

**RFP Announcement:
Central Coast MPA Baseline Data Collection Project**

I. Funding Opportunity Description

The Central Coast MPA Baseline Data Collection Project is a collaborative effort between the State Coastal Conservancy, Ocean Protection Council, California Department of Fish and Game (CDFG), and California Sea Grant Program, which seeks to collect baseline data for the Central Coast Marine Protected Areas pending their designation by the Fish and Game Commission under the Marine Life Protection Act.

A. Program Objective

The Marine Life Protection Act (MLPA) was passed by the California legislature in 1999 (Chapter 10.5 of the California Fish and Game Code, §2850 - 2863) and required the CDFG to develop a plan for establishing a network of Marine Protected Areas (MPAs) in California waters to achieve many goals, including protecting habitats and preserving ecosystem integrity.

The MLPA requires adaptive management to ensure that a system of MPAs meets its stated goals [§2853 (c)(3)]. The MLPA defines adaptive management as “a management policy that seeks to improve management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as tools for learning. Actions shall be designed so that, even if they fail, they will provide useful information for future actions, and monitoring and evaluation shall be emphasized so that the interaction of different elements within marine systems may be better understood” [§2852 (a)]. According to the MLPA *Final Draft Adaptive Management, Monitoring, and Evaluation Framework*, “adaptive management requires learning from current experience to improve the process of achieving the goals of the MLPA over time.”

To meet these requirements, a well designed monitoring, evaluation, and adaptive management program must be implemented in California. The first step in implementing such an effort is to ensure proper acquisition of quality baseline data for the Central Coast study region, so that future monitoring efforts in that region have reliable reference points for evaluating changes that may occur over time inside and outside of the MPAs. The goal of the Central Coast MPA Baseline Data Collection Project is to provide monitoring that is:

- useful to decision-makers, managers, scientists, and stakeholders for improving MPA design and management
- practical in use and cost
- includes both scientific and stakeholder input
- flexible for use at different sites and in varying conditions
- holistic in its focus on both natural and human perspectives
- transparent in process and decision-making to all stakeholders and the public

Measuring Performance of Stated Goals

As discussed in Section 6 of the MLPA Master Plan, the purpose of monitoring is to measure performance relative to stated regional goals and objectives. This RFP seeks projects that will collect performance indicator data for biophysical and socioeconomic systems that can be used to measure the effectiveness of the MPAs relative to their individual objectives.

The areas that the Commission voted as the “preferred alternative” for Central Coast MPAs fall into three classifications with varying degrees of protection: state marine park (SMP); state marine conservation area (SMCA); and state marine reserve (SMR). Specific objectives for each of the proposed Central Coast MPAs can be found in the Master Plan for Marine Protected Areas.

Central Coast MPA Baseline Data Collection Project

B. Program Priorities

Primary consideration for funding will be given to proposals that address the specific priorities listed below. The Central Coast MPA Baseline Data Collection Project will seek to support both biophysical and socioeconomic data components which are necessary to obtain prior to or shortly after the implementation of new MPAs. Baseline data will provide a foundation with which to make direct comparisons after MPA implementation to detect changes over time. In addition to collecting critical baseline information, projects should also support or guide long-term monitoring needs and future evaluations.

Biophysical Monitoring Studies

MLPA Goals pertaining to biophysical studies—

Goal 1) to protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems

Goal 2) to help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted

Goal 4) to protect marine natural heritage, including protection of representative and unique marine life habitats in central California waters, for their intrinsic value

Goal 6) to ensure that the central coast's MPAs are designed and managed, to the extent possible, as a component of a statewide network

To ensure comprehensive baseline assessments of these areas, studies need to include the following elements:

- Assessments of species distribution, diversity, relative abundance and size, community structure and composition, habitat for various life stages, trophic structure and relationships, physical habitat attributes, water quality, etc.
- Survey techniques that capture data for a broad array of variables including physical, biological, and chemical indicators
- Assessment of species (i.e., algae, invertebrates, and fish) that reflect the diversity of taxa and ecological roles and functions in the system (i.e. diversity of functional groups such as predators, herbivores, and primary producers, or diversity of the community utilizing various ecotones, such as the rock-sand interface)

In most cases, baseline data will also need to be collected at appropriate reference sites outside the MPA boundaries, but which contain similar habitats to the MPAs. This approach will provide direct comparisons with which to measure change. In addition to the habitats identified below, projects may also include other habitats such as marshes, estuaries, shallow soft bottoms, and beaches.

Traditional survey techniques are sometimes discussed in the following text; however, novel approaches to these types of assessments are welcome. In particular, approaches that reduce the financial and operation burden of future, periodic monitoring efforts are encouraged.

Collaborative projects that include community and user groups in the data collection are *highly* encouraged. Fishermen who are interested in finding collaborative opportunities should contact Debi Jeffery at Sea Grant (see Agency Contact below). In addition, fishermen and academic researchers are encouraged to register at <http://www.fishresearchwest.org/> to initiate partnerships. Finally, fishermen who are willing to take part in monitoring efforts are also encouraged to attend the bidders' conference to initiate potential collaborations (see the Bidders Conference section below).

Listed below are priority habitats of interest for establishing a baseline of ocean ecosystem conditions.

Deep-water rocky habitat—Deep-water environments, particularly rocky bottom and canyon habitats, support many of the species mentioned in the regional MPA objectives (e.g., rockfish and other groundfish species). Traditionally, these habitats also have the most consumptive use. Therefore, these are a priority for collecting baseline data. Eighteen MPAs have been identified as containing deep-water

Central Coast MPA Baseline Data Collection Project

hard-bottom or canyon habitat (Table 1). Investigations should include one or more of these MPAs as well as appropriate reference sites located outside the MPAs.

Variables of interest include community structure and composition, species and community diversity, trophic structure and relationships, including diversity within functional groups (predators, herbivores, producers), physical habitat attributes, water quality, and other habitat scale components that may change after implementation of the MPA. Priority will be given to projects that include investigations into the distribution, abundance, size, and habitat associations or needs for various life stages of focal species (Table 2).

Previous surveys of these habitats have included submersible and ROV surveys; therefore, consideration will be given to projects that provide comparative data. In addition, consideration will be given to projects that propose innovative survey techniques, such as acoustics or fishing gear, and provide complimentary data such as catch per unit effort (CPUE) data that can be utilized in a long-term monitoring program.

Shallow-water rocky habitat, including kelp beds—Shallow-water rocky habitat, including kelp beds, also supports many of the species and particular life stages mentioned in the regional objectives. Eighteen MPAs contain shallow water rocky habitats (Table 3). Investigations should include one or more of these MPAs as well as appropriate reference sites located outside the MPAs.

Variables of interest include community structure and composition, species and community diversity, trophic structure and relationships, including diversity within functional groups (predators, herbivores, producers), physical habitat attributes, water quality, and other habitat scale components that may change after implementation of the MPA. Priority will be given to projects that include investigations into the distribution, abundance, size, and habitat associations or needs for various life stages of focal species (Table 4).

Shallow water rocky habitats have been monitored using the Cooperative Research and Assessment of Nearshore Ecosystems (CRANE) Program. The CRANE protocol includes visual surveys using SCUBA. Visual survey projects that either incorporate the CRANE protocol or provide data that are directly comparable are desirable. Furthermore, projects that survey cryptic species using approaches other than underwater visual surveys, such as acoustics or fishing gear for CPUE data, are encouraged.

Deep-water soft bottom—Little is known about mid- and deep-water soft bottom environments. Therefore, these are a priority for the collection of baseline data. Twenty-one MPAs have mid- and deep-water (> 30m) soft bottom habitat (Table 5). All 21 have habitat between 30 and 100m; 7 have habitat in water deeper than 100m.

Variables of interest include community structure and composition, species and community diversity, trophic structure and relationships, including diversity within functional groups (predators, herbivores, producers), physical habitat attributes, water quality, and other habitat scale components that may change after implementation of the MPA. Priority will be given to projects that include investigations into the distribution, abundance, size, and habitat associations or needs for various life stages of focal species (Table 6).

Little information has been gathered in deep water soft habitats; therefore, projects using innovative sampling techniques (i.e., sled or ROV surveys, acoustics, or fishing gear) are encouraged. However, proposals investigating both deep-water rocky and soft bottom habitats should use comparable methods.

Rocky intertidal—Twelve MPAs have rocky intertidal habitat (Table 7). Variables of interest include community structure and composition, species and community diversity, trophic structure and relationships, including diversity within functional groups (predators, herbivores, producers), physical habitat attributes, water quality, and other habitat scale components that may change after implementation of the MPA. Priority will be given to projects that include investigations into the distribution, abundance, size, and habitat associations or needs for various life stages of focal species (Table 8).

Central Coast MPA Baseline Data Collection Project

Proposals that expand on existing knowledge or programs are encouraged. Additionally, proposals that utilize unique visual or non-visual approaches to surveying the intertidal are encouraged.

Socioeconomic Monitoring Studies

MLPA Goals pertaining to socioeconomic studies—

Goal 3: to improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbances, and to manage these uses in a manner consistent with protecting biodiversity.

In addition, there is a particular need to measure changes in recreational and commercial fishing and non-consumptive uses, not only as part of the evaluation of social and economic impacts, but also to determine if displacement of fishing activity is increasing biological impacts outside of MPAs. Further, cost-benefit analysis can give managers a better understanding of the impact of the marine protected area on stakeholders.

Topics of interest include:

Use patterns on the water—Proposals will be considered that investigate patterns of historical human use of “new” MPA areas and reference sites to assess historic fishing pressure in newly designated MPAs and to assess the effects of transferring activities to areas outside of the MPAs.

Resource economics— Proposals are requested that address market and non-market evaluations of key resources in the MPA areas, baseline data that can be used for cost-benefit analysis of MPA management, and valuation studies of consumptive (commercial and recreational) and non-consumptive activities that have historically occurred in the “new” MPA areas.

Communities and cultural resources— Studies of the socioeconomic characteristics of central coast communities, such as ports and tourism economy, and on-shore demographics (i.e., population density and industry concentration in the coastal zone) will be considered.

D. Data Standards and Data Reporting

All projects within the Central Coast MPA Baseline Data Collection Project will be required to use accepted metadata standards and adhere to standardized data reporting protocols. These protocols and standards will be provided to investigators of selected projects. Agreement to use these standards will be a requirement for receipt of funds.

All raw data must be submitted to the CDFG and OPC by March 15, 2008, and thereafter all data will be widely available to the public and other researchers. However, investigators may publish scientific papers based on their work both before and after this date.

Central Coast MPA Baseline Data Collection Project

E. Supporting Information

Detailed description, maps, objectives, and rationale for the proposed MPAs
<http://www.dfg.ca.gov/mrd/mlpa/pdfs/commission082206.pdf>

MLPA Master Plan

<http://www.dfg.ca.gov/mrd/mlpa/masterplan.html>

Section 8 Regional MPA management plans

Section 8.4.2 Central coast region baseline scientific research and monitoring plan

GIS maps of the region

<http://www.dfg.ca.gov/itbweb/gis/mr.htm> (provides various GIS links)

http://ftp.dfg.ca.gov/Public/R7_MR/ (ArcView needed)

<http://marinemap.org/mlpa/viewer.htm> (web-based viewer)

California Marine Life Protection Act (MLPA) Initiative Policy Framework for Baseline Data Collection

<http://www.dfg.ca.gov/Mrd/mlpa/pdfs/framework120106.pdf>

Details about the CRANE program

<http://www.dfg.ca.gov/MRD/fir/sss.html#crane>

Existing Central Coast Monitoring Programs and Baseline Studies
(see document Existing_CC_MonitorPrgms.pdf)

II. Award Information

Approximately \$2 million is available for the Central Coast MPA Baseline Data Collection Project in 2007. Funding is available for one-year projects only. No limit has been placed on the budget for individual proposals so that multiple investigators can submit collaborative proposals that address numerous issues identified under Program Priorities. The anticipated start date is June 11, 2007 with an end date of June 11, 2008.

III. Eligibility Information

A. Eligible Applicants

Individuals, institutions of higher education, nonprofit organizations, commercial organizations, and state, local, and Indian tribal governments are all eligible to submit proposals.

B. Cost Sharing or Matching Requirement

Cost sharing or providing match is not required, but is *highly* recommended and will be taken into consideration when evaluating proposals (see Evaluation Criteria for more information).

IV. Application and Submission Information

A. Address to Request Application Package

The entire application package is available online through California Sea Grant's website: www.csgc.ucsd.edu. If you do not have internet access, please contact Debi Jeffery in the "Agency Contacts" section of this document.

Central Coast MPA Baseline Data Collection Project

B. Content and Form of Application Submission

Preliminary proposals are *not required*. Only full proposals will be considered.

Please submit one hard copy (signed, unbound original) and an electronic copy of the full proposal. The number of pages must be in accordance with the page limitation specified under "Required Elements." All printed pages in the full proposals must measure 8.5" x 11" with an 11 point, sans serif font (Arial or Helvetica). Please submit an electronic PDF file (of source/native files and not scanned) of the full proposal. The file needs to meet the above criteria when printed.

Required Elements (Full Proposals)

Full proposals must include the following elements:

Coversheet

A cover sheet template is located on the California Sea Grant website. Please provide all requested information and obtain the required signatures. If you are applying from an academic institution, send your original proposal to your Campus Research office for local campus approval, including the Salaries Worksheet. If your proposal encompasses more than one campus, please obtain approval from each campus and all required signatures. Make sure to send your original, signed coversheet with your full proposal.

Percentage of time should be shown for the Project Leader and the Co-Project Leader. This should agree with the amount shown on the Sea Grant Project Summary Form and should be converted to "Months of Effort." (Example: 10 percent time=1.2 months of effort.) Please leave the trainee section blank.

Project Summary

A project summary form is located on the California Sea Grant website. The form is a PDF that can be filled out electronically. You may save your information at any time. In addition, there are detailed instructions available that should help you to accurately complete the form. Please follow them carefully—the project summary is the most widely consulted description of your project.

Narrative

While a variety of proposal formats are perfectly acceptable, authors should take care to cover the following information:

- Project Title
- Project Leader(s)
- Associated Staff (if any)
- Introduction:
 - Work to Date (Background)
 - Associated Work (Coordination Efforts)
- Objectives/Goals
- Approach to Be Used (Plan of Work)

Limit the narrative to a maximum of 15 pages (references, illustrations, charts, tables, and figures not included). Please type all headings left justified, bold, and upper case. A brief description of each item is given below.

Project title

Project titles should be carefully constructed to give as much information about the project as possible in no more than two lines (about 16 words).

Introduction

Provide the rationale for the scope and design of your proposal. Discuss how your approach will allow CDFG and others to assess changes relevant to MPA-specified goals. State previous work conducted by

Central Coast MPA Baseline Data Collection Project

you and others in this field, as well as the current state of knowledge. Briefly relate your baseline data collection project to similar activities conducted by others in the subject area, whether supported by Sea Grant or other federal, state, or local funding agencies (ONR, NSF, etc.).

Objectives/Goals

The objective(s) should be well-defined and clearly stated. Proposals should include a statement of the overall project objective and about how the approach will provide data to assess the progress toward achieving the goals outlined in the MLPA Master Plan.

Approach to be used (plan of work)

Discuss how your work will advance the development of applied monitoring methods and the application of indicator data to adaptive management.

Present the scientific/technical approach, experiments, procedures, etc. If not all MPAs are selected for sampling, explain the rationale for including/excluding particular MPAs. When discussing the sampling methodology, explain the rationale for choosing reference sites. Please discuss the relationship between the proposed sampling design and extrapolation of the data to the level of the MPA. If you do not choose a sampling design that allows for extrapolation, explain why.

Identify and discuss any new approaches (innovativeness). Describe how your approach might set the stage for ongoing, periodic MPA monitoring in the region. Discuss the role of project personnel.

References

List references alphabetically on separate pages. All references cited in the proposal must be listed. References should follow the list format from the Chicago Manual of Style.

Budget and Budget Justification

Applicants are encouraged to use the California Sea Grant Budget Form, available for download from the California Sea Grant Proposal web page. Applicants may also use their own form as long as it provides the same information as the California Sea Grant budget form. Subcontracts should have a separate budget form. Each budget should include a separate budget justification page that itemizes all budget items in sufficient detail to enable reviewers to evaluate the appropriateness of the funding requested. Please see the California Sea Grant website for detailed instructions.

Current and Pending Support

Applicants must provide information on all current and pending support for ongoing projects and proposals, including subsequent funding in the case of continuing grants. Please use the Current and Pending Research form on the California Sea Grant website.

Vitae

Please include only published and in press publications in chronological order, with the most recent shown last. Preferably include only those papers that are recent and relevant to your proposal; a complete list is not required. List the full title and list all authors in the order published. The final format for curriculum vitae will be single spaced and only two (2) pages will be submitted for each individual. Therefore, please limit your CV to two pages or less.

C. Submission Dates and Times

Proposals (signed original and electronic) are due in the California Sea Grant office by 5:00 pm (PST) on **Friday, April 27, 2007** at the following address:

Central Coast MPA Baseline Data Collection Project

California Sea Grant College Program
University of California, San Diego
9500 Gilman Drive Dept. 0232
La Jolla, CA 92093-0232

For express mailing (Fed-Ex, UPS, DHL, etc), please use the following street address and telephone number:

California Sea Grant College Program
Scripps Institution of Oceanography
8602 La Jolla Shores Drive, Building T-16
La Jolla, CA 92037
(858) 534-4440

The electronic submission is due at the same time either on a compact disk included with your application packet or emailed to Debi Jeffery at djeffery@ucsd.edu.

D. Funding Restrictions

There are no funding restrictions.

E. Bidders' Conference

A bidders' conference will be held in San Jose, CA on March 28, 2007. Sea Grant and CDFG will use this opportunity to more fully discuss the objectives of the project to all applicants. The conference will be an opportunity for applicants to ask specific questions or request additional data from the CDFG staff. The meeting will also give CDFG the opportunity to discuss the standardized data methods that will be required for this project. Individual applicants can use it as an opportunity to form collaborations with the objective of submitting joint applications.

All potential applicants are strongly encouraged to attend. For those applicants that cannot make it in person, a call in number may be set up depending on whether it is technical possible at the meeting location. Fishermen who are interested in taking part in monitoring efforts are also encouraged to attend to initiate potential collaborations.

Additional information about the conference, including the exact location, time, and call-in number (if available) will be posted on the Sea Grant website by March 16, 2007.

V. Application Review Information

A. Evaluation Criteria

The evaluation criteria for full proposals are as follows:

1. Importance and/or relevance and applicability of the proposal to the Program Priorities. This includes the following:

- Whether the proposal is useful for evaluating the performance of MPAs and their ability to meet their designated goals and objectives (in the Central Coast study region and statewide)
- Whether the proposal includes an assessment of variables/indicators that may be affected by the protections implemented in the new MPA areas
- Whether the proposal can be completed prior to, or concurrent with, MPA implementation

Central Coast MPA Baseline Data Collection Project

- Whether the monitoring approach provides a valuable framework for future, ongoing monitoring, with regard to cost, scope, and time required

2. Technical/scientific merit. This assessment includes whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives.

3. Overall qualifications of the investigator(s). Ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to complete the project.

4. Project costs. Evaluates the budget to determine if it is realistic and commensurate with the project needs and time frame. This also includes whether matching funds are provided and whether other ongoing project funds can be leveraged.

5. Collaboration. Evaluates how well the proposal includes collaborative research components with industry as well as the collaborative effort between investigators (i.e. multiple investigators or fishing community involvement).

B. Review and Selection Process

Selection is competitive. Applications must be submitted to the California Sea Grant College Program Office no later than 5:00pm on April 27, 2007. A review panel consisting of scientists, program staff, community advisors, and California Sea Grant representatives will be convened mid-May to review and recommend selection of proposals, using the criteria outlined above. All applicants will be notified of the selection decision by late May.

C. Selection Factors

The Central Coast MPA Baseline Data Collection Project management team will make the final project selection based on the review of the technical panel members. The selecting team shall award in rank order unless the proposal is justified to be out of rank order based on any of the following criteria: availability of funds, distribution of funds, duplication of other projects, program priorities, and applicant's prior performance.

Investigators may be asked to modify objectives, work plans, or budgets prior to award funding. Applications must reflect the total budget necessary to accomplish the project. Applicants will be bound by the percentage of cost sharing reflected in the grant award.

D. Announcement and Award Dates

April 27, 2007 (5:00 pm) - Applications due at California Sea Grant College Program

May 29, 2007 (approximate) - Applicants notified of selection results

June 11, 2007 (approximate) - Funds awarded for selected applicants

VI. Award Administration

A. Award Notices

A member of the Central Coast MPA Baseline Data Collection Project management team will notify successful applicants by telephone shortly after the review panel meeting in late May. A subsequent letter with reviewer comments will follow.

Central Coast MPA Baseline Data Collection Project

B. Reporting

Applicants who receive a grant award will be responsible for submitting both financial and technical (progress and final) reports to California Sea Grant.

VII. Agency Contact

Debi Jeffery, California Sea Grant Proposal Coordinator
djeffery@ucsd.edu
858-534-4601

Central Coast MPA Baseline Data Collection Project

Table 1. Area of deep-water rocky habitat in each proposed MPA.

MPA Name	Depth 30-100m area mi ²	Depth 100-200m area mi ²	Depth >200m area mi ²
Soquel Canyon SMCA*	2.38	2.05	0.87
Portuguese Ledge SMCA*	0.38	1.62	1.51
Pacific Grove Marine Gardens SMCA	0.14	0	0
Asilomar SMR	0.08	0	0
Carmel Pinnacles SMR	0.37	0	0
Carmel Bay SMCA*	0.04	0	0
Pt. Lobos SMR*	1.13	0	0
Pt. Lobos SMCA*	0.26	1.64	0.95
Point Sur SMR	1.8	0	0
Point Sur SMCA	1.84	0.01	0
Big Creek SMCA*	0.06	0.05	0.02
Big Creek SMR*	0.11	0.01	0.03
Piedras Blancas SMR	0.15	0	0
Piedras Blancas SMCA	0.56	0	0
Cambria SMR	0.02	0	0
Point Buchon SMR	0.75	0	0
Point Buchon SMCA	0.69	0.02	0
Vandenberg SMR	0.25	0	0

*MPAs specifically containing canyon habitat

Table 2. Focal species for deep-water rocky habitat.

Common Name	Scientific Name
bocaccio	<i>Sebastes paucispinis</i>
cowcod	<i>Sebastes levis</i>
lingcod	<i>Ophiodon elongatus</i>
blue rockfish	<i>Sebastes mystinus</i>
greenspotted rockfish	<i>Sebastes chlorostictus</i>
copper rockfish	<i>Sebastes caurinus</i>
olive rockfish	<i>Sebastes serranoides</i>
squarespot rockfish	<i>Sebastes hopkinsi</i>
yelloweye rockfish	<i>Sebastes ruberrimus</i>
yellowtail rockfish	<i>Sebastes flavidus</i>
widow rockfish	<i>Sebastes entomelas</i>
vermillion rockfish	<i>Sebastes miniatus</i>
galatheid crabs	Galatheididae
red rock crab	<i>Cancer productus</i>
box crab	<i>Lopholithodes foraminatus</i>
crinoids	<i>Florometra serratissima</i>
sponges	Porifera
anemones	<i>Metridium spp., Urticina picivora</i>
black corals	<i>Antipathes spp.</i>
basket stars	<i>Gorgonocephalis eucemis</i>

Central Coast MPA Baseline Data Collection Project

Common Name	Scientific Name
sea stars	<i>Ceramaster</i> spp., <i>Mediaster aequilis</i> , <i>Pteraster</i> spp.
spot prawn	<i>Pandalus platyceros</i>

Table 3. Area of shallow-water rocky habitat in each proposed MPA.

MPA Name	Hard Bottom Depth 0-30m area mi ²	Average Kelp area mi ²
<i>Año Nuevo SMR</i>	3.56	0.01
<i>Greyhound Rock SMCA</i>	1.96	0.01
<i>Natural Bridges SMR</i>	0.58	0.02
<i>Edward F. Ricketts SMCA</i>	0.06	0.05
<i>Lovers Point SMR</i>	0.09	0.08
<i>Pacific Grove Marine Gardens SMCA</i>	0.48	0.14
<i>Asilomar SMR</i>	0.59	0.11
<i>Carmel Pinnacles SMR</i>	0.07	0.01
<i>Carmel Bay SMCA</i>	0.71	0.30
<i>Pt. Lobos SMR</i>	1.03	0.27
<i>Point Sur SMR</i>	3.41	0.84
<i>Big Creek SMCA</i>	0.40	0.17
<i>Big Creek SMR</i>	0.57	0.21
<i>Piedras Blancas SMR</i>	1.60	0.50
<i>Cambria SMP</i>	1.34	0.57
<i>Cambria SMR</i>	1.02	0.38
<i>Point Buchon SMR</i>	0.60	0.21
<i>Vandenberg SMR</i>	3.27	0.02

Table 4. Focal species for shallow-water rocky habitat.

Common Name	Scientific name
lingcod	<i>Ophiodon elongatus</i>
kelp greenling	<i>Hexagrammos decagrammus</i>
grass rockfish	<i>Sebastes rastrelliger</i>
brown rockfish	<i>Sebastes auriculatus</i>
vermillion rockfish	<i>Sebastes miniatus</i>
copper rockfish	<i>Sebastes caurinus</i>
black rockfish	<i>Sebastes melanops</i>
blue rockfish	<i>Sebastes mystinus</i>
olive rockfish	<i>Sebastes serranoides</i>
gopher rockfish	<i>Sebastes carnatus</i>
kelp rockfish	<i>Sebastes atrovirens</i>
cabezon	<i>Scorpaenichthys marmoratus</i>
black surfperch	<i>Embiotoca jacksoni</i>
striped surfperch	<i>Embiotoca lateralis</i>
abalones	<i>Haliotis</i> spp

Central Coast MPA Baseline Data Collection Project

Common Name	Scientific name
red urchin	<i>Strongylocentrotus franciscanus</i>
purple urchin	<i>Strongylocentrotus purpuratus</i>
sea stars	<i>Pisaster</i> spp.
brown rock crab	<i>Cancer antennarius</i>
bull kelp	<i>Nereocystis luetkeana</i>
giant kelp	<i>Macrocystis pyrifera</i>

Table 5. Area of deep-water soft bottom habitat in each proposed MPA.

MPA Name	Depth 30-100m area mi ²	Depth 100-200m area mi ²	Depth >200m area mi ²
<i>Año Nuevo SMR</i>	2.70	0.00	0.00
<i>Greyhound Rock SMCA</i>	9.03	0.00	0.00
<i>Soquel Canyon SMCA</i>	13.20	1.77	3.14
<i>Portuguese Ledge SMCA</i>	1.46	4.45	1.48
<i>Pacific Grove Marine Gardens SMCA</i>	0.02	0.00	0.00
<i>Asilomar SMR</i>	0.01	0.00	0.00
<i>Carmel Pinnacles SMR</i>	0.07	0.00	0.00
<i>Carmel Bay SMCA</i>	0.05	0.00	0.00
<i>Pt. Lobos SMR</i>	2.32	0.06	0.00
<i>Pt. Lobos SMCA</i>	0.18	2.94	2.88
<i>Point Sur SMR</i>	2.34	0.00	0.00
<i>Point Sur SMCA</i>	8.10	0.00	0.00
<i>Big Creek SMCA</i>	2.19	0.36	6.12
<i>Big Creek SMR</i>	2.61	0.84	7.05
<i>Piedras Blancas SMR</i>	2.56	0.00	0.00
<i>Piedras Blancas SMCA</i>	8.20	0.00	0.00
<i>Cambria SMP</i>	0.44	0.00	0.00
<i>Cambria SMR</i>	0.33	0.00	0.00
<i>Point Buchon SMR</i>	4.66	0.00	0.00
<i>Point Buchon SMCA</i>	7.93	2.91	0.00
<i>Vandenberg SMR</i>	9.69	0.00	0.00

Table 6. Focal species for deep-water soft bottom habitat.

Common Name	Scientific Name
petrale sole	<i>Eopsetta jordani</i>
Dover sole	<i>Microstomus pacificus</i>
English sole	<i>Parophrys vetulus</i>
slender sole	<i>Lyopsetta exilis</i>
rex sole	<i>Glyptocephalus zachirus</i>
Pacific sandab	<i>Citharichthys sordidus</i>
sablefish	<i>Anoplopoma fimbria</i>
splitnose rockfish	<i>Sebastes diploproa</i>
chilipepper	<i>Sebastes goodei</i>

Central Coast MPA Baseline Data Collection Project

Common Name	Scientific Name
spotted ratfish	<i>Hydrolagus colliei</i>
shortspine thornyhead	<i>Sebastolobus alascanus</i>
longspine thornyhead	<i>Sebastolobus altivelis</i>
California skate	<i>Raja inornata</i>
longnose skate	<i>Raja rhina</i>
sea pens	<i>Stylatula spp, Ptilosarchus spp, Anthoptilum spp.</i>
flat mud star	<i>Luidia foliolata.</i>
sunflower star	<i>Pycnopodia helianthoides</i>
carpet star	<i>Thrissacanthias penicillatus</i>
fragile red sea urchin	<i>Allocentrotus fragilis</i>
Dungeness crab	<i>Cancer magister</i>

Table 7. Area of intertidal habitat in each proposed MPA.

MPA Name	Rocky intertidal area mi ²
<i>Año Nuevo SMR</i>	4.89
<i>Greyhound Rock SMCA</i>	3.31
<i>Natural Bridges SMR</i>	3.58
<i>Edward F. Ricketts SMCA</i>	0.8
<i>Lovers Point SMR</i>	1.42
<i>Pacific Grove Marine Gardens SMCA</i>	1.92
<i>Asilomar SMR</i>	2.85
<i>Carmel Bay SMCA</i>	2.62
<i>Pt. Lobos SMR</i>	13.67
<i>Point Sur SMR</i>	3.71
<i>Big Creek SMCA</i>	1.77
<i>Big Creek SMR</i>	2.95
<i>Piedras Blancas SMR</i>	5.83
<i>Cambria SMP</i>	3.77
<i>Cambria SMR</i>	4
<i>Morro Bay SMRMA</i>	0.18
<i>Point Buchon SMR</i>	2.74
<i>Vandenberg SMR</i>	9.55

Table 8. Focal species for intertidal habitat.

Common Name	Scientific Name
black abalone	<i>Haliotis cracherodii</i>
owl limpet	<i>Lottia gigantea</i>
California mussel	<i>Mytilus californianus</i>
ochre sea star	<i>Pisaster ochraceus</i>
aggregating anemone	<i>Anthropleura elegantissima/sola</i>
small acorn barnacle	<i>Chthamalus</i>

Central Coast MPA Baseline Data Collection Project

Common Name	Scientific Name
	<i>dalli/fissus/Balanus glandula</i>
large acorn barnacle	<i>Tetraclita rubescens</i>
gooseneck barnacle	<i>Pollicipes polymerus</i>
turban snail	<i>Tegula funebris</i>
feather boa kelp	<i>Egregia menziesii</i>
Rockweed	<i>Hesperophycus californicus</i>
Rockweed	<i>Silvetia compressa</i>
Turfweed	<i>Endocladia muricata</i>
Surfgrass	<i>Phyllospadix scouleri/torreyi</i>
monkeyface prickleback	<i>Cebidichthys violaceus</i>