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# Report to the Legislature

**October 1, 2010 through September 30, 2011**

The California Ocean Science Trust (OST) was established by the California Secretary for Natural Resources pursuant to the California Ocean Resources Stewardship Act (CORSA) of 2000. As specified by this Act, the OST is required to report annually on its activities to the Legislature and the chair of the Joint Committee on Fisheries and Aquaculture.

## OVERVIEW

OST is a nonprofit 501(c)(3) public benefit corporation established to encourage coordinated, multi-agency, multi-institution approaches to translating and applying ocean science to management and policy.

The mission of OST is to ensure that the best available science is applied to California policies and ocean management to successfully maintain a healthy, resilient and productive ocean and coast.

To achieve its mission, and align with the purposes laid out in the enabling legislation, OST has two overarching organizational goals:

**Goal 1: Facilitate Collaboration.** Facilitate two-way connections between the world of science and that of policy and management by establishing and supporting multi-partner information systems and exchanges that yield tangible improvements in coastal and ocean management. OST serves as a bridge among science, management, and policy organizations, through activities such as its support of the California Ocean Protection Council (OPC) and coordination of science and research among the OPC, state agencies, federal agencies, academic institutions, and non-governmental organizations (NGOs).

**Goal 2: Institutionalize Integration.** Institutionalize the integration of best science, where necessary, into California coastal ocean policy and decision-making by building new organizations, programs, and processes and catalyzing applied research. This reflects the great need to develop, disseminate and apply science that is designed to inform and improve policy and management.



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\* OST provided financial information covering 2009-2010 with the submission of the report covering that period. At that time, audited financials were not yet available, thus OST has included the audited financial information covering 2009-2010 with this annual report. OST is committed to providing audited financials at the time they are available.

## BOARD OF TRUSTEES AND STAFF

The OST Board of Trustees currently consists of 11 members. The diverse board membership provides the broad perspective needed to bridge institutional gaps in knowledge, communication, and working relationships, which often hamper the development and use of appropriate science in California's complex ocean and coastal management system.

Board membership adheres to the following constituent representation:

- Secretary of the California Natural Resources Agency (1)
- Secretary of the California Environmental Protection Agency (1)
- Director of Finance (1)
- Chancellor of the California State University and President of the University of California (3)
- Ocean and Coastal Interest Groups (2)
- Representatives of the General Public (2)
- Director of the Ocean Protection Council (1)

The Board of Trustees consists of the following individuals:

### *California Natural Resources Agency Representative*

- Mr. Brian Baird, Assistant Secretary for Ocean and Coastal Policy, California Natural Resources Agency

### *California Environmental Protection Agency Representative*

- Mr. Jonathan Bishop, Chief Deputy Director, State Water Resources Control Board

### *California Department of Finance Representative*

- Ms. Karen Finn, Program Budget Manager, California Department of Finance

### *CSU/UC Representatives*

- Dr. Kenneth Coale, Director, Moss Landing Marine Laboratories, San Jose State University
- Dr. David Caron, Distinguished Professor of Law, University of California, Berkeley
- Mr. Fred Keeley, Treasurer-Tax Collector, Santa Cruz County

### *Coast and Ocean Interest Group Representatives*

- Dr. Barry Gold, Marine Conservation Initiative Lead, Gordon and Betty Moore Foundation
- Ms. Leslie Mintz Tamminen, Ocean Program Director, Seventh Generation Advisors

### *General Public Representatives*

- Mr. Ken Wiseman, Executive Director, Marine Life Protection Act Initiative

- Dr. Steve Weisberg, Executive Director, Southern California Coastal Water Research Project

*Ex-Officio Board Member*

- Dr. Amber Mace, Executive Director, Ocean Protection Council

## **STAFF**

OST added several new staff members between October 2010 and September 2011, including a new chief administrative officer, information systems officer, and two program associates. Of particular note, Dr. Liz Whiteman, formerly the lead scientist for the MPA Monitoring Enterprise, was promoted to Monitoring Enterprise program director. OST now consists of eight full-time staff, led by Skyli McAfee, who serves simultaneously as executive director of OST and science advisor to the OPC. OST also released position announcements for a project manager and office manager to fill vacancies left by departing staff. In addition, OST continues to host a California Sea Grant fellow.

## **MEETINGS**

The OST Board of Trustees held meetings on the following dates during the period of this report:

- October 29, 2010
- March 2, 2011
- August 4, 2011

All meeting agendas and approved minutes are available on OST's website (<http://calost.org/about/?page=meeting-materials>).

## OVERVIEW OF 2010-2011 PROGRAMS

Consistent with its statutory mandate to bridge the gap between the coastal and ocean research community and coastal and ocean resource managers, OST supported the following programs:

### **Program 1: Science Initiatives**

OST develops and implements a variety of science initiatives to span the complex nexus between science, policy, and management. OST's initiatives are diverse, including coordination of project teams to conduct needed scientific studies to inform better ocean policy and management decisions. OST strives to provide the highest scientific rigor while ensuring that initiative outcomes offer tangible information and processes that are accessible to key decision-makers and non-scientific audiences. Between October 2010 and September 2011, OST supported four primary initiatives:

- Aquatic Invasive Species (AIS) Vector Risk Assessments
- Marine Debris
- Coastal and Marine Spatial Planning
- Management Research and Information Prioritization Process

OST's progress for each is described in greater detail in the *Program Accomplishments* section below.

### **Program 2: MPA Monitoring Enterprise**

The MPA Monitoring Enterprise was launched in 2007 to lead the development and implementation of impartial, scientifically rigorous, and cost-effective monitoring of the statewide MPA network being established under the California Marine Life Protection Act (MLPA). Working at the boundary between science and management, the Monitoring Enterprise provides a unique combination of science and policy expertise to implement MPA monitoring that assesses ecosystem condition and evaluates the performance of the emerging statewide network of MPAs. The Monitoring Enterprise does not advocate for or against the implementation of MPAs, but rather ensures that policymakers, resource managers, and the public have timely and useful information to support MPA management decisions.

### **Program 3: Science Advising**

Since 2007, OST has provided science support to California state agencies and coordinating bodies such as the OPC. It has served the state by coordinating expert advice, providing scientific review, advice, and feedback, and acting as a liaison and bridging institution between experts, producers of science, and decision-makers. In particular, OST's executive director serves as science advisor to the OPC and co-chair of the OPC Science Advisory Team (OPC-SAT). The science advisor provides technical guidance to the OPC and serves as the OPC representative to relevant science projects and activities throughout the state, the West Coast, and nationally.

## PROGRAM ACCOMPLISHMENTS

OST developed new websites for OST as an organization and MPA Monitoring Enterprise. MPA Monitoring Enterprise site was launched in April 2011, and may be viewed at <http://monitoringenterprise.org/>. OST's new website was launched in August 2011, and may be viewed at <http://www.calost.org/>. Our new look now more accurately reflects our role and growing programs in the state and position as a thought leader in the science integration landscape. It also bolsters the professionalism of the organization and clearly articulates OST's programs. In addition, OST produced several publications during this reporting period. Please see *Attachment A: OST Publications* for a list of these publications.

OST also continued to significantly increase the depth and breadth of the activities of the science advisor and the involvement of the OPC Science Advisory Team in state matters. None of the specific activities under any of the programs generated any significant controversy among associated stakeholders. \*\* See *Attachment B for additional activities of the science advisor, and Attachment C for workshops and seminars OST participated in and/or sponsored.*

### **Program 1: Science Initiatives**

OST develops and implements a variety of science initiatives to span the complex nexus between policy, management, and science. Our initiatives are diverse, including coordination of project teams to conduct scientific syntheses on policy/management relevant issues. Between October 2010 and September 2011, OST engaged in four primary initiatives, each of which are described in detail below.

*During this reporting period, OST managed the following projects to inform priority topics for the state:*

1. **Aquatic Invasive Species Risk Assessment (ongoing)**. This project aims to assist the state in determining the appropriate policy actions that will support early detection and rapid response as well as prevent introductions of aquatic invasive species (AIS). The governor signed the "California Aquatic Invasive Species Management Plan" (AIS Plan) in 2008, which identified commercial fishing, recreational boating, aquaculture, live bait, live imported seafood, and aquariums and aquascaping as risk vectors for introductions of AIS that required further study. In response, the OPC provided funding for OST to coordinate a scientific assessment to address this need.

During the period of performance for this report, OST assembled three teams of AIS experts in California and beyond to conduct risk assessments for the six identified high priority vectors. The teams are currently collecting data for the assessments, using a combination of literature and database review, direct sampling, interviews, and surveys. Upon completion of the six vector risk assessments, OST will coordinate a risk analysis across vectors, to generate specific recommendations to the state about the relative risks of each vector, and the costs and opportunities associated with various management options.

2. **Marine Debris (completed)**. In 2007, the OPC approved a resolution aimed at reducing ocean and coastal debris and its impacts to ocean ecosystems. As part of this effort, the OPC contracted with OST in 2010 to produce a report that would serve as a place-marker for the current state of research

on the sources, abundance, pathways, and impacts of plastic debris in California, including the emerging field of research: the toxicology of plastics in the marine environment. OST partnered with USC Sea Grant who provided additional staff support, thus augmenting OPC's investment, resulting in a more comprehensive analysis. This report, entitled "Plastic Debris in the California Marine Environment: A Summary of Current Research, Solution Efforts and Data Gaps," underwent extensive peer review per OST's standard process and was released in early September 2011. OST is currently pursuing a communications strategy for the report for relevant managers, stakeholders and legislative staff. The final report may be viewed at <http://calost.org/science-initiatives/?page=marine-debris>.

*During this reporting period, OST continued ongoing work developing and instituting the following processes to identify and fill resource managers' most pressing, cross-cutting science and information needs:*

**3. Coastal and Marine Spatial Planning (CMSP) (ongoing).** In July 2010, President Obama signed an executive order to implement a comprehensive coastal and marine spatial planning framework in regions along three U.S. coasts and the Great Lakes. In addition, AB2125, approved by the governor on September 29, 2010, requires the OPC to support state agencies' use and sharing of scientific and geospatial information for coastal- and ocean-relevant decision-making, including marine spatial planning. In response to these legislative actions, OPC is seeking to more thoroughly understand the opportunities and constraints for statewide coastal and marine geospatial information use and sharing, which could inform CMSP in California. OST is providing support for this effort and as a result, OST is emerging as one of the key organizations in California on CMSP and geospatial information sharing and management. Key activities include:

- *Convening key stakeholders, scientists, and decision-makers.* OST has hosted two significant meetings strategically timed to facilitate the exchange of ideas strategically timed for important decision points with respect to the ongoing OPC strategic planning process and the geospatial scoping study. For details of these events, please see *Attachment C: Workshops*.
- *Identifying opportunities for OPC-SAT participation.* Two members of the OPC-SAT are members of the California CMSP steering committee, who, among other tasks, reviewed and provided comments on the OPC "Coastal and Marine Spatial Planning Background Document."
- *Leveraging private funding to support state efforts.* OST is participating in two OPC-led geospatial scoping efforts that aim to provide guidance for CMSP information and lay the groundwork for a framework for adequate data storage and access. During this reporting period, OST leveraged private funding to initiate the latter, which entails working with OPC to develop a marine and geospatial information management system and related data portals for California. OST is also part of the California Coastal and Marine Geospatial Working Group (CCMG-WG), and a member of the geospatial scoping studies OPC project management team.

- Next steps. OST has initiated an internal strategic planning process to identify the mechanisms by which science can inform CMSP in California. As part of this effort, OST is partnering with Center for Ocean Solutions to build upon each organization’s strengths and experiences to support California’s CMSP needs.

**4. Management Research and Information Prioritization Process (MRIPP) (ongoing).** With funding from the Resources Legacy Fund Foundation (RLFF), OST launched MRIPP in early 2010 to develop a process to identify cross-cutting management priorities and needs of agencies with ocean and coastal jurisdiction, and associated opportunities where science can inform and address those priorities and needs. MRIPP is led by OST, but centers on working with OPC staff, the OPC Steering Committee, key agency representatives, and the OPC-SAT. In October 2010, OST decided to dovetail MRIPP with the OPC strategic planning process, which will establish the OPC’s research agenda through 2017. This allowed OST to provide additional staff support for the OPC strategic planning process, cost-free, at a critical time, while providing OST access to a wider range of agency staff.

The OPC’s strategic plan is organized around four priority focal areas: climate change, sustainable fisheries, land/sea interactions, and emerging and industrial uses. In spring 2011, OST developed a protocol to produce background analyses that described the scientific landscapes for the focal areas that involved: 1) expert interviews with scientists and other researchers working at the science/policy interface of each of the focal areas, 2) literature review of both gray and published literature, and 3) ongoing guidance and review from the OPC-SAT. This analysis, entitled “*Report: State of Knowledge and Associated Research and Information Needs,*” was provided to the OPC in May 2011.

Based on the analyses’ findings, OST has now produced a list of potential synthetic studies that have been identified as priority needs. Moving forward, OST will work with the OPC steering committee and other agencies to prioritize this list for inclusion in the OPC strategic plan as candidate studies for funding. Once MRIPP is finalized (expected fall 2011), the OPC and RLFF have committed to supporting at least one study to address a priority need identified through this process.

**Program 2: MPA Monitoring Enterprise**

As a program of OST, the Monitoring Enterprise leads the development and implementation of MPA monitoring to evaluate the effectiveness of the new MPAs being established under the MLPA. California’s waters have been divided into five regions, which are currently in various stages of the MPA planning and implementation process. For each of these regions, the Monitoring Enterprise is responsible for developing and implementing MPA monitoring through a series of six steps: 1) planning MPA monitoring 2) implementing MPA monitoring 3) managing information 4) analyzing data 5) reporting results, and 6) fostering innovation.

Between October 2010 and September 2011, the Monitoring Enterprise achieved the following:

**1. Planning MPA Monitoring.**

- South Coast. This region includes all state waters along the California coastline from Point Conception to the California/Mexico border, including the Channel Islands. On December 15,

2010, the California Fish and Game Commission adopted a regional MPA network for the South Coast. In collaboration with the California Department of Fish and Game (DFG), the Monitoring Enterprise completed a broad consultative monitoring planning process to develop the South Coast MPA Monitoring Plan. This process included six public workshops, many technical consultations, and two public comment periods to ensure that the plan incorporates the best available science and reflects management and stakeholder priorities. The draft plan was presented for consideration by the Fish and Game Commission at their June 29, 2011 meeting. The Commission adopted the plan as an Appendix to the MLPA Master Plan at the August 3-4, 2011 meeting, establishing it as state policy.

## **2. Implementing MPA Monitoring.**

- *North Central Coast.* This region includes all state waters along the California coastline from Alder Creek, near Point Arena, to Pigeon Point, including the Farallon Islands. During the period of performance for this report, the Monitoring Enterprise continued the North Central Coast MPA Baseline Program, which will be completed in 2013. The baseline data collected will provide an understanding of ecological and socioeconomic conditions inside and outside North Central Coast MPAs, and will measure key socioeconomic and ecological changes in the first two – three years following MPA implementation. In addition, the Monitoring Enterprise completed a brief version of the North Central Coast Monitoring Plan and the first version of the data standards for MPA monitoring.
- *South Coast.* In parallel with the long-term monitoring planning effort described above, the Monitoring Enterprise also designed and implemented a South Coast MPA Baseline Program. This program is supported by approximately \$4 million from the OPC. In February 2011, the Monitoring Enterprise released the South Coast MPA Baseline Program Request for Proposals. The proposals received were reviewed through an independent peer review process administered by California Sea Grant and ten projects were selected for funding. Projects will collect and analyze baseline data between 2011 and 2014.

## **3. Managing Information.**

- *Information Systems Officer Hired.* The Monitoring Enterprise is responsible for stewarding and sharing MPA monitoring information and ensuring that monitoring data are publically available. To support these goals, OST hired an information systems officer to advance the design and development of the MPA monitoring hub, which houses the information collected and analyzed through the Monitoring Enterprise.
- *MPA Data and Metadata Standards Developed.* A first version of MPA monitoring data and metadata standards were developed in consultation with the North Central Coast MPA Baseline Program Principal Investigators. These standards facilitate increased consistency among projects and integrated scientific analyses.

## **4. Analyzing Data and Reporting Results.**

- *Central Coast.* This region includes all state waters along the California coastline from Pigeon Point to Point Conception. During the period of performance for this report, the Monitoring

Enterprise, in collaboration with DFG, launched the baseline reporting process to analyze baseline data and report results characterizing the Central Coast region in the first few years following MPA implementation. Findings from the baseline characterization will be presented in late 2012 or early 2013, and will be used to help inform management decisions and guide implementation of long-term MPA monitoring in the region.

**5. Fostering Innovation.**

- *The Intersection of Climate Change and MPA Monitoring.* During the International Marine Conservation Congress (IMCC), held in Victoria, BC, the Monitoring Enterprise led a focus group entitled “Monitoring Resilience to Climate Change in Temperate Marine Ecosystems.” The discussion focused on identifying climate change impacts likely to affect nearshore rocky ecosystems and how MPA monitoring can contribute to detecting changes in response to climate change. An initial report from this focus group discussion was released and is now being used as a basis to further explore the intersection between climate change and MPA monitoring.

- 6. Communications.** The Monitoring Enterprise completed a communications plan, which identifies key messages and communications strategies to build its brand visibility and relevance. The first step in implementing this plan was completed with the launch of the Monitoring Enterprise website and listserv, which consists of more than 275 subscribers and is used to disseminate monthly updates and other postings.

**Program 3: Science Advising**

As described above, “Science Advising” refers to OST’s work providing science support and advice to the state’s ocean resource managers, in particular, the OST Executive Director’s designated role as Science Advisor to the OPC and co-chair of the OPC Science Advisory Team (OPC-SAT). Under the leadership of the Science Advisor, OST helps to codify and institutionalize the integration of science into policy applications, and to broker the dialogue among resource managers and scientists.

The organization is constantly refining and expanding mechanisms and partnerships to connect science and scientists with the OPC. Between October 2010 and September 2011, OST continued this work on the following:

- 1. Coordinating the OPC Science Advisory Team.** OST coordinates all aspects of the OPC Science Advisory Team (OPC-SAT), which was established in February 2008. This team of scientists from a variety of esteemed universities and research institutions is charged with both responding to state needs and keeping the state apprised of scientific issues that may require management. A well-respected, diverse, and independent team of scientists, the OPC-SAT lends credibility to the scientific information the OPC uses to inform and guide its decisions and ensures that the OPC remains at the forefront of innovative ocean and coastal research.

At the end of 2010, the original membership of the OPC-SAT was set to expire. OST conducted a member renewal survey that resulted in all members requesting to remain members of the OPC-SAT. To create a mechanism for diversity, OST instituted an option for two- or three-year terms. Subsequently, OST worked with the OPC-SAT to accomplish the following:

- Coordination of the OPC-SAT for the OPC Strategic Planning Process. OST coordinated the OPC-SAT to assist with OPC's strategic planning process, including 1) the establishment of OPC-SAT working groups around OPC's five focal areas – climate change, sustainable fisheries, coastal and marine spatial planning, land/sea interaction, and emerging and industrial uses 2) facilitating working group sessions with OPC staff at two joint OPC-SAT/OPC management team meetings, and 3) providing the OPC-SAT the opportunity to comment on an early draft of the OPC strategic plan.
- 2011 Sea Grant Research Priority Descriptions. OST coordinated the OPC-SAT focal area working groups in writing Research Priority Descriptions to be inserted into the OPC's 2011 Sea Grant Annual Call for Proposals.
- Climate Change Position Statement. OST worked with Dr. Gary Griggs and Dr. Bill Sydeman, the co-chairs of the OPC-SAT climate change working group, to lead the full OPC-SAT in writing a position statement on climate change. OST primarily served as liaison between OPC policy and management staff and the OPC-SAT to ensure the statement would be relevant and useful among its intended audiences, key state and federal policymakers. The position statement was finalized and signed by 23 of the 24 OPC-SAT members in February 2011. Dr. Griggs formally presented the statement to the OPC at the March 11, 2011 public meeting.
- Coordinating Expert OPC-SAT Comment for the Coast and Ocean Climate Action Team (CO-CAT). Over the next century, many California agencies will be faced with complex decision-making around policy and planning for sea-level rise and other climate change impacts. Moreover, management options are challenging to assess because projections vary widely depending on the models and tools selected by decision-makers. OST worked with the CO-CAT Sea-Level Rise Task Force to solicit guidance from the OPC-SAT on the best available science regarding sea-level rise projections to inform planning decisions. OST convened a team of experts from the OPC-SAT, including Dr. Gary Griggs, Dr. Sam Johnson, Dr. Tony Haymet, and Dr. Dan Cayan, to provide written scientific comments to these agencies to use in their planning processes. The OPC-SAT's recommendations were included in the Sea-Level Rise Interim Guidance Document, signed by each agency represented on the Task Force. These recommendations also informed a draft Sea-Level Rise resolution, presented to the Council at the November 29, 2010 meeting. The Council gave final approval during the March 11, 2011 meeting. The Interim Sea-Level Rise Guidance Document with the OPC-SAT's guidance attached may be viewed at: <http://calost.org/resources/?page=ost-products>.
- IPSO Memorandum for the Governor of California. In response to overwhelming media attention received by a recent International Programme on the State of the Ocean (IPSO) ([www.stateoftheocean.org](http://www.stateoftheocean.org)) report that predicted dire threats to the world's oceans, Governor Jerry Brown contacted the OPC to request a memorandum outlining the state of health of California's ocean resources in comparison to the global trends presented in the report. The OPC worked with OST and the OPC-SAT to produce the memo. OST coordinated the OPC-SAT's Executive Committee who convened an expert subcommittee, including Dr. Ali Boehm, Dr. Mark Carr, Dr. Chris Costello, Dr. Steve Gaines, Dr. Gary Griggs and Dr. Steve Weisberg.

- Joint OPC-SAT/OPC Management Team Meetings. The OPC-SAT and OPC held two meetings on January 31, 2011 and September 30, 2011. These meetings provided an important opportunity for productive dialogue between the OPC-SAT and the OPC management team on how best to work together to improve the scientific quality of OPC projects and products.
- Spotlight on Science. In 2009, OST initiated the “Spotlight on Science” speaker series, where members of the OPC-SAT or scientists they recommend present on their research or topics of concern during OPC meetings. The speaker and topic for each meeting held during this reporting period is provided below, and all related materials may be viewed at: <http://calost.org/resources/?page=spotlight-on-science>.
  - **November 29, 2010:** Dr. Daniel Cayan, Climate Researcher at Scripps Institute of Oceanography, presented “The Threat of Sea-Level Rise.”
  - **March 11, 2011:** Dr. David Pierce, Climate Researcher at Scripps Institution of Oceanography, presented “The Science of Climate Change.”
  - **May 12, 2011:** Dr. Steve Gaines, Professor and Dean of the Donald Bren School of Environmental Sciences at the University of California Santa Barbara and OPC-SAT member, presented “Integrating Marine Protected Areas into Fisheries Management in California.”
  - **August 11, 2011:** Dr. Bill O’Reilly, Senior Development Engineer at Scripps Institution of Oceanography, presented on “Opportunities for Offshore Renewable Energy Along the California Coast.”

2. **Coordinating Scientific Peer Reviews**. To strengthen the scientific integrity of OPC projects and proposals, OST draws upon the expertise of the OPC-SAT to coordinate scientific peer reviews of all projects or proposals with a technical and/or scientific component. Further, for projects that do not warrant formal peer review, OST also began working with the OPC-SAT to provide informal scientific comment to ensure expert judgment is incorporated. During this reporting period, OST coordinated peer reviews for the following reports and proposals:

Reports

- Aquaculture Programmatic Environmental Impact Report (PEIR)
- Synthesis for Coastal Ocean Observing Products (SCOOP)
- Plastic Debris in the California Marine Ecosystem: A Summary of Current Research, Solution Efforts and Data Gaps
- Economic Costs of Sea-Level Rise to California Beach Communities

Proposals

- Proposal for State Lands Commission Geophysical Permitting Program
- Project proposal to support the Department of Fish and Game in developing a Fishery Management Plan for CA spiny lobster
- Project proposal to support years two and three of a 5-year collaborative research study on the impacts of bottom trawling gear on soft-bottom seafloor habitats on the California central coast

- Project proposal to examine new and existing fishery catch data to better understand the status of thresher and mako sharks in California

**3. Providing In-house Scientific Advice and Feedback to the OPC.** OST provided OPC members and staff with advice through a variety of avenues, including:

- Climate Change Adaptation Survey. OST, along with several other NGOs, supported an effort led by USC Sea Grant to conduct a survey to identify community needs to support climate change adaptation efforts. The survey was disseminated to a variety of state and local managers in late summer 2011. The results of the survey will be disseminated late fall 2011.
- Resources Agency Sea Grant Advisory Panel (RASGAP). The OST Executive Director and staff provided support for the Resources Agency Sea Grant Advisory Panel (RASGAP) process by reviewing proposals and offering advice to the OPC and Assistant Secretary for Ocean and Coastal Policy, as well as providing logistical support for RASGAP meetings.

\* Please see *Attachment C: Additional Activities of the Science Advisor* for more information on activities performed by the Science Advisor during this reporting period.

## FUNDING ROLE

OST's funds will be used to support the new OST efforts, such as marine debris and coastal and marine spatial planning, as well as expand existing programs. As a boundary organization that sits at the intersection between science and policy, OST receives funding from diverse sources. Because of this, it is imperative that it maintains strict internal procedures that follow best practices for the processes and oversight mechanisms that allow it to accept funds without risk of influencing its objectivity. As such, OST does not fund independent research, however it does provide advice to the OPC, review proposals, and coordinate feedback from the OPC-SAT on research priorities and emerging issues. In addition, OST works with researchers and managers to ensure that research aligns with the needs of the state. Furthermore, OST leverages funds, raises awareness, fosters new contexts for collaboration, and otherwise acts as a catalyst for action to develop and then apply the science needed to support effective decisions.

### **Current Level of Trust Funding**

During the period of performance for this report, OST received \$758,650 in contributions, \$ 1,567,355 in contracts, and \$1,469 in other revenues for a total of \$2,327,474. Of this, \$492,946 was spent on Science Integration Program related activities and \$586,856 was spent to support the MPA Monitoring Enterprise. In addition, \$661,725 was needed to cover the organization's supporting services, which includes management and general, and fundraising.

Between October 1, 2010 and September 30, 2011, OST received funding to support these activities from the following organizations:

- The Ocean Protection Council
- The Campbell Foundation
- Resources Legacy Fund Foundation
- California Resources Agency
- The David and Lucille Packard Foundation

## FINANCIALS: 2010 – 2011

### Statement of Activities and Changes in New Assets: 2010 – 2011

For the period October 1, 2010 through September 30, 2011, OST is including the unaudited financials. We are currently under audit, and will provide the audited financials for this period when available.

### Statement of Activities and Changes in Net Assets

10/1/2010-9/30/2011

*Unaudited financials - Audit in progress - will provide audited financials once audit is complete*

Revenues	
Contributions	\$758,650.00
Contracts	\$1,567,355.00
Other	\$1,469.87
<b>Total Revenues</b>	<b>\$2,327,474.87</b>
<hr/>	
Expenses	
Program Services	
Science Integration	\$492,946.00
Monitoring Enterprise	\$586,856.00
<b>Total Program Services</b>	<b>\$1,079,802.00</b>
<hr/>	
Supporting Services	
Management and General	\$653,396.00
Fundraising	\$8,329.00
<b>Total Supporting Services</b>	<b>\$661,725.00</b>
<hr/>	
<b>Total Expenses</b>	<b>\$1,741,527.00</b>
<hr/>	
Change in Net Assets	\$586,329.00
Net Assets at the Beginning of the Year	\$1,225,505.00
Net Assets at the End of the Year	\$1,811,834.00

**Statement of Financial Position: September 30, 2011**

**Statement of Financial Position**

9/30/2011

***Unaudited financials - Audit in progress - will provide audited financials once audit is complete***

Assets	
Cash	\$1,864,555.00
Accounts Receivable	818,547.00
Prepaid Expenses	12,944.00
Equipment	11907
<b>Total Assets</b>	<b>2,707,953.00</b>

Liabilities	
Accounts Payable	178,861.00
Payroll Payable	10,927.00
Deferred Support	695,407.00
Loan Payable	0.00
<b>Total Liabilities</b>	<b>885,195.00</b>

Net Assets	
Unrestricted	1,776,616.00
Temporarily Restricted	35,218.00
<b>Net Assets</b>	<b>1,811,834.00</b>

**Total Liabilities and Net Assets** **\$2,697,029.00**

## AUDITED FINANCIALS: 2009 – 2010

### Statement of Activities and Changes in New Assets: 2009 – 2010

For the period October 1, 2009 through September 30, 2010, OST is including finally approved audited financials. OST included unaudited financial information in the annual report that covered this period.

#### Statement of Activities and Changes in Net Assets

10/1/2009-9/30/2010 - *Audited Financials*

Revenues	
Contributions	\$458,444.00
Contracts	1,544,138.19
Other	1274
<b>Total Revenues</b>	<b>2,003,856.19</b>
<hr/>	
Expenses	
Program Services	
Science Integration	566,792.00
Monitoring Enterprise	707,153.00
<b>Total Program Services</b>	<b>1,273,945.00</b>
Supporting Services	
Management and General	362,466.00
Fundraising	3,904.00
<b>Total Supporting Services</b>	<b>366,370.00</b>
<b>Total Expenses</b>	<b>1,640,315.00</b>
<hr/>	
Change in Net Assets	226,041.00
Net Assets at the Beginning of the Year	999,462.00
<b>Net Assets at the End of the Year</b>	<b>\$1,225,503.00</b>

**Statement of Financial Position: September 30, 2010**

**Statement of Financial Position**  
**9/30/2010 - Audited Financials**

Assets	
Cash	\$1,433,750.00
Accounts Receivable	821,035.48
Prepaid Expenses	14,938.01
Equipment	18209.47
<b>Total Assets</b>	<b>2,287,932.96</b>
Liabilities	
Accounts Payable	104,139.02
Payroll Payable	26,636.31
Deferred Support	481,653.00
Loan Payable	450,000.00
<b>Total Liabilities</b>	<b>1,062,428.33</b>
Net Assets	
Unrestricted	1,175,503.00
Temporarily Restricted	50,000.00
<b>Net Assets</b>	<b>1,225,503.00</b>
<b>Total Liabilities and Net Assets</b>	<b>\$2,287,931.33</b>

## ATTACHMENT A: OST Publications

- Pietri, D., McAfee, S., Mace, A., Knight, E., Rogers, L., and Chornesky, L. 2011. Using Science to Inform Controversial Issues: A Case Study from the California Ocean Science Trust. *Coastal Management*, Vol 39, Issue 3: 296-316.
- In press. Menge, B. A., Freidenburg, T.L., and Iles, A. Keystone species. *Encyclopedia of Biodiversity*, 2nd Edition. S. A. Levin, editor-in-chief. Academic Press, New York, NY.
- In Review. Morgan, S.G., Fisher, J.L, McAfee, S.T., Largier, J.L., and Halle, C.M. Limited recruitment during relaxation events: larval advection and behavior in an upwelling system. *Limnology and Oceanography*.
- Morgan, S.G., White, J.Wilson, McAfee, S.T., Gaines, S.D., and Schmitt, R.J. 2011. Weak synchrony in the timing of larval release in upwelling regimes. *Mar. Ecol. Prog. Ser.* Vol. 425:103-112.
- Menge, B. A., Gouhier, T., Freidenburg, T., and Lubchenco, J. Linking long-term, large-scale climatic and environmental variability to patterns of marine invertebrate recruitment: toward explaining "unexplained" variation. *Journal of Experimental Marine Biology and Ecology*. 2011.
- Menge, B. A., Hacker, S., Freidenburg, T., Lubchenco, J., Craig, R., Rilov, G., Noble, M., and Richmond, E. Potential impact of climate-related changes is buffered by differential responses to recruitment and interactions. *Ecological Monographs*. 2011.
- Morgan, S.G., Fisher, J.L., and Mace A.J. 2009. Larval recruitment in a region of strong, persistent upwelling and recruitment limitation. *Mar. Ecol. Prog. Ser.* Vol. 394:79-99.
- Morgan, S.G., Fisher, J.L., Mace, A.J., Akins, L., Slaughter, A.M., and Bollens, S.M. 2009. Cross-shelf distributions and recruitment of crab postlarvae in a region of strong upwelling. *Mar. Ecol. Prog. Ser.* Vol. 280:173-185.

## ATTACHMENT B: Additional Activities of the Science Advisor

The OPC Science Advisor represents the OPC in the scientific community, advising on state management priorities, and encourages and facilitates scientists in applying their expertise to support management needs.

Between October 2010 and September 2011, the OPC Science Advisor also performed the following functions:

- Communicating with Key Partners and Donors. Met with representatives from state and federal agencies, NGOs, industry, foundations, and other groups to discuss opportunities for cost-saving partnerships, to identify areas of overlap and interest, and to promote and encourage science-based decision-making in managing California's coastal resources.
- Providing Technical Advice on Specific Agenda Items. The Science Advisor continues to offer technical advice on numerous OPC projects and activities. The Science Advisor and OST staff actively participates in weekly OPC staff meetings and provides advice on agenda development
- Participating in Steering Committees Representing OPC Objectives and Connecting Science to Policy and Management. The Science Advisor is an active member of the following steering committees and advisory groups to represent the OPC and connect science to policy and management:
  - Southern California Coastal Water Research Project (SCCWRP), Commission's Technical Advisory Group (CTAG)
  - Steering Committee, California Current Acidification Network (C-CAN)
  - California Harmful Algal Bloom Monitoring and Alert Program (HABMAP)
  - Member and Co-Chair, OPC Science Advisory Team
  - OPC Management Team
  - California and World Ocean Conference Committee
  - MPA Milestones Committee
  - Sea-Level Rise Task Force of the Coast and Ocean Climate Action Team
  - Joint Strategic Advisory Committee for the Central and Northern California Ocean Observing System (CeNCOOS)
  - Blue Ribbon Citizen Commission, California Fish and Wildlife Strategic Vision
- Participating in Workshops and Conferences. Provided outreach on OPC activities at conferences and meetings across the state and nationally.
  - 2nd International Marine Conservation Congress, Making Science Matter (May 2011)
  - Headwaters to Ocean (H2O) Conference 2011 – San Diego, CA (May 23-26, 2011)
    - Presented keynote presentation: "Making Coastal Science Relevant: Examples from California"
  - Coastal States Organization Annual Meeting – Monterey, CA

- California Energy Commission sponsored workshop for an update on the CA Climate Vulnerability and Adaptation Study
- Governors' Global Climate Summit 3: Building the Green Economy – UC Davis, Davis, CA (November 15, 2010)
- CMSP tools workshop, Sanford University – Palo Alto, CA (February 25, 2011)
- National Ocean Council listening session – San Francisco, CA (June 30, 2011)
- Aquarium of the Pacific workshop to discuss CMSP in California – Long Beach, CA (July 26-27, 2011)
- The California Biodiversity Council Meeting – Monterey, CA
- 2011 World Oceans Day – Sacramento, CA (June 8, 2011)
- Western Coastal Managers' Meeting – San Francisco, CA
- The USGS Tsunami Project Kick Off Meeting – Los Angeles, CA
- The Southern California Coastal Water Research Project (SCCWRP) Symposium – Costa Mesa, CA
- Governor's Office Water Quality Meeting – Sacramento, CA
- Our Changing Oceans Conference – Washington, D.C.
- California Energy Commission (CEC) Climate Vulnerability Studies Conference – Sacramento, CA
- California Ocean Protection Council Strategic Planning Public Workshops, Costa Mesa, CA, Arcata, CA, and San Francisco, CA

## **ATTACHMENT C: Workshops and Seminars**

OST worked with a variety of institutions to support and co-organize the following workshops and seminars on relevant issues to address questions or critical management problems identified by the OPC.

### ***Coastal and Marine Spatial Planning (CMSP)***

- *Seminar: The Prospects for (December 13, 2010)*. The OPC-SAT hosted a special seminar at Stanford University on the potential opportunities and challenges of employing an MSP framework in California. The seminar included presentations by Dr. Amber Mace, the Executive Director of the OPC, and staff from Center for Ocean Solutions (COS), led by Executive Director Meg Caldwell, as well as a group discussion centered around MSP in California, key science challenges, emerging research, and regional and national opportunities for MSP.
- *Workshop: Stakeholder and Scientific Input on OPC's CMSP Efforts (June 8, 2011)*. OST and Stanford University's Center for Ocean Solutions (COS) organized a meeting to brief OPC-SAT members and key NGO stakeholders on the progress of the OPC scoping studies, and the role of CMSP in the OPC's upcoming strategic plan. This meeting was funded by OST and the Monterey Bay Aquarium, and hosted by the Bay Conservation and Development Commission in San Francisco, CA.

### ***Comparative Assessment of Visual Tools Survey (February 22-23, 2011)***

OST provided support to the Monterey Bay Research Institute (MBARI) for this workshop to examine the capabilities, limitations, operational considerations, and cost of tools available for visual surveys of benthic communities. The outcome of this workshop will be a reference document with practical guidance on factors that should be considered when selecting visual survey tools.

### ***The Coastal and Marine Ecological Classification Standards (CMECS) (March 2011)***

OST provided support to the OPC for a webinar series (March 1, 8, 15 and 22) and workshop (March 30) on CMECS. CMECS is an ecological classification scheme developed by NOAA and NatureServe that will accommodate all the physical, biological, and chemical information that collectively determine marine habitat types. Its aim is to set forth a habitat classification framework upon which data from other observational technologies can be cross-walked.

### ***Pollutant Responses in Marine Organisms (PRIMO) (May 15-18)***

OST provided a \$5,000 sponsorship for this international conference on the physiological impacts of pollutants on marine organisms. OST staff also attended the conference to glean information for the OPC strategic plan's land/sea interaction focal area.

### ***California Current Acidification Network (July 6-7, 2011)***

The California Current Acidification Network (C-CAN) was developed as a result of the OST sponsored West Coast Ocean Acidification Shellfish workshop in July 2010. The July 2011 C-CAN workshop was in part sponsored by OST and organized by the C-CAN steering committee. The goal of the 2011 workshop was to develop a roadmap for integrating ocean acidification observing activities on the U.S. West Coast that ensures balanced participation of academic, governmental, and commercial stakeholders.