Memorandum

To: California Ocean Protection Council
From: Sam Schuchat, Secretary
Date: June 10, 2005
Re: Ocean Protection Council Projects

The purpose of this memo is to propose the broad vision for the California Ocean Protection Council (Council) regarding the kinds of projects that can and should be considered and why. In addition, the memo describes in some detail the range of potential projects that currently exist and provides a rough estimate of their costs. Finally, the memo includes an update on currently available funding sources. This memo covers agenda item 6a and 6c on the Council's June 10 agenda. 6b, funding guidelines, are handled in a separate memo.

Projects and Priorities

California's national leadership in ocean policy and conservation rests on a variety of factors including:

- By law, California now takes an ecosystem approach to ocean management;
- California is making the largest investment of any state in advanced science designed to generate real-time data on ocean conditions;
- The state has made an enormous commitment to improve coastal water quality and restore watersheds, both for recreational use and for marine life;
- California has embraced the recommendations of the U.S. Commission on Ocean Policy report and the Pew Oceans Commission report by creating the Ocean Protection Council and taking other steps to improve and streamline ocean resource management.

Staff believes that the Council's objective over the next five years of funding should be to build on the solid foundation that already exists in the current framework of ocean and coastal management activities. For example, although the Marine Life Management Act mandates ecosystem-based fishery management, the number of fisheries currently managed on an ecosystem basis is quite small, and there is a large backlog of work that needs to happen to accomplish the vision of this particular law. Similarly, California has in place, or in development, a number of ocean observing and research systems[1]. The logical next step is to attempt to tie these systems together into a common data management and communications system that delivers information to ocean managers and other users. Likewise, the State Water Quality Control Board and the State Coastal Commission have identified, through their critical coastal areas project, the places along our coast that are in need of funding and projects to address polluted runoff. The Council should focus on providing funding for projects that address key management problems and that identify the interagency and stakeholder coordination necessary for these projects to be completed in the most effective and efficient method possible. Significant emphasis will be given to innovative proposals that have transferable benefits to other ocean and coastal management efforts.

[1] The current set of observing and research systems includes (but is not limited to): the Cooperative Research Agenda for Nearshore Ecosystems (CRANE), the Coastal Ocean Current Monitoring Program (COCMP), the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), the California Cooperative Oceanic Fisheries Investigation (CalCOFI), and the Southern California Coastal Water Research Project (SCCWRP).

Staff has identified five areas for the Council to organize its work around. These are intended to be consistent with those subject areas identified for use in the Draft California Ocean and Coastal Information, Research, and Outreach Strategy that will be considered for adoption at the Council's September meeting. They include:

1. Ecosystem-based marine life and fisheries management
2. Coastal water quality and pollution
3. Integrated coastal ocean observing systems
4. Habitat restoration
5. Education and Governance

All of these subject areas are included in the California Ocean Protection Act and there is ongoing work being conducted in each of them. This report identifies a preliminary list of projects that can be pursued in each of these categories.[2] This list is attached as Appendix One to this document. It is not meant to be exhaustive and should be treated as preliminary. This list will undoubtedly change as potential projects are added or drop off over time; however, it is intended to provide a clear sense of direction for the Council activities.

Where should the Council begin? There are over 60 projects on this list and the Council can only fund projects for which it has appropriate funding sources. Staff is recommending that the Council authorize four pilot projects for which there is currently available funding. As additional funding becomes available in the future, staff has identified **several** types of projects within the five funding areas that we think the Council should focus on in particular.[3] These will guide the selection of particular projects in the future; all of them build on existing efforts.

Ecosystem-Based Marine Life and Fisheries Management

Support Long-Term Marine Protected Area Monitoring

Under the general rubric of "ecosystem-based marine life and fisheries management" staff believes it is important to provide strong science to support fishery and marine protected area management. The monitoring program at the new Channel Islands marine protected areas could benefit from additional coordination and project support. Likewise, as the blue ribbon task force for the Marine Life Protection Act focuses on its first pilot program along the central coast, the Council should support related monitoring and study efforts in this region as well. One state monitoring program, the Cooperative Research and Assessment of Nearshore Ecosystems Program (CRANE) is the established state vehicle for coordinating and conducting marine protected area monitoring.

Establish Fisheries Revolving Loan Fund

The Ocean Protection Act itself mentions a fisheries revolving loan fund as a means of fostering sustainable fisheries and managing fish and capacity. As soon as applicable funding is available, staff believes that this

[2] The presence of any particular project on this list does not mean that the project has been accepted by the Council or any other state agency. Likewise, the absence of any particular project does not mean that it cannot be added to the list. If your favorite project is not on this list...don't panic! Come talk to us.

[3] We do not currently have recommendations for habitat restoration and education. These are very complicated fields with a great deal of ferment currently. The Council will hear a report on education programs from the CalEPA at this meeting, and there are some restoration projects potentially "in the hopper".

project should be a high priority project to pursue. Staff recommends that this revolving loan fund be set up as a competitive process to provide loans to fishermen for projects that can demonstrate substantial economic and conservation benefits. These projects could include management reforms to increase the efficiency of fishing operations within established conservation guidelines; much-needed fleet capacity management; and value added processing, marketing, purchasing agreements. Loans would be repaid by the fishermen as fisheries are revitalized, allowing the fund to be invested in new projects and thus become a permanent funding source.

Coastal Water Quality and Pollution

Coordinate and Integrate Water Quality Monitoring

There is a need to improve the coordination and integration of existing coastal nearshore water quality monitoring. Council funds should be used to accelerate efforts at the State Water Board to integrate existing monitoring and to add new monitoring efforts where gaps are evident. This should be coordinated with other marine ecosystem assessment efforts such as the Coastal Ocean Current Monitoring Project (COCMP) administered by the State Coastal Conservancy and other such programs. In addition, it has recently become clear that polluted runoff significantly harms nearshore marine ecosystems and the marine life that depends on them. Staff recommends that Council funds be considered for a pilot project in the Central Coast Regional Water Quality Control Board's jurisdiction to coordinate efforts among federal, state, and local agencies and citizen organizations to control polluted runoff. This region is ideal because:

- it is coastal;
- it is affected by a wide range of nonpoint pollution sources;
- it includes the Marine Life Protection Act study area; and
- it is home to the California sea otter which is experiencing mortality from land-based pathogens.

The State Water Quality Control Board/Coastal Commission's "critical coastal area" project identified pilot areas and projects along the Central Coast that are in need of funding; this should be a vehicle for moving the coordination effort forward.

Implement Invasive Species Plan SB 1573 (Karnette)

Invasive species in our coastal waters pose a threat that can be as damaging to California's aquatic ecosystems as polluted runoff. Staff recommends that Council funds be considered to complete and implement the plan for addressing aquatic invasive species called for by SB 1573 (Karnette), with a focus on coastal areas at particular risk from direct and indirect impact of invasive species.

Integrated Coastal Ocean Observing Systems

Conduct Sea Floor Mapping for All State Waters

The State of California has made a groundbreaking investment in ocean observing and staff believes that there are two efforts worthy of Council consideration in this area. First, the Ocean Protection Council should consider the creation of a detailed, publicly accessible, digitized seafloor map for all State waters, from the surf zone out to 3 miles. This would be an essential tool for fisheries management, marine protected area design, and current modeling and is key for modeling beach water quality, sediment transport, and coastal erosion. The staff has estimated that this could be accomplished using a variety of

technologies[4] over a period of six years at a cost of about $45 million. Since it is unlikely that the State will have that amount of money up front, this project will likely be accomplished by approving proposals on a project by project basis. High priority areas to begin with include beaches with periodic closures related to water quality, existing marine protected areas, and the Central Coast Marine Life Protection Act study area. The Council should work to make sure that all ongoing mapping efforts in the State are coordinated in such a way that they can contribute to a single seafloor map for the entire state.

Integrate Ocean Observing and Research Efforts
Finally, staff believes that the Council should tackle the difficult question of integrating the State's ongoing ocean observing and research efforts into a single system with at least the following characteristics:

- all data is publicly available through a common portal;
- data products are developed that support the State's ongoing management needs;
- the system is designed to "fit" with developing earth and ocean observing systems elsewhere in the United States and in the world.

In the spirit of other ocean observing systems, our working title for this system is CalCOOS, the California Coastal Ocean Observing System.

Process for funding

In a separate memo we have developed a proposed "Interim Funding, Project Selection, and Application Guidelines". We recommend that the Council adopt these guidelines. In developing these guidelines, we had several goals in mind:

- the guidelines should seek to implement the policies and objectives of the California Ocean Protection Act;
- the process for seeking funding should be user-friendly, e.g. grant seekers should be encouraged to write relatively short proposals that can be supplemented once the Council determines that the project would fit an identified need and that funding from an appropriate source is available;
- the process should be flexible so that as new ideas arise, the Council can take advantage of them.

The guidelines are modeled on the processes and procedures the State Coastal Conservancy has used to administer over $500,000,000 in grants during the last six years. We have called them "interim" to suggest that they are meant to serve the immediate need for moving forward, and can be changed in the future as circumstances warrant.

Current and Future Funding

The State Coastal Conservancy adopted the following resolution at its meeting in Fort Bragg in May of this year:

" A. The State Coastal Conservancy hereby delegates authority to the Executive Officer, in order to increase the effectiveness and administer the affairs of the California Ocean Protection Council

[4] Principally LIDAR and several varieties of SONAR.

(OPC), and, with respect to the expenditure of funds neither appropriated nor awarded to the Conservancy, to negotiate and enter into grant and other agreements and take other actions necessary to carry out projects and programs authorized by the OPC, unless the Conservancy is legally required to make findings under the California Environmental Quality Act or other applicable law.

B. The Conservancy reserves up to five million dollars ($5,000,000) from existing Conservancy funding sources, to be expended in concert with the OPC, for programs and projects authorized by the OPC or that the OPC finds to be of high priority and that are also consistent with the Conservancy's project selection criteria and priorities and the requirements of the funding sources."

These funds are now available for Council projects. Should the Ocean Protection Council approve the four projects under agenda item 7 at this meeting, they will then go to the State Coastal Conservancy board for final approval at its June meeting and be funded from this source.

The State Water Quality Resources Control Board is expected to consider an action similar to the SCC at its workshop June 16, 2005. However, given that the Board is in the process of developing guidelines for its proposition 50 funds, it is unlikely that the proposed $10,000,000 will be available for OPC projects in less than a year. The SWRCB will likely invite the OPC to be a part of the Board's guideline setting and planning process.

There continues to be $1,200,000 of Environmental License Plate funds in the budget pending before the State Legislature that would, if approved, be appropriated to the State Coastal Conservancy for the Ocean Protection Council. This money, less the cost of one full-time staff person and administrative costs, will be available for Council projects when the State's budget is signed into law.

Finally, in last year's budget, $10,000,000 was appropriated to the Resources Agency for Ocean Protection Council purposes from the Long Beach Oil Field Abandonment fund. The status of this money continues to be up in the air, but it is looking less likely that it will appear any time soon.

Appendix One: List of Potential OPC Projects

Category/Project	SCC Prop 40[1]	SCC Prop 50[2]	SCC Non Bond funds[6]	Tidelands[3]	SWRCB[4]	Private Funds[5]	Grand Total
Ecosystem Marine Life and Fishery Mgmt.							
Fishery Revolving Loan Fund				$2,000,000			
Stock Assessments for rockfish				$500,000			
Automated License Data System				$300,000			
GPS Data Collectors				$500,000			
Nearshore commercial permit buy-out				$1,000,000			
Cen Cal trawl permit buyback				$9,000,000			
Subtotal	**$0**	**$0**	**$0**	**$13,300,000**	**$0**	**$0**	**$13,300,000**
Habitat Restoration and Enhancement							
Humboldt Bay Eel Grass Restoration	$300,000						
SF Bay Eel Grass Restoration	$200,000						
SF Bay Subtidal Goals Report	$50,000						
SF Bay Native Oyster Restoration	$100,000						
So Cal Bight Aquatic Restoration Program	$750,000						
Trinidad Head Kelp Bed Impact Study	$75,000						
Garcia Watershed Enhancement		$300,000					
Derelict Boat Removal Program		$300,000					
Fish Passage Barrier Removal		$2,000,000					
SoCal Habitat Mapping				$500,000			
SoCal Marine Life Demo Project				$750,000			
Subtotal	**$1,475,000**	**$2,600,000**	**$0**	**$1,250,000**	**$0**	**$0**	**$5,325,000**
Water Quality and Pollution							
Klamath River Sediment Study	$350,000						
Derelict Fishing Gear Removal Pilot		$300,000					
Creosote Piling Removal Project			$300,000				
Sediment Master Plan Impl.				$500,000			
TMDL Landowner Coops					$500,000		
Green Ports/Harbors Program					$2,000,000		
Agricultural BMP Program					$2,000,000		
Sediment Reduction Program					$3,000,000		
Septic Pilot Projects (revolving loan fund?--Tomales Bay)					$2,000,000		
Central Coast HAB Monitoring					$500,000		
Subtotal	**$350,000**	**$300,000**	**$300,000**	**$500,000**	**$10,000,000**	**$0**	**$11,450,000**
Integrated Ocean Observation and Research							
SF Bay Fish Abundance/Distribution	$200,000						
Channel Islands Monitoring Program	$700,000						

Nearshore/Stream Gauges		$1,000,000					
Methylmercury in Salt Marsh Rest.		$200,000					
Radio chemistry			$100,000				
CA Current Joint Venture			$300,000				
CA Ocean Obs Strategic Plan			$50,000				
Fish population genetic studies			$100,000				
Tidelands Acq. Parcel Study				$200,000			
Legal Research				$100,000			
CalOcean Web Development				$100,000			
CA Ocean Investment Analysis				$15,000			
CRANE/PISCO Support**				$1,000,000			
Ocean Obs Product Development				$350,000			
PORTS Support				$150,000			
SF Bay Sediment Dynamics, Relationship with Salt Marsh Restoration				$100,000			
Research Sustainable Aquaculture					$50,000		
Channel Isl. MPA Op. Support						$1,200,000	
Seafloor Mapping						$45,000,000	
Subtotal	**$900,000**	**$1,200,000**	**$550,000**	**$2,015,000**	**$50,000**	**$46,200,000**	**$50,915,000**
Education/Policy/Governance							
Fort Bragg Marine Education Center Planning		$150,000					
Mendocino Underwater Marine Education Program		$75,000					
Avila Beach Marine Research and Education Center		$120,000					
Coastal Ambassadors Program			$250,000				
Marine Education Program				$500,000			
CA and the World Ocean '06				$100,000			
Invasive Spartina Outreach/Education				$200,000			
Subtotal	**$0**	**$345,000**	**$250,000**	**$800,000**	**$0**	**$0**	**$1,395,000**
TOTALS:	**$2,725,000**	**$4,445,000**	**$1,100,000**	**$17,865,000**	**$10,050,000**	**$46,200,000**	**$82,385,000**

Notes

1: SCC prop 40 provides money for “acquisition, development, rehabilitation, restoration, and protection of land and water resources” consistent with the Conservancy’s enabling legislation.

2: SCC prop 50 funding of coastal watershed and water quality improvement projects

3: Tidelands oil revenue money is "for various projects authorized pursuant to the California Ocean Protection Act"

4: SWRCB prop 50 funds can be used for non-point source projects to "restore and protect the water quality and environment of coastal waters, estuaries, bays and nearshore waters and groundwater". Grants not to exceed 5m.

5: Private foundation money would have no restrictions, but the foundations may be interested in funding some things and not others.

6: Could be 1.2m VLP funds in next budget, or whale tail LPF.

****CRANE/PISCO support also included in SoCal Habitat Mapping and Marine Life Demo Project, and the Channel Island ROV Support.**

PROJECT NAME	Potential Grantee	DESCRIPTION
Agricultural BMP Program	Various Grantees	Structural and functional best management measures for dealing with ag runoff
Automated License Data System	DFG	Funding for DFG's transition from a paper system for sport fishing licenses, to computer system, which is expected to occur by 2007. The ALDS is a high priority for DFG and the Fish and Game Commission, which have taken steps to begin implementation of a system to automatically link computer terminals at each license agent location to a central database. Will give DFG more timely and accurate date for resource management, enforcement and accounting.
CA and the World Ocean '05	Resources Agency	Provide logistical and program support for world ocean conference in 2006, per Governor's Ocean Action Agenda, item
CA Current Joint Venture	Point Reyes Bird Observatory	Program to develop and implement an ecosystem-level conservation plan that will define a conservation agenda for the CA Current System (CCS) focusing on top predators (including but not limited to seabirds) and their prey. Point Reyes Bird Observatory trying to facilitate establishment with other partners.
CA Ocean Investment Analysis		An inventory and analysis of state funding for important ocean and coastal management, enforcement, monitoring, research and education programs and use of this information to help determine if California's investment is providing the most effective and efficient management and protection of CA's ocean resources.
CA Ocean Obs Strategic Plan		Develop strategic plan for establishment of CA Coastal Ocean Observing System for coordinated management & oversight of coast wide or regional observing systems, through planning, data management and accessibility, interpretation of data for use in management decisions.
CalOcean Web Development	Resources Agency	Revise, revamp, and revive Resource Agency Ocean web site.
CenCal trawl permit buyback	The Nature Conservancy	To protect essential fish habitat for groundfish & move trawl fishery in Central Coast towards sustainability, purchase more than half (13-16) of the 23 federal permits and vessels (approx. $500,000 per permit & vessel) and one processor in Central Coast area.
Central Coast HAB Monitoring	Morro Bay National Estuary Prog.	Develop monitoring and research of hazardous algal blooms off the coast of CA.

Coastal Ambassadors Program	Sea Grant	Program to encourage young people to take some responsibility to protect the coast. Concept pioneered in Australia.
CRANE/PISCO Support**	DFG, PISCO, Nat'l Marine Sanctuaries	Cooperative Research and Assessment of Nearshore Ecosystems Program (CRANE) and the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) provide interdisciplinary research on for fishery management in support of the MLMA, evaluation of MPAs and, use scuba, ROV and fishing gear for data collection.
Creosote Piling Removal Project		Removal of creosoted-treated timber, sources of toxic leaching and sediment, resulting in improved water quality and fish habitat.
Derelict Fishing Gear Removal Pilot	SeaDoc Society	Project involves the location and removal of lost/abandoned fishing gear followed by return to owner or recycling
Fish Barrier Removal	Various Grantees	Removal of barriers to anadromous fish passage at various waterways throughout the state.
Fish population genetic studies		Studies to determine and characterize genetic makeup of fish populations, data that can be used to understand migration, persistence/stability, abundance
Fishery Revolving Loan Fund	Environmental Defense	A competitive program to provide long-term, low-interest loans to promote the development of sustainable, resident fisheries and continued maintenance of vessels and gear.
Fort Bragg Marine Education Center Planning	Possibly City of Fort Bragg	Continuation of feasibility study for marine research and/or education center on the headlands in City of Fort Bragg.
Garcia Watershed Enhancement	The Conservation Fund	Implement erosion control and anadromous fish habitat improvements in accordance with the Garcia Forest Management Plan on sustainable forestry lands owned by The Conservation Fund.
GPS Data Collectors	DFG	Portable devices for establishing location and movement via earth-satellite triangulation
Green Ports/Harbors Program	Coastal Commission	Program to guide and implement environment friendly development, best management practices and activities at ports and marinas
Habitat Mapping	CSUMB's Seafloor Mapping Lab w/ commercial hydrographic firms	Over 6 yrs., complete mapping of all State waters out to 3 miles. Use LIDAR and multi-beam sonar to map bathymetry, interpret data to produce benthic habitat maps that will be available on websites and in GIS format. Pilot project in Central CA MPA study is first priority. Maps will provide crucial information for managing fisheries and important benthic habit and for modeling currents, sediment transport and beach erosion.
Humboldt Bay Eelgrass Restoration		Measures to increase the acreage of eelgrass, an essential fish habitat, including by transplants into areas suitable for eelgrass survival and by reducing impacts to existing eelgrass beds

Invasive Spartina Outreach/Education	Save the Bay, Friends of Corte Madera Creek Watershed	Public outreach and education about invasive Spartina, including its harmful effects to mudflat and salt marsh ecosystems, risk of spreading from SF Bay up and down coastal CA, how to identify and what is being done to eradicate it.
Klamath River Dam Removal Study	Conservancy	Conduct sediment analysis and feasibility study for the decommissioning of 5 Kalamath River dams to benefit anadromous fish stocks.
Legal Research	Conservancy	Provide logistical and program support for legal and policy development, per Governor's Ocean Action Agenda, item 2.
Marine Education Program	Various Grantees	Program to instruct/educate/build awareness to one or more audiences regarding marine science, including development of websites and other public portals.
Mendocino Underwater Marine Education Program	State Parks	A DPR interactive underwater program, with a diver in the nearshore (kelp forest, Frolic shipwreck) off the Mendo coast, hooked up with microphones and a camera to a TV monitor on shore, and people/kids could communicate directly with the diver about what they were seeing in the underwater environment.
Methylmercury in Salt Marsh Restoration		Project to determine the presence, fate, impact of methylmercury in the environment and potential actions
Nearshore commercial permit buy-out		Provide program for purchase of commercial fishing permits in closed fisheries in state waters.
Nearshore/Stream Gauges		Statewide but with particular relevance to Southern California, project would involve installation of stream gauges in ungauged watercourses and at nearshore/estuarine interface to record volume/timing of flows/runoff to enhance water and natural resource management and protection and public safety.
Ocean Obs Product Development Pilot		Establish a program to process and interpret data collected on a state-wide and regional level, to make the information readily available to environmental managers and other users.
Parcel Study for Tidelands Acquisitions		Research ownership of properties within California tidelands for potential acquisition
PORTS Support		
Radio chemistry		Radiochemistry is one of the fundamental pillars of chemical diagnostics and analysis, employing the use of short-lived radioisotopes to tag, identify and track constituents of interest
Research Sustainable Aquaculture		Study how these operations can be approved and operate safely and sustainably in CA waters.
Sediment Master Plan Implementation	SANDAG	A collaborative effort between federal, state and local agencies and NGOs to evaluate CA's coastal sediment management needs on a regional and system-wide basis. Implementation will consist of developing regional on-the-ground efforts to manage the shoreline and sediment movement.
Sediment Reduction Program	Various Grantees	Implementation of prioritized erosion control and sediment reduction projects such as road removal and revegetation to decrease sediment inputs to anadromous fish bearing streams.

Septic Pilot Projects (revolving loan fund?--Tomales Bay)		Pilot projects to reduce the pollutant loading from poorly functioning septic systems in coastal areas. Tomales Bay is one area suitable for such a pilot project.
SF Bay Eelgrass Restoration	SFSU, Save the Bay	Implementation of eelgrass restoration, using predictive models developed as part of CalTrans Bay Bridge mitigation project to identify locations in SF Bay that are most suitable for transplanting eelgrass to restore beds. Approx. 10,000 acres of SF Bay has suitable eelgrass habitat, so there is a huge restoration potential that would increase essential fish habitat.
SF Bay Fish Abundance/Distribution		Research on resident fish populations in SF Bay, esp. on salmonid use of bay habitats.
SF Bay Native Oyster Restoration	UC Davis, Save the Bay	Restoration of native oyster populations in SF Bay, by increasing the available substrate for oyster growth. Recent pilot projects have been very successful and have generated public support for additional restoration projects.
SF Bay Sediment Dynamics, Relationship with Salt Marsh Restoration		Research is needed to study the sediment dynamics in SF Bay to assist in the design of large salt marsh restoration projects.
SF Bay Subtidal Goals Report	Various Grantees	Development of goals and identification of specific projects for restoration and management of subtidal habitat in San Francisco Bay.
So Cal Bight Marine Life Enh Prog	Environment Now; California CoastKeeper Alliance, TNC/MARE; SM BayKeeper, Heal the Bay, SCCWRP, UC	Consists of several program elements addressing restoration and enhancement of coastal nearshore and coastal ocean resources of Southern CA. Elements include the Santa Barbara Channel Islands Monitoring program ($750,000), Santa Monica/San Pedro Bays Marine Life Demo Project (incl. rocky intertidal habitat mgmt program), the So. Ca. Bight Nearshore Habitat Mapping Program, and So. Ca. Bight Aquatic Restoration Program (incl. regional marine communities restoration, e.g. eelgrass, kelp forest & sustainable artificial reefs installation program)
Stock Assessments for rockfish	DFG	Provide research and monitoring of the most threatened commercial species fished off the coast of CA. These species are driving many of the management decisions by DFG, without longitudinal studies.
TMDL Landowner Coops	Coastal Commission?	Provide support for development of a cooperative system of landowner reduction of non-point source sediment reductions. Was done as a pilot project by Environmental Defense, but they are no longer doing these projects.