for the Census of Marine Life, as Co-Chair of the Interagency Working Group on Harmful Algal Blooms, Hypoxia, and Human Health, and on the Institute of Medicine's Roundtable on Environmental Health Science, Research, and Medicine. He was a member of the US Commission on Ocean Policy and has served on numerous other boards and committees. He is an Honorary Life Member of the World Aquaculture Society and Fellow of the American Association for the Advancement of Science. Previously, Dr. Sandifer had a 31-year career with the South Carolina Department of Natural Resources, including service as scientist, marine division director, founder and director of the Waddell Mariculture Center, and agency director. He holds faculty appointments at the College of Charleston, Medical University of SC, and University of SC and is author or co-author of over 140 publications in aquaculture, marine science, and ocean policy.

6. Terry Tamminen

Founder and CEO, Seventh Generation Advisors

In 1993, Mr. Tamminen founded the Santa Monica BayKeeper and served as its Executive Director for six years. He co-founded Waterkeeper programs in San Diego, Orange County, Ventura, and Santa Barbara. He also served for five years as Executive Director of the Environment Now Foundation in Santa Monica and co-founded the Frank G. Wells Environmental Law Clinic at the School of Law, University of California Los Angeles. He was appointed as the Secretary of the

California Environmental Protection Agency in November, 2003, and Cabinet Secretary, the Chief Policy Advisor to the Governor, in December, 2004. In 2006, Terry founded Seventh Generation Advisors, a non-profit organization which advocates environmental and clean energy policies by providing advice and guidance to political leaders and emerging clean technology firms world-wide and guides climate change policy initiatives for other non-profit organizations. In April, 2007, he was named the Cullman Senior Fellow and Director of the Climate Policy Program of The New America Foundation, a non-profit, post-partisan, public policy institute. In September, 2007, he was appointed as an Operating Advisor to Pegasus Capital Advisors. An accomplished author, Terry's latest book, *Lives Per Gallon: The True Cost of Our Oil Addiction* (Island Press), is a timely examination of our dependence on oil and a strategy to evolve to more sustainable energy sources.

7. Andrea Tuttle

Forestry and Climate Policy Consultant

Andrea Tuttle served as Director of the California Department of Forestry and Fire Protection (CDF) from March 1999 to June 2004, and served as Chair of the California Fire Alliance and member of the National Association of State Foresters (NASF) and Western States

Forestry Leadership Coalition. She currently serves on ETAAC, the Economic and Technology Advancement Advisory Committee for the California Air Resources Board, pursuant to the *Global Warming Solutions Act of 2006*. Other service includes the California Coastal Commission and Northcoast Regional Water Quality Control Board. Her education includes an MS in marine ecology from the University of Washington and a Ph.D. in environmental planning from UC Berkeley.

8. Emily Woglom

Director of Government Relations, Ocean Conservancy

In her role as Director of Government Relations, Emily Woglom oversees Ocean Conservancy's engagement with Congress and the Administration. She gained deep expertise in ocean policy and governance through her work at the Office of Management and Budget, where she oversaw budget, policy and program evaluation issues related to the National Oceanic and Atmospheric Administration. More recently she continued her work for the oceans as Senior Policy Advisor to The Nature Conservancy's marine program. She holds a B.S. in Geology and Geophysics from Yale University and has a Masters Degree from the Nicholas School of the Environment at Duke University.

