

Request for Proposals (RFP): North Coast Marine Protected Areas (MPA) Baseline Program

The North Coast MPA Baseline Program Request for Proposals is open from April 24 through August 14, 2013.

Please find enclosed the North Coast MPA Baseline Program Request for Proposals. The Baseline Program is the first step in MPA monitoring. It establishes an ecological and socioeconomic benchmark against which future MPA performance can be measured and documents any initial changes that may occur following MPA implementation. The Baseline Program RFP details proposal requirements for baseline MPA monitoring in the North Coast region. The Baseline Program partners¹ are seeking proposals from individuals associated with institutions of higher education, nonprofit organizations, commercial organizations, and federal, state, local and tribal governments. All are eligible to submit proposals.

How this RFP was developed

This RFP was developed through a collaboration among the Baseline Program partners, the team of North Coast Community Liaisons, and the North Coast community, including North Coast Tribes, elected officials, scientists, ocean users, and interested members of the public:

- The Baseline Program partners hosted conversations, informal gatherings, and “meet and greets” to work with the North Coast community to learn about their monitoring interests and priorities;
- The Community Liaison team reached out to North Coast community members to provide information about the Baseline Program and the RFP and to facilitate community participation in the development of the RFP;
- The Monitoring Enterprise, together with the Community Liaison team, hosted a series of community discussion sessions to receive input from the North Coast community to inform the RFP;
- The RFP was revised in consideration of comments received during the two-week public comment period held from March 27 through April 10, 2013.
- Comments from the Community Liaison team were incorporated into the RFP prior to its release.

Reflecting unique aspects of the North Coast

In response to input received over the last nine months, this RFP differs in a number of ways from RFPs released to support baseline monitoring in the North Central Coast, Central Coast, and South Coast regions:

- Recognizing there are many types of information that contribute to our scientific understanding of marine ecosystems, we have expanded the scope to include traditional ecological knowledge (TEK).

¹ The Baseline Program is collaboration among the MPA Monitoring Enterprise, a program of the California Ocean Science Trust, California Department of Fish and Wildlife, California Ocean Protection Council, and California Sea Grant.

- In response to requests for more time to develop partnerships and collaborations, Baseline Program proposals are due on August 14, 2013, 16 weeks after RFP release — a departure from the 8-week response period provided in other regions.
- We have included evaluation criteria that favor proposals that demonstrate partnerships and take best advantage of local expertise.
- Together with the North Coast community, draft monitoring metrics were developed specifically for the North Coast region to reflect local monitoring interests and priorities. We anticipate refining these draft monitoring metrics following the completion of the Baseline Program prior to inclusion in the long-term monitoring plan.

Next steps and how to stay informed

- The Baseline Program partners are hosting a bidders conference on May 9, 2013 from 4:00-7:30 p.m. at the Humboldt Bay Aquatic Center in Eureka. This event will provide potential applicants with the opportunity to consider and discuss the RFP, ask questions of the Baseline Program partners, and engage with others interested in participating in the Baseline Program. The conference will facilitate partnership development and promote the exchange of information and ideas among applicants and collaborators, including those involved in existing monitoring programs in the North Coast region. (See Section III-A for more details)

- We invite all those interested in submitting proposals to visit the following webpages:

California Sea Grant North Coast MPA Baseline Program page: This is the official website for the RFP, where any updates or changes to the RFP will be posted.

<http://www.csgc.ucsd.edu/FUNDING/APPLYING/NorthCoastMPA2014-15.html>

North Coast MPA Baseline Program page: This page is home to information and resources related to the North Coast MPA Baseline Program, including references and other supporting information, and a database of existing monitoring projects. Announcements will also be posted to this page, including if there are any updates related to the RFP and details about upcoming events.

<http://oceanspaces.org/program/north-coast-mpa-baseline-program>

North Coast Monitoring Community group: This online group provides a platform for bringing together members of the North Coast community who are interested in MPA monitoring. It will serve as a hub for planning activities and resources, including announcements of upcoming meetings, and as the new, interactive community message board. Join this group and connect with others interested in North Coast MPA monitoring.

<http://oceanspaces.org/organization/north-coast-monitoring-community>

Request for Proposals: North Coast Marine Protected Areas Baseline Program

I. FUNDING OPPORTUNITY DESCRIPTION

The California North Coast Marine Protected Areas (MPA) Baseline Program (Baseline Program) is a collaboration among the MPA Monitoring Enterprise (Monitoring Enterprise), a program of the California Ocean Science Trust (OST), California Department of Fish and Wildlife (DFW), California Ocean Protection Council (OPC), and California Sea Grant (Sea Grant). Members of the North Coast community, including North Coast Tribes, elected officials, scientists, ocean users, and interested members of the public, informed the development of this RFP. As in the other three regions (i.e., North Central Coast, Central Coast, South Coast), the OPC has authorized \$4 million to support the North Coast MPA Baseline Program.

Proposals are requested for projects that address the purposes of the Baseline Program, which are:

1. To provide a summary description, assessment, and understanding of ecological and socioeconomic conditions, or 'benchmark' in the North Coast region, inside and outside MPAs designated pursuant to the Marine Life Protection Act (MLPA), against which future MPA performance can be measured; and
2. To document initial ecological changes and the short-term net socioeconomic benefits or costs following MPA implementation.

The deadline for submission of project proposals is 5:00 p.m. PDT August 14, 2013. Awards are anticipated to be made in October 2013. Proposals will be accepted for projects of any duration but up to three years, with an anticipated award start date of early 2014 and an end date of early 2017. This opportunity is contingent upon continued availability of state funding.

All proposals will be evaluated against the criteria listed in Section IV-A, including alignment with Baseline Program purposes, scientific and technical merit, demonstration of partnerships, incorporation of local expertise, costs, funding leveraging, and qualifications of project leads. The evaluation process will involve two peer review steps: (1) independent, external peer reviews and (2) a review panel. Reviewers and panel members will be chosen based on scientific, technical and local expertise relevant to the proposals received and will be selected by Sea Grant in collaboration with DFW, OPC, and the Monitoring Enterprise. The review panel will be convened to review all proposals and recommend the specific proposals or proposal elements to fund, along with the level of funding for each. Final decisions will be made jointly by staff of Sea Grant, DFW, OPC, and the Monitoring Enterprise.

The North Coast MPA Baseline Program Bidders Conference will be held on May 9, 2013 from 4:00-7:30 p.m. at the Humboldt Bay Aquatic Center. This conference will provide more information to potential applicants and aims to facilitate partnerships and information exchange among applicants and collaborators, including those involved in existing monitoring programs in the region. RSVPs for the bidders conference should be made to sgmpaproposal@ucsd.edu (please use "Bidders Conference RSVP" as the subject line) or by phone to (858) 534-0577. RSVPs are requested no later than 5:00 p.m. on May 1, 2013. To stay informed of upcoming workshops, meetings, and other North Coast MPA monitoring planning activities, please e-mail Erin Meyer (erin.meyer@calost.org) to join the North Coast listserv, and please visit the North Coast MPA Baseline Program page on OceanSpaces.org (<http://oceanspaces.org/program/north-coast-mpa-baseline-program>).

Questions related to proposal requirements should be directed to Sea Grant, DFW, or the Monitoring Enterprise (see Section VI for guidance and contact information). Answers to frequently asked questions, additional details regarding the bidders conference, and any updates relating to this RFP will be available on the California Sea Grant website (<http://www.csgc.ucsd.edu/FUNDING/APPLYING/NorthCoastMPA2014-15.html>). Persons intending to submit proposals in response to this RFP should consult this website frequently for updates and additional information.

A. BACKGROUND

The 1999 Marine Life Protection Act (Chapter 10.5 of the California Fish and Game Code, §2850-2863) directs the state to reevaluate and redesign California's system of MPAs to meet the following goals:

1. Protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems.
2. Help sustain, conserve and protect marine life populations, including those of economic value, and rebuild those that are depleted.
3. Improve recreational, educational and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and manage these uses in a manner consistent with protecting biodiversity.
4. Protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic values.
5. Ensure California's MPAs have clearly defined objectives, effective management measures and adequate enforcement, and are based on sound scientific guidelines.
6. Ensure that the State's MPAs are designed and managed, to the extent possible, as a network.

The MLPA further requires monitoring of MPAs, specifically “monitoring, research, and evaluation at selected sites to facilitate adaptive management of MPAs and ensure that the [MPA] system meets the goals stated in this chapter.”²

MPAs in the North Coast region were adopted by the Fish and Game Commission (FGC) on June 6, 2012 and took effect on December 19, 2012. The next step is to design and implement baseline monitoring. Members of the North Coast community, including North Coast Tribes, elected officials, scientists, ocean users, and interested members of the public provided information that informed the development of this RFP. Input was gathered by the Baseline Program partners and the North Coast Community Liaisons through community meetings, discussion sessions, and other collaborative efforts. These activities enabled the Baseline Program partners to develop a RFP that reflects the unique characteristics of the North Coast region and encompasses the interests and priorities of the local community.

² California Marine Life Protection Act, Fish and Game Code section 2853(c)(3). See also sections 2852(a), and 2856(a)(2)(H).

Similar to other regions, results from the Baseline Program will directly inform long-term monitoring strategies and will guide the launch of collaborative, efficient and cost-effective long-term monitoring planning. While in other regions long-term monitoring plans have been developed at the same time as the Baseline Program, for the North Coast, long-term monitoring planning is expected to commence after the completion of the Baseline Program. The Monitoring Enterprise, in close collaboration with DFW, developed an innovative, scientific framework for monitoring. Following extensive technical evaluation by leading scientists and resource managers, the framework was adopted by the FGC and applied to the North Central Coast and South Coast regions. The framework will also guide long-term MPA monitoring in the North Coast region and will be adapted as needed following completion of the Baseline Program. Long-term monitoring will be designed to reflect the unique characteristics of the North Coast region, while ensuring sufficient consistency to make comparisons among regions and assess the performance of the MPAs statewide.

B. PURPOSES OF THE NORTH COAST MPA BASELINE PROGRAM

The North Coast MPA Baseline Program has two purposes:

- 1. Baseline Characterization** is a summary description, assessment, and understanding of ecological and socioeconomic conditions, or “benchmark”, of the North Coast region, inside and outside MPAs designated pursuant to the MLPA. For the purposes of this Baseline Program, “baseline” is defined as the ecological and socioeconomic conditions at or near the time of MPA implementation. The Baseline Program offers the opportunity to broadly describe and assess these conditions in the region. Baseline characterization can be achieved through collection of new information and evaluation of existing information (see Section I-C), thus providing a benchmark against which future MPA performance can be measured. It also informs long-term monitoring by providing an opportunity for initial investigation and evaluation of draft monitoring metrics.
- 2. Assessment of Initial Ecological and Socioeconomic Changes** involves documenting initial ecological changes and the short-term net socioeconomic benefits or costs following MPA implementation. Some socioeconomic changes, including changes to recreational and commercial fishing and to tribal traditional and subsistence activities, will necessarily occur immediately after MPA implementation. Some ecological changes may occur quickly, but others may not be detectable within the timeframe of the Baseline Program.

C. PROGRAM SCOPE

The following section describes the program scope, including geographic coverage, timeframe, key ecosystems, and human interactions with marine ecosystems. In addition, opportunities for gathering traditional ecological knowledge and evaluating contextual information are described.

GEOGRAPHIC SCOPE

The Baseline Program encompasses the North Coast region, which extends along the California coastline from the California/Oregon border in Del Norte County to Alder Creek near Point Arena in Mendocino. In general,

state waters in the North Coast region extend from the shoreline (mean high tide) out to three nautical miles from shore. However, state waters in the North Coast region also include three nautical miles around offshore rocks, such as Castle Rock and Southwest Seal Rock. The MPA network for the North Coast region currently includes multiple designations: six State Marine Reserves, 13 State Marine Conservation Areas, one State Marine Recreational Management Area, and seven Special Closures. For more information, see “Supporting Information,” Section III-C. All designations are equally important and the Baseline Program does not specify specific locations for data collection. Rather, the Baseline Program seeks to characterize the region as a whole, both inside and outside MPAs.

TEMPORAL SCOPE

Proposals will be accepted for projects of any duration, but proposed projects must be completed no later than early 2017. However, applicants should carefully consider the project duration necessary to achieve stated project goals and should articulate the need for, and benefits of, multi-year approaches, where proposed.

ECOLOGICAL AND SOCIOECONOMIC SCOPE

The Baseline Program focuses on key ecosystems found in the North Coast region, which are referred to herein as “Ecosystem Features.” Ecosystem Features collectively represent and encompass all the marine ecosystems in the region, including the ways in which humans interact with these ecosystems. Consistent with the purposes of the Baseline Program, as described above, all Ecosystem Features are equally important; as such the Baseline Program seeks to include diverse baseline data collection projects to provide comprehensive coverage across all features.

Ten Ecosystem Features have been identified for the North Coast region. These are:

- Estuarine & Wetland Ecosystems
- Rocky Intertidal Ecosystems
- Soft-bottom Intertidal & Beach Ecosystems
- Kelp & Shallow Rock Ecosystems (0-30 m depth)
- Mid-depth Rock Ecosystems (30-100 m depth)
- Soft-bottom Subtidal Ecosystems (0-100 m depth)
- Nearshore Pelagic Ecosystems (>30 m depth) (i.e., water column habitat within state waters)
- Deep Ecosystems (>100 m depth)
- Consumptive Uses
- Non-consumptive Uses

Proposed projects should identify one or more Ecosystem Features on which to focus data collection and analyses. The Baseline Program accords all Ecosystem Features equal priority, but this does not mean that funding will be distributed equally among Ecosystem Features as some are more resource-intensive for data collection. Rather, the Baseline Program seeks to provide the most comprehensive coverage possible across all Ecosystem Features. To guide design of individual proposals, Appendix 1 provides a list of draft monitoring metrics for each of these Ecosystem Features.

TRADITIONAL ECOLOGICAL KNOWLEDGE

For the purposes of the Baseline Program, traditional ecological knowledge (TEK), or indigenous science, is defined as a cumulative body of scientific knowledge that evolves adaptively through time as a result of Tribes and Indigenous Peoples living in and observing the local environment for many generations.³ This knowledge is passed down through generations by cultural transmission, and thus is based on longstanding historical traditions and adapted over time to present-day context. As such, TEK can address both purposes of the Baseline Program (see Section I-B), encompassing knowledge of historical and current ecological and socioeconomic conditions, and of initial changes in these conditions. For example, TEK may extend to knowledge of broad ecological shifts that are linked to changes in environmental conditions, geographic patterns of species and resource use, environmental trends, and perhaps life history information that is currently unknown outside of the tribes (e.g., spawning aggregations, habitat use by species during different life stages). TEK can also inform identification of monitoring metrics, selection of monitoring sites, and monitoring methodology.

Applicants are not required to gather TEK; but if applicants choose to do so, it is within the scope of the Baseline Program. Expanding the scope of the Baseline Program to include TEK is the first step in ongoing efforts to link TEK to long-term monitoring of MPAs. Linking multiple sources of scientific knowledge is still a developing field of research,⁴ but a clear opportunity exists for including TEK as part of the Baseline Program and long-term MPA monitoring. Proposals that include gathering TEK should have a project lead from the associated Tribe(s) or should demonstrate partnership(s) with the associated Tribe(s). Permits and permissions may be required for such projects (see Section II-E for more information).

Locations of certain Native American cultural places, as well as sensitive information about their nature and uses, are considered confidential and protected from public disclosure under various State and Federal laws, including the Freedom of Information Act (5 U.S.C. § 552). Protecting confidential information is an issue of utmost importance to Indigenous Peoples and is recognized in government-to-government consultation protocols and guidelines. However, data collected as part of the Baseline Program will be released to the public, although confidentiality of certain types of information (e.g., locations of cultural gathering sites) must be respected. For more information about the confidentiality policy in relation to TEK, along with sensitive socioeconomic and cultural information, see Section I-E.

For additional references and examples of projects that linked multiple sources of knowledge, please see the North Coast Baseline Program page on OceanSpaces.org (<http://oceanspaces.org/program/north-coast-mpa-baseline-program>).

³ See F. Berkes et al., 2000, *Ecological Applications*, 10; Native Women's Association of Canada, *Environmental Toolkit*, Section 4 (www.nwac.ca/programs/environment); UNESCO/International Council for Science, 2002, *Science and Traditional Knowledge* (www.icsu.org/publications/reports-and-reviews/)

⁴ See P. Nadasdy 1999, *Arctic Anthropology*, 36; J.A. Drew, 2005, *Conservation Biology*, 19

CONTEXTUAL INFORMATION

Existing information, such as fishing patterns, physical oceanography, and water quality can help provide the contextual information needed for the interpretation of new ecological and socioeconomic data. As such, analysis and interpretation of existing information is within scope of the Baseline Program. However, please note that Baseline Program funds cannot be used to collect new contextual information. To view a partial list of historical and existing monitoring programs in the North Coast region, please visit the Baseline Program page (<http://oceanspaces.org/program/north-coast-mpa-baseline-program>) on OceanSpaces.org.

FISHERIES INFORMATION

Fishery-dependent information from both commercial and recreational fisheries can provide important contextual and historical information for interpretation of ecological and socioeconomic data. For example, commercial fish dealers and receivers are required to submit landing receipts to DFW to report poundage, ex-vessel revenue by species or species groups, gear type, area fish were caught, date fish were landed, vessel name, fisherman name, and fish business name on landing receipts. This is just one example of a source of fisheries information. Proposals will be accepted that gather and analyze fisheries data. Such proposals should explicitly describe how these data will be used to address one or both purposes of the Baseline Program. For information about existing fisheries data, please refer to DFW's website on commercial and recreational ocean fishing <http://www.dfg.ca.gov/marine/fishing.asp>.

PHYSICAL OCEANOGRAPHIC INFORMATION

Physical oceanographic information can provide important contextual information for interpreting ecological patterns. Proposals will be accepted that incorporate analysis and interpretation of *existing* physical oceanographic data from historical and existing monitoring programs. For example, the Central and Northern California Coastal Observing System (CeNCOOS) collects information on ocean chemistry and conditions. Such proposals should highlight the way in which these programs and data will be incorporated into analyses to achieve one or both purposes of the Baseline Program.

D. PROGRAM GUIDELINES

ADDRESSING PROGRAM PURPOSES

The Baseline Program seeks to implement the projects that will, collectively, best address the program purposes in the most cost-effective, efficient, and scientifically rigorous way. Proposed projects should include project goals that are explicitly linked to one or both of the Baseline Program purposes and will be evaluated on their individual and collective contribution towards these program purposes.

BASELINE CHARACTERIZATION

A proposal submitted to contribute to Baseline Characterization should be structured to address the following objectives for each North Coast Ecosystem Feature included in the proposed project:

Description of the Ecosystem Feature(s) inside and outside MPAs

One of the objectives of Baseline Characterization is to provide a comprehensive description of Ecosystem Features. These descriptions can include collection of new ecological and/or socioeconomic data (including TEK), should consider draft monitoring metrics (see Appendix 1), and can extend beyond the draft metrics. All proposals should include the rationale for selected metrics. The description of Ecosystem Features should consider habitats, species assemblages, trophic structure, key ecosystem processes, and consumptive and non-consumptive activities (as appropriate).

Proposals should encompass multiple MPAs when possible, and should include sites outside of MPAs. Proposals should include rationale for selected MPAs and reference or control sites that contribute to a region-wide baseline characterization or assessment of initial changes.

Assessment and interpretation of the condition of the Ecosystem Features

The other objective of Baseline Characterization is to assess conditions of Ecosystem Features, which requires historical and contextual information to interpret patterns and trends observed in the data. Historical information includes any ecological and socioeconomic information that documents conditions prior to MPA implementation that can illuminate past trends and can help interpret current conditions. Contextual information, such as oceanographic data (e.g., location and strength of upwelling events; status of oceanographic cycles such as the El Niño Southern Oscillation and the Pacific Decadal Oscillation), water quality data and economic data, can help provide an understanding of the drivers and correlates of ecosystem condition.

ASSESSMENT OF INITIAL ECOLOGICAL AND SOCIOECONOMIC CHANGES

A proposal submitted to contribute to assessment of initial ecological and socioeconomic changes following MPA implementation should address one or more of the following objectives:

Assessment of initial ecological changes

One objective of assessing initial ecological changes is to describe changes (or lack of changes) observed inside and outside MPAs. Assessments should include interpretation of observed initial ecological changes through incorporation of historical and contextual information to evaluate the extent to which the observed changes may be attributable to MPA implementation.

Assessment of initial effects of MPA implementation on consumptive and non-consumptive user groups

This includes identification and measurement of short-term net benefits or costs of MPA implementation to consumptive and non-consumptive user groups likely to be most affected by the establishment of the MPAs, paying careful attention to controlling for potential confounding factors. A project need not consider all user groups but the proposed research should employ qualitative and/or quantitative methods and address how the project outputs and data may be used in a broader analysis that considers the net benefits or costs across multiple user groups. Assessments should also analyze and describe the degree to which any observed changes are attributable to MPA implementation, for example, by considering additional contextual information.

INFORMING LONG-TERM MONITORING

When possible, standardized or established methods should be employed to provide a robust foundation for long-term monitoring. In addition, applicants should describe how the proposed approach, methods and analytical tools facilitate implementation of long-term monitoring. Proposals are also encouraged to provide initial evaluation of the draft monitoring metrics (see Appendix 1) and recommendations for refinements or alternatives to these metrics, including recommendations for prioritization among metrics. In addition, though not required, proposals may articulate how the proposed data collection, methods or results may contribute useful information for multiple ocean resource management mandates (e.g., fisheries management, long-term tracking of climate effects on marine ecosystems).

BUILDING PARTNERSHIPS AND INTEGRATING LOCAL EXPERTISE

For selected projects to be as cost-effective as possible and to contribute efficiently to achieving the Baseline Program purposes, partnerships are encouraged to leverage and take best advantage of existing resources (including physical resources such as boats and survey equipment), and existing monitoring programs in the region. Proposals that include partnerships should describe the rationale for the partnership, the intended benefits of the partnership and, if appropriate, how existing data will be used. In addition, proposals that include project partners who are not project leads can choose to document the level of participation or support of partnering organizations (see Sections II-D and II-E).

E. PROJECT DELIVERABLES

Project leads are responsible for the production and delivery of the following project products: 1) data and metadata; 2) annual progress report(s); and 3) a final report.

DATA AND METADATA

Data and associated metadata must be delivered to DFW, OPC, Sea Grant and OST before or as part of the completion of the project. [OceanSpaces.org](https://oceanspaces.org) shall serve as the formal vehicle for delivery of all data associated with funded projects, the Data Uploading Tool within OceanSpaces being the specific mode of transmission of all data assets. Final project payment will not be made until data and metadata have been received.

All projects should employ a standardized reporting protocol, which will be developed following project selection with awarded applicants and with guidance from OST. Data deliverables may include still or video images, text reports, databases, spreadsheets, maps and GIS layers. We anticipate that projects may develop multiple data deliverables; each should be clearly identified in the proposal. Sufficient metadata should also be provided to fully describe the data, collection methods and data reporting structure.

Upon delivery to DFW, OPC, Sea Grant, and OST and thereafter, all data and metadata will be available to the public and other researchers in accordance with confidentiality and sensitive information protection practices described below. Investigators, however, will retain the right to publish results before and after project completion. Project data may be used to support additional analyses, and may be included or summarized in subsequent reports and other materials, in print and/or electronically.

CONFIDENTIALITY

Where privacy issues or other sensitivities will or may arise, these must be noted explicitly in project proposals, along with a proposed remedy to enable delivery of data with appropriate accommodations to account for the sensitivity. This may include, for example, delivering data only to DFW and under protection of a signed non-disclosure agreement, or developing a protocol to anonymize observations as needed to enable sharing collected data with researchers and government agencies. Confidentiality is especially important to consider when working with socioeconomic information (i.e., produced through interviews with fishermen), locations of Native American cultural places (i.e., gathered through TEK), and locations of populations of protected or sensitive organisms (i.e., noted during field surveys). Applicants should include a description of their anticipated method for protecting confidential and/or sensitive information, if relevant to their proposed project (see Section II-D).

Note: Project Leader(s) will be required to execute a non-disclosure agreement with DFW for awarded projects that require DFW confidential information (e.g., landings, license information) and/or may be asked to sign a mutually agreed-upon memorandum of understanding (MOU) regarding data expectations (e.g., data housing, maintenance, protection) for awarded projects that generate their own confidential information as part of the scope of work. Projects will also be required to accept the Data Policy on OceanSpaces.org upon data delivery.

ANNUAL PROGRESS REPORTS

For projects exceeding 16 months duration, annual progress reports are required at 12-month intervals following the contract start date. Annual progress reports should briefly describe progress towards specified project goals, and provide timelines (progress in meeting milestones) for work completed and remaining. They should also provide updated financial information including budgeted costs and actual expenditures and justifications for variances. Incurred or anticipated budget (positive or negative) variances in excess of 10% of the category (e.g., salaries, supplies, etc.) budgeted amount must be approved by the Sea Grant Office.

FINAL REPORT

Each project is required to produce and deliver a final report to California Sea Grant. Final reports must include the following sections:

- 1) A narrative accounting of the project's progress towards Baseline Program purposes and project goals.
- 2) A financial report showing budgeted and actual costs and variances, with explanations of any positive or negative variances of greater than 10% of the budgeted amount.
- 3) For projects including baseline characterization components, a technical report, which should include appropriate descriptions of methods, data summaries, analyses and interpretation to describe, assess and understand implementation conditions. Reports should include explicit reference to the baseline characterization purposes and priorities and the supporting results, analyses and interpretation required to meet each program priority. Reports should also include MPA- or site-level characterizations and a regional assessment.

- 4) For projects including assessment of initial ecological or socioeconomic changes following MPA implementation, a technical report, which should include clear descriptions of methods, data summaries, analyses and interpretation to describe initial ecological changes and/or the short-run net benefits or costs to consumptive and non-consumptive users.
- 5) An Executive Summary, summarizing methods, key findings and conclusions in 1-2 pages of text and, if needed, an additional 1-2 pages of figures. The Executive Summary should be written to be appropriate for broad public release (e.g., posting on OceanSpaces.org, provision to the FGC).

Final reports will be reviewed by Sea Grant, DFW and the Monitoring Enterprise. The sections of final reports consisting of baseline characterization reports and/or reports of initial changes following MPA implementation will also be subject to scientific peer review. Final reports should be revised in accordance with reviewer comments before final submission and acceptance by Sea Grant, in consultation with Baseline Program partners. Final project payments will be made following receipt and acceptance of all deliverables.

Following completion of all projects and receipt and acceptance of all final project reports, a synthesis of major findings will be prepared and a final public summary report will be produced. Project Leaders will be given the opportunity to review a draft of the summary report.

II. APPLICATION AND SUBMISSION INFORMATION

A. DOWNLOAD APPLICATION PACKAGE

The entire application package, including the documents referenced below, is available online through California Sea Grant's website: <http://www.csgc.ucsd.edu/>

B. ELIGIBILITY INFORMATION

ELIGIBLE APPLICANTS

Individuals associated with institutions of higher education, nonprofit organizations, commercial organizations, and federal, state, local and tribal governments are all eligible to submit proposals. If you have any questions regarding eligibility, please contact Shauna Oh (sgmpaproposal@ucsd.edu).

COST-SHARING OR MATCH REQUIREMENT

Projects must include at least a 25% match (cash and/or in-kind) from applicants. In-kind contributions must be documented and auditable. Larger matches or additional cost-sharing arrangements are encouraged and will be taken into consideration when evaluating proposals. (See Section IV-A for more information).

C. PROPOSAL FORMAT

Preliminary proposals are *not required*. Only full proposals will be considered. Proposals should include all required elements; incomplete proposals may not be accepted.

Full proposals must be submitted using the eSeagrant system (see Section II-F). The number of pages must be in accordance with the page limitation specified under “Required Elements,” Section II-D. All files in the full proposals when printed must measure 8.5” x 11” with an 11 point, san serif font (Arial or Helvetica).

D. REQUIRED ELEMENTS

COVER SHEET

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. If your proposal encompasses more than one campus, please obtain approval from each campus and all required signatures. The completed and signed cover sheet(s) must be converted into a single PDF.

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.)

PROJECT SUMMARY

The project summary presents a concise description of the proposal research in a form useful to a variety of readers not requiring detailed information. A project summary form is located in eSeagrant (California Sea Grant’s online proposal submission website - see Section II-F). Instructions are available in eSeagrant that should help applicants to accurately complete the form. Please follow them carefully - the project summary is the most widely consulted description of your project.

PROJECT NARRATIVE

The project narrative must be submitted as a single PDF file. Proposal format may vary, however proposals should include all the information listed below. The proposal narrative should not exceed 15 pages (excluding references, illustrations, charts, tables, and figures) and should include the following elements:

- *Project Title* – Project titles should be constructed to provide as much information as possible but must not exceed two lines (approximately 16 words).
- *Project Leader(s) and Associated Staff* - The roles of the project leader(s) and associated staff should be included.
- *Project Goals and Objectives* – This section should identify the scope of the proposed project in relation to the Baseline Program purposes and priorities identified above.
- *Rationale* – The project rationale should articulate the significance of the proposed project in contributing towards the Baseline Program purposes. Proposals that include partnerships should clearly describe the rationale for the partnership and the intended benefits of the partnership.

- *Approach to be Used (Plan of Work)* – This section should clearly detail and justify the proposed methods and analytical approaches, and should explicitly consider the utility of existing information and the need for new data collection (if proposed). Where projects propose new data collection, a rationale for the proposed temporal and spatial scale of sampling should be provided, including rationale for selected MPAs and reference or control sites. Where existing information will be incorporated to facilitate interpretation of results, these data should be explicitly identified and their use explained. A description of the intended mechanism or analytical framework to provide a regional assessment of the studied Ecosystem Feature(s) should also be included.
- *Data Confidentiality Approach (if applicable)* – This section should explicitly note privacy issues or other sensitivities arising from proposed methods and describe remedies proposed to enable sharing and delivery of data with appropriate accommodations to account for the sensitivity.
- *Outcomes and Deliverables* – Project outcomes should be clearly related to the initial project goals, which in turn should be linked to the Baseline Program purposes and priorities. A clear description of the intended project deliverables should be provided, including description of final reports, data and other products, and associated timelines for development and delivery.
- *Milestones Chart* – Projects may be proposed for any duration within the time period between early 2014 and 2017. A graphical representation of the total project duration and sequence of key steps or tasks over the course of the project, with associated timing, should be provided with clear justification for the duration of each key step or task (see example on Sea Grant website).
- *References* – List all included references alphabetically following the list format from the Chicago Manual of Style.

BUDGET AND BUDGET JUSTIFICATION

For each budget year, create a new budget worksheet in eSeagrant. Be prepared to enter salaries, wages, and fringe benefits for all personnel associated with the project. Also collect a list of permanent equipment to be acquired through the proposal, along with expected costs for expendable supplies, publication costs, and travel. For specific questions regarding subawards or contracts, please contact Rose Madson at (858) 534-4601 or sgbudget@ucsd.edu.

All budget items/sections will require justification. Please review the online help in eSeagrant to see what is expected as justification for each section.

A budget form (in Excel) available on California Sea Grant's website (<http://www.csgc.ucsd.edu/FUNDING/APPLYING/NorthCoastMPA2014-15.html>) may help in planning your budget. However, please remember that your budget submission and justification must be completed using the online form in eSeagrant. Do not submit the Excel worksheet as your final budget (<http://www.csgc.ucsd.edu/FUNDING/APPLYING/NorthCoastMPA2014-15.html>).

Research conducted with OPC funds must limit the indirect cost (F&A; facilities & administrative) rate to 25% or less. However, UC institutions should use a 15% SWB (salaries, wages and benefits) rate per waiver 07R-202.

PARTIAL FUNDING OF SELECTED PROJECTS

Proposals may be selected to receive partial funding (i.e., less than was originally requested in the proposal). Additionally, Project Leaders may be requested to consider changing aspects of their proposals to better contribute to achieving the Baseline Program purposes.

CURRENT AND PENDING SUPPORT

Applicants must provide information on all current and pending support where this is relevant to conducting the proposed project. Using the form provided in eSeagrant, please list other current and pending projects that are associated with investigators and relevant to the work proposed.

CURRICULUM VITAE/RESUME

Applicants must provide curriculum vitae or resume (for all key personnel: project leaders and co-project leaders) that should include relevant experience and skills. Each CV or resume should not exceed two, single-spaced pages. Each project leader and co-project leader should have an investigator record created in eSeagrant. It is possible that some investigators already have basic information stored in the Sea Grant database. A search by email address may help find those matching records. If no record is found, please fill out a new record. In all cases, please upload a CV/resume through that investigator's form.

E. ADDITIONAL CONSIDERATIONS

PROJECT PERMITS AND PERMISSIONS

Project Leaders are responsible for to determine what, if any, permits or permissions are required to carry out the proposed work. Applicants are not required to apply for permits or permissions in advance of submitting proposals. Permitting fees can be included within projects budgets. (Please note that permitting fees paid before awards are issued cannot be reimbursed.)

Project proposals that require the handling of organisms, disturbing or placing sampling equipment on the seafloor, require entry into special closures, or accessing an area via state or county park lands must acquire the appropriate state, local or federal permits. If your proposed project is likely to require state and/or federal permits or other permissions, please note that these can take considerable time to obtain. We encourage applicants to contact DFW with questions related to state permits, such as a Scientific Collecting Permit (SCP). An SCP is required to take, collect, capture, mark, or salvage for scientific, educational, and non-commercial propagation purposes, mammals, birds and their nests and eggs, fishes, and invertebrates. For more information about permits that may be required by the DFW, please visit the Collecting and Research Take Permits section of the DFW website: http://www.dfg.ca.gov/wildlife/nongame/research_permit/.

Project proposals that include working with individuals providing information related to TEK may be required to acquire permits and other permissions (e.g., informed consent agreements) from those individuals and from the Tribal Council(s) of affected Tribe(s), and from Institutional Review Board(s). We encourage applicants to contact the Tribes included in the proposal with questions related to permissions and permits that may be required.

Please note that additional permits may be required from other agencies. Applicants are responsible for identifying all permits and permissions required for their proposed projects. For a partial list of websites where more information can be found about permits, please visit the North Coast Baseline Program page on OceanSpaces.org (<http://oceanspaces.org/program/north-coast-mpa-baseline-program>).

Applicants should also ensure that they have permission from appropriate landowners to access or pass through private land(s). In recognition of the importance of coastal lands to Tribes and Tribal communities within the North Coast region, proposed projects that include sites within tribal lands, or that involve entering such lands to gain access to coastal sites, are strongly encouraged to reach out to and partner with the associated tribe(s) to request any permits and/or permissions required to access such lands.

LETTERS OF SUPPORT FROM PROJECT PARTNERS

Project partners can choose to document their level of participation or support (e.g., use of boats or other equipment, access to non-public databases, dollar amount of financial or in-kind support, etc.). If letters of support are included in the proposal application, please consolidate all letters into one PDF for uploading to eSeagrant.

F. SUBMISSION INSTRUCTIONS AND DEADLINES

Proposals are due in the California Sea Grant office by 5:00 p.m. (PDT) on August 14, 2013. Late proposals will not be accepted. To submit a proposal, applicants must use the eSeagrant system (https://eseagrant.ucsd.edu/RFP/proposals/cpanel_login.php). Project Leaders should register for an eSeagrant account if they do not already have one. The registration process will generate an email with a randomized password. Please use the email entered during the registration process and the password sent in the registration email to log-in eSeagrant. Once logged in successfully, applicants can change the eSeagrant password.

To create a new application, please "choose a new project" and select "NCMPA Baseline Program". A new page with instructions will appear. To navigate through eSeagrant, please click on the arrows appearing on the right side of the window.

eSeagrant provides separate pages to fill out a project summary, yearly budget(s), budget justification, and current and pending support. These pages may require additional calculations and pop-up pages, so please allow your browser to display pop-up windows and enable JavaScript.

eSeagrant provides a section to upload cover sheet(s), project narratives and support letters, if any. These pages must be converted to PDFs before uploading to eSeagrant. Any support letters must be consolidated into one PDF.

Upon submission of your completed proposal, a confirmation email will be sent, indicating receipt of the proposal package. If a confirmation email is not received within 24 hours, please contact Sea Grant (see below) via telephone ASAP to confirm status of proposal submission.

For questions regarding the eSeagrant system or if you have technical problems with submission, please contact Roberto Chavez at: (858) 534-4441 or rachavez@ucsd.edu.

III. PROPOSAL DEVELOPMENT SUPPORT AND ADDITIONAL INFORMATION

A. BIDDERS CONFERENCE

The North Coast MPA Baseline Program Bidders Conference will be held on May 9, 2013 from 4:00-7:30 p.m. at the Humboldt Bay Aquatic Center (Room 203), 921 Waterfront Drive, Eureka, CA. Staff from Sea Grant, OST's Monitoring Enterprise, and DFW will use this opportunity to discuss more fully the objectives of the program with participants. The conference will be an opportunity for applicants to ask specific questions or request additional information and aims to facilitate partnerships and information exchange among applicants and collaborators, including those involved in existing monitoring programs in the region. This is also an opportunity for applicants to explore the eSeagrant website and the data upload tool on OceanSpaces.org.

All potential applicants are strongly encouraged to attend. Potential public partners, including fishermen and other citizens interested in taking part in monitoring efforts, are also encouraged to attend to explore potential partnership opportunities. Please RSVP if you plan to attend the bidders conference by sending an e-mail to sgmpaproposal@ucsd.edu by 5:00 p.m. on May 1, 2013 (please use "Bidders Conference RSVP" as the subject line).

B. ADDITIONAL ACTIVITIES

The Monitoring Enterprise will host additional events as needed throughout the RFP open period. These activities may include informational webinars, office hours, and informal discussion sessions. To stay informed of upcoming activities, please visit the North Coast MPA Baseline Program page on OceanSpaces.org (<http://oceanspaces.org/program/north-coast-mpa-baseline-program>).

To bring together all those interested in North Coast MPA monitoring, the Monitoring Enterprise developed a North Coast Monitoring Community page on OceanSpaces (<http://oceanspaces.org/organization/north-coast-monitoring-community>). This new online group serves as a hub for planning activities and resources, including announcements of upcoming meetings, and as the new, interactive community message board.

For more information and to sign up to receive Monitoring Enterprise North Coast listserv postings, please contact Erin Meyer (erin.meyer@calost.org).

C. SUPPORTING INFORMATION

North Coast MPA monitoring planning process (*including information on community meetings and other community engagement activities to develop the monitoring metrics in Appendix 1*)

<http://oceanspaces.org/program/north-coast-mpa-baseline-program>

<http://monitoringenterprise.org/where/northcoast.php>

California MLPA Master Plan for Marine Protected Areas

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

North Coast Study Region Regional Profile

<http://www.dfg.ca.gov/mlpa/ncprofile.asp>

North Coast Final Environmental Impact Report (*includes detailed descriptions, maps, objectives, and rationale for proposed MPAs*)

http://www.dfg.ca.gov/mlpa/impact_nc.asp#final

Final Statement of Reasons for Regulatory Action, including approved regulatory language

<http://www.fgc.ca.gov/regulations/2012/632ncfsor.pdf>

Additional background information for the North Coast MLPA planning and regulatory processes

<http://www.dfg.ca.gov/marine/mpa/planningprocess.asp>

IV. PROPOSAL REVIEW INFORMATION

A. EVALUATION CRITERIA

Proposals will be evaluated against the following criteria:

- 1) *Relevance and applicability to the purposes and priorities of the North Coast MPA Baseline Program*
Assessment of alignment of project goals with the Baseline Program purposes and priorities, including efficiencies in data collection to address multiple program priorities (see Sections I-B and I-D)
- 2) *Scientific/technical merit*
Assessment of the conceptual framing and technical approaches proposed to achieve project goals (see Section II-D)
- 3) *Partnerships and local expertise*
Assessment of whether the proposal takes best advantage of the knowledge and capacity existing within the North Coast region, through demonstrated knowledge, partnerships, collaborations or other mechanisms (see Section I-D)

4) *Project costs and funding leverage*

Assessment of cost-effectiveness, including project cost relative to Baseline Program purposes (see Sections II-B and II-D)

5) *Qualifications of project lead(s) and demonstrated access to facilities and resources*

Assessment of whether the applicants possess the necessary knowledge, experience, training, facilities and resources to complete the project

6) *Project management experience, expertise, and skills*

Assessment of multiple facets of project management, including a proven track record in completing contracts on-time and within budget, experience managing and working in multi-party, multidisciplinary teams, and communication skills. Communication skills include the ability to provide clear and effective communication of project goals, approaches and results to diverse audiences interested in monitoring information.

B. REVIEW PROCESS

Applications must be submitted to the California Sea Grant College Program Office no later than 5:00 p.m. (PDT) on August 14, 2013 in order to be considered. Selection is competitive. Proposals will be subject to a two-step peer review process, led by California Sea Grant, to develop recommendations for project selection and funding. Independent, peer reviews will be sought to provide input into the scientific and technical merit of individual proposals and alignment with the criteria above. A review panel (6-8 additional independent experts) will then be convened to review all proposals, consider the input received from the peer reviews and recommend the projects or project components for funding, and the funding level for each. Both independent peer reviewers and members of the review panel will be anonymous. Verbatim copies of peer reviews, without reviewer names and affiliations, will be sent to applicants. Reviewers will be subject-matter and North Coast region experts selected by Sea Grant, in consultation with staff of OPC, DFW, and the Monitoring Enterprise. Reviewers must not have a known financial interest in the outcome of submitted proposals. Project selection will consider the individual and collective contribution of each project to achieving the Baseline Program purposes. Final funding decisions will be made jointly by staff of Sea Grant, OPC, DFW, and the Monitoring Enterprise. All applicants will be notified of the selection decision in October 2013.

C. SELECTION PROCESS

The Baseline Program management team shall award in rank order based on the peer review recommendations unless the proposal is justified to be out of rank order based on any of the following criteria: availability of funds, cost-effectiveness, duplication of other projects, program priorities, and applicant's prior performance.

Applicants 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.

If selected, work plans will be subject to posting on the Sea Grant website.

V. AWARD ADMINISTRATION

A. AWARD NOTICES

August 14, 2013 - Applications due at California Sea Grant College Program

October, 2013 - A member of the Baseline Program management team will notify successful applicants by email shortly after decisions are made

November, 2013 - Funds awarded for selected applicants

Early, 2014 – Selected proposals published on the Sea Grant website

B. REPORTING

Refer to “Project Deliverables,” Section I-E, for more information about reporting and data-sharing requirements.

VI. PROGRAM CONTACTS

Questions about the proposal submission requirements or other aspects of the RFP process should be directed to the individuals listed below. Answers to frequently asked questions will be posted on the Sea Grant website. Persons intending to submit proposals in response to this RFP should check the Sea Grant website frequently for any additional information.

CALIFORNIA SEA GRANT

Assistance with overall RFP process and information about the bidders conference

Shauna Oh, Associate Director, California Sea Grant College Program

Phone: (858) 822-2708

Email: sgmpaproposal@ucsd.edu

RSVP for the bidders conference

Phone: (858) 534-0577

Email: sgmpaproposal@ucsd.edu

General Proposal Help (assistance with forms, format and submission)

Carol Bailey-Sumber, Grants Specialist

Phone: (858) 534-7855

Email: sgmpaproposal@ucsd.edu

Budget Help

Rose Madson, Business Office

Phone: (858) 534-4601

Email: sgbudget@ucsd.edu

Computer/eSeagrant-related Help

Roberto Chavez, Programmer

Phone: (858) 534-4441

Email: rachavez@ucsd.edu

MPA MONITORING ENTERPRISE

Assistance with Baseline Program purposes and priorities, and additional information on North Coast MPA monitoring planning

Erin Meyer, Associate Scientist

Phone: (510) 350-1893

Email: erin.meyer@calost.org

DEPARTMENT OF FISH AND WILDLIFE

Assistance with DFW programs, priorities, or data:

Adam Frimodig, Environmental Scientist, Marine Region

Phone: (707) 445-5397

Email: Adam.Frimodig@wildlife.ca.gov

Questions related to DFW permitting:

Brian Owens, Environmental Scientist, Marine Region

Phone: (650) 631-6786

Email: Brian.Owens@wildlife.ca.gov

OCEAN PROTECTION COUNCIL

The California Ocean Protection Council (OPC) was created to help protect, conserve, and maintain healthy coastal and ocean ecosystems and the economies they support. The OPC authorized funds for baseline data collection in the coastal regions of the MLPA process, and disburses these funds to California Sea Grant as necessary to solicit and fund individual projects as part of the Baseline Program. For more information about OPC's authorization and associated requirements, please contact:

Clare O'Reilly, Project Manager

Phone: (510) 286-0332

Email: coreilly@scc.ca.gov

Appendix 1: Draft North Coast MPA Monitoring Metrics for Baseline Characterization and Assessment of Initial Ecological and Socioeconomic Changes

The following pages contain draft MPA monitoring metrics identified in collaboration with the North Coast community and North Coast tribes, including local experts and members of the scientific community. We anticipate refining these metrics following the completion of the Baseline Program prior to inclusion in the long-term monitoring plan. Applicants are encouraged to provide initial evaluation of the draft metrics and recommendations for refinements or alternatives to these metrics, including recommendations for prioritization among metrics.

The Baseline Program focuses on key ecosystems found in the North Coast region, which are referred to herein as “Ecosystem Features.” Ecosystem Features were chosen to collectively represent and encompass the marine ecosystems in the region, including the ways in which humans interact with these ecosystems. Ten Ecosystem Features have been identified for the North Coast region. These are:

- Estuarine & Wetland Ecosystems
- Rocky Intertidal Ecosystems
- Soft-bottom Intertidal & Beach Ecosystems
- Kelp & Shallow Rock Ecosystems (0-30 m depth)
- Mid-depth Rock Ecosystems (30-100 m depth)
- Soft-bottom Subtidal Ecosystems (0-100 m depth)
- Nearshore Pelagic Ecosystems (>30 m) (i.e., water column habitat within state waters)
- Deep Ecosystems (>100 m)
- Consumptive Uses
- Non-consumptive Uses

The species included within this appendix as draft metrics were identified through a variety of sources:

- Highlighted during community meetings and interviews as local monitoring priorities;
- Identified by local scientists and experts as potential metrics of ecosystem health or change;
- Included in the Marine Life Protection Act (MLPA) Master Plan by the Science Advisory Team (SAT) as the species most likely to benefit from MPAs in the North Coast study region;
- Recognized as having important ecological roles (e.g., keystone species, top-down or bottom-up regulator, potential indicator of climate change); and
- Predicted to be fast or slow MPA responders.

Additional species were added to the list, as needed, to assure representation from a broad range of life history characteristics, as well as inclusion of fished species that are likely to show an MPA response, and species that are not fished for comparison with fished species.

The tables on the following 11 pages present the draft monitoring metrics for and descriptions of each Ecosystem Feature.

Draft North Coast MPA Monitoring Metrics for Estuary and Wetland Ecosystems

Estuarine and wetland ecosystems within the North Coast region encompass soft-bottom habitats, including tidal mudflats, coastal marsh, eelgrass beds and areas of open water. The shoreward boundary of this Ecosystem Feature is drawn at the known extent of tidal influence and known extent and presence of saltwater species and associated vegetation, consistent with the MPA planning process.

Category	Scientific Name	Common Name
Algae and Plants	<i>Ulva</i> spp.	Sea lettuce
	<i>Zostera</i> spp.	eelgrasses
Birds	<i>Anas</i> spp.	dabbling ducks, especially American Wigeons, Cinnamon Teals, Gadwalls, Green-winged Teals, Mallards, Northern Pintails, and Northern Shovelers
	<i>Aythya</i> spp.	diving ducks, especially Lesser Scaups, Redhead Ducks, Ring-necked Ducks, Greater Scaups, Canvasbacks
	<i>Branta bernicla nigricans</i>	Black Brandt (Pacific Black Brant)
	<i>Larus occidentalis</i>	Western Gull
	Scolopacidae	shorebirds, especially Marbled Godwits, Least Sandpipers, Western Sandpipers, and Whimbrels
Fishes	<i>Acipenser</i> spp.	sturgeon
	Embiotocidae	surfperches, especially Shiner surfperch and Striped seaperch
	<i>Clupea pallasii</i>	Pacific herring
	Gobiidae	gobies
	<i>Myliobatis californica</i>	Bat ray
	<i>Oncorhynchus</i> spp.	salmonids
	<i>Paralichthys californicus</i>	California halibut
	Pleuronectidae	English sole, Starry flounder
	<i>Sebastes</i> spp.	rockfishes, especially Black rockfish, Blue rockfish, Copper rockfish, and Grass rockfish
<i>Triakis semifasciata</i>	Leopard shark	
Invertebrates	Bivalvia	clams and oysters, especially Butter clams, cockles, Geoducks, Olympia oysters, Pacific littleneck clams, Pacific gaper clams, and Razor clams
	<i>Cancer magister</i>	Dungeness crab
	<i>Neotrypaea (Callinassa) californiensis</i>	Ghost shrimp
	<i>Upogebia pugettensis</i>	Mud shrimp
	<i>Urechis caupo</i>	Fat Innkeeper worm
Mammals	<i>Phocoena phocoena</i>	Harbor porpoise
	Pinnipedia	seals and sea lions, especially Harbor seals and California sea lions

Draft North Coast MPA Monitoring Metrics for Rocky Intertidal Ecosystems

Rocky intertidal ecosystems within the North Coast region encompass areas of rock substrate within the zone between mean high water and mean lower low water, including seaweeds (isolated offshore rocks), rocky cliffs, boulder rubble, exposed wave-cut platforms, rocky islets and sheltered rocky shores.

Category	Scientific Name	Common Name
Algae and Plants	Alariaceae	especially <i>Eularia</i> spp. and feather boa kelp
	Biogenic habitat	especially encrusting, foliose, and turf algae
	Fucaceae	rock weeds
	Laminariaceae	especially kombu and Sea palm
	<i>Palmaria palmata</i>	dulse
	<i>Phyllospadix</i> spp.	Surf grasses
	<i>Porphyra</i> spp.	nori
Birds	Alcidae	especially and Rhinoceros Auklets
	<i>Haematopus bachmani</i>	Black Oystercatcher
	<i>Histrionicus histrionicus</i>	Harlequin Duck
	<i>Larus occidentalis</i>	Western Gull
	Scolopacidae	shorebirds, especially Black Turnstones and Surfbirds
Fishes	<i>Oligocottus</i> spp.	sculpins, especially Fluffy sculpins and tidepool sculpins
	<i>Sebastes</i> spp.	rockfishes, especially Black rockfish, Blue rockfish, Copper rockfish, and Grass rockfish
	Stichaeidae	pricklebacks, especially Monkeyface prickleback and Rock prickleback
Invertebrates	Biogenic habitat	especially bryozoans and tunicates
	<i>Haliotis</i> spp.	abalone, especially Red abalone
	<i>Mytilus californianus</i>	California mussel
	<i>Phragmatopoma</i> spp.	polychaete worms
	<i>Pisaster ochraceous</i>	Ochre sea star
	<i>Pycnopodia helianthoides</i>	Sunflower sea star
	<i>Strongylocentrotus</i> spp.	sea urchins
Mammals	Pinnipedia	seals and sea lions, especially California sea lions, Harbor seals, and Steller sea lions

Draft North Coast MPA Monitoring Metrics for Soft-bottom Intertidal and Beach Ecosystems

Soft-bottom intertidal and beach ecosystems within the North Coast region encompass wave-dominated areas of sand and gravel substrate occurring between mean high water and mean lower low water.

Category	Scientific Name	Common Name
Birds	Alcidae	especially Common Murres and Marbled Murrelets
	Charadriidae	especially Black-bellied Plovers and Western Snowy Plovers
	<i>Larus occidentalis</i>	Western Gull
	<i>Pelecanus occidentalis</i>	Brown Pelican
	Scolopacidae	shorebirds, especially Marbled Godwits, Sanderlings, and Whimbrels
Fishes	<i>Atherinopsis californiensis</i>	Jack smelt
	Bothidae	sanddabs
	Embiotocidae	surfperches, especially Barred surfperch, Calico surfperch, and Redtail surfperch
	Osmeridae	smelt, especially Night smelt, Surf (Day) smelt
	Pleuronectidae	flatfishes/flounders, especially English sole, Starry flounder, Petrale sole, Pacific Dover sole, and Pacific sand sole
	<i>Sebastes</i> spp.	rockfishes, especially Aurora rockfish, Dark-blotched rockfish, Split-nose rockfish, and Short-belly rockfish
Invertebrates	<i>Cancer magister</i>	Dungeness crab
	<i>Emerita analoga</i>	Sand crab
	<i>Siliqua patula</i>	Razor clam
Mammals	<i>Phoca vitulina</i>	Harbor seal

Draft North Coast MPA Monitoring Metrics for Kelp and Shallow Rock Ecosystems (0-30 m depth)

Kelp and shallow rock ecosystems within the North Coast region encompass benthic habitats composed of rocky reefs at depths of zero to 30 meters and the habitat provided by canopy forming kelps within the same depth range.

Category	Scientific Name	Common Name
Algae and Plants	Biogenic habitat	especially encrusting algae, sub-canopy kelps, and turf algae
	Laminariaceae	especially Bull kelp and Giant kelp
	Lessoniaceae	especially <i>Ecklonia</i> spp. and <i>Eisenia arborea</i>
Birds	<i>Brachyramphus marmoratus</i>	Marbled Murrelet
	<i>Cephus columba</i>	Pigeon Guillemot
	<i>Phalacrocorax</i> spp.	cormorants, especially Brandt's Cormorant and Pelagic Cormorant
Fishes	Embiotocidae	surfperches
	Hexagrammidae	especially Kelp greenling, Lingcod, Painted greenling, and Rock greenling
	<i>Scorpaenichthys marmoratus</i>	Cabezon
	<i>Sebastes</i> spp.	rockfishes, especially Black rockfish, Black and yellow rockfish, Blue rockfish, Brown rockfish, Copper rockfish, Gopher rockfish, Kelp rockfish, Olive rockfish, Quillback rockfish, and Yelloweye rockfish
Invertebrates	Biogenic habitat	especially encrusting bryozoans, sponges, and tunicates
	<i>Cancer magister</i>	Dungeness crab
	<i>Crassedoma giganteum</i>	Rock scallop
	<i>Haliotis</i> spp.	abalone, especially Red abalone
	<i>Mytilus californianus</i>	California mussel
	<i>Parastichopus californicus</i>	Giant California sea cucumber
	<i>Pisaster</i> spp.	Pisaster sea stars
	<i>Pycnopodia helianthoides</i>	Sunflower sea star
Mammals	<i>Phocoena phocoena</i>	Harbor porpoise
	Pinnipedia	seals and sea lions, especially California sea lions, Harbor seals, and Steller sea lions

Draft North Coast MPA Monitoring Metrics for Mid-depth Rock Ecosystems (30-100 m depth)

Mid-depth rock ecosystems within the North Coast region encompass benthic habitats composed of rocky reefs, rock outcrops, and underwater pinnacles at depths of 30 to 100 meters.

Category	Scientific Name	Common Name
Algae and Plants	Biogenic habitat	especially encrusting algae
Birds	Alcidae	especially Cassin's Auklet, Common Murre, and Rhinoceros Auklet
	<i>Larus occidentalis</i>	Western Gull
Fishes	<i>Ophiodon elongatus</i>	Lingcod
	<i>Pleuronichthys coenosus</i>	C-O sole (turbot)
	<i>Sebastes</i> spp.	rockfishes, especially Black rockfish, Blue rockfish, Bocaccio, Canary rockfish, China rockfish, Copper rockfish, Flag rockfish, Gopher rockfish, Quillback rockfish, Vermilion rockfish, and Yelloweye rockfish
Invertebrates	Biogenic habitat	especially structure-forming species
	<i>Cancer</i> spp.	rock crabs, especially Dungeness crab
	<i>Haliotis rufescens</i>	Red abalone
	Hydrocorallinae	hydrocorals
	<i>Lopholithodes foraminatus</i>	Brown box crab
	<i>Loxorhynchus grandis</i>	sheep (spider) crab
<i>Metridium</i> spp.	plumose anemones	

Draft North Coast MPA Monitoring Metrics for Soft-bottom Subtidal Ecosystems (0-100 m depth)

Soft-bottom subtidal ecosystems within the North Coast region encompass benthic habitats composed of sediment substrates occurring between mean lower low water a depth of 100 meters.

Category	Scientific Name	Common Name
Algae and Plants	Biogenic habitat	encrusting and habitat-forming algae
Fishes	Embiotocidae	surfperches
	Paralichthyidae	large-tooth flounders, especially California halibut and sanddabs
	Pleuronectidae	flatfishes/flounders, especially C-O sole, English sole, Pacific Dover sole, and Starry flounder
	<i>Sebastes</i> spp.	rockfishes, especially Aurora rockfish, Darkblotched rockfish, Shortbelly rockfish, and Splitnose rockfish
	<i>Triakis semifasciata</i>	Leopard shark
Invertebrates	Biogenic habitat	encrusting and habitat-forming invertebrates
	Benthic infauna	burrowing invertebrates
	<i>Cancer magister</i>	Dungeness crab
	<i>Dendraster excentricus</i>	Eccentric sand dollar
	<i>Pisaster</i> spp.	Pisaster sea stars
	<i>Pycnopodia helianthoides</i>	Sunflower sea star
Mammals	<i>Eschrichtius robustus</i>	Gray whale

Draft North Coast MPA Monitoring Metrics for Nearshore Pelagic Ecosystems (>30 m depth)

Nearshore pelagic ecosystems within the North Coast region encompass the water column overlaying the continental shelf in state waters in depths greater than 30 meters.

Category	Scientific Name	Common Name
Birds	Alcidae	especially Cassin's Auklets, Common Murres, Marbled Murrelets, Pigeon Guillemots, and Rhinoceros Auklets
	<i>Fratercula cirrhata</i>	Tufted Puffin
	<i>Larus occidentalis</i>	Western Gull
	<i>Oceanodroma</i> spp.	Storm Petrels
	<i>Phalacrocorax penicillatus</i>	Brandt's Cormorant
Fishes	Ichthyoplankton	fish larvae
	<i>Sebastes</i> spp.	rockfishes, especially Blue rockfish, Shortbelly rockfish, Widow rockfish, and Yellowtail rockfish

Draft North Coast MPA Monitoring Metrics for Deep Ecosystems (>100 m depth)

Deep ecosystems within the North Coast region encompass benthic habitats, both rocky reefs and soft-bottom habitats, occurring at depths greater than 100 meters, including ecosystems within submarine canyons and on underwater pinnacles.

Category	Scientific Name	Common Name
Fishes	<i>Anoplopoma fimbria</i>	Sablefish
	<i>Eptatretus stoutii</i>	Pacific hagfish
	<i>Notorynchus cepedianus</i>	Broadnose sevengill shark
	<i>Pleuronichthys coenosus</i>	C-O sole (turbot)
	<i>Sebastes</i> spp.	rockfishes, especially Bank rockfish, Bocaccio, Canary rockfish, Flag rockfish, Redbanded rockfish, Rosy rockfish, Rougheyeye rockfish, Shortraker rockfish, and Yelloweye rockfish
	<i>Sebastolobus</i> spp.	thornyheads, especially Longspine thornyhead and Shortspine thornyhead
Invertebrates	<i>Pandalus platyceros</i>	Spot prawn

Draft North Coast MPA Monitoring Metrics for Consumptive Uses

Species included as monitoring priorities within this Ecosystem Feature are those that are economically important within the region and those identified as community priorities. Draft metrics could include

- Landings (weight & value), number harvested, and/or catch per unit effort (CPUE) per fishing block and port;
- Landings (weight & value) and CPUE by commercial passenger fishing vessels (CPFVs);
- Effort shifts; and
- Number of anglers and vessels.

Commercial Fishing

Scientific Name	Common Name
<i>Anoplopoma fimbria</i>	Sablefish
<i>Cancer magister</i>	Dungeness crab
Embiotocidae	surfperches, especially Redtail surfperches
<i>Eptatretus stoutii</i>	Pacific hagfish
<i>Hexagrammos decagrammus</i>	Kelp greenling
<i>Hippoglossus stenolepis</i>	Pacific halibut
Kelps and other algae	especially nori and sea palm
<i>Leukoma (Protothaca) staminea</i>	Pacific littleneck clam
<i>Oncorhynchus</i> spp.	salmonids
Osmeridae	smelt, especially Night smelt and Surf (Day) smelt
<i>Ophiodon elongatus</i>	Lingcod
<i>Ostrea lurida</i>	Olympia oyster
<i>Pandalus jordani</i>	Pacific ocean shrimp/pink shrimp
<i>Paralichthys californicus</i>	California halibut
<i>Sebastes</i> spp.	rockfishes, especially Black rockfish
<i>Sebastolobus</i> spp.	thornyheads, especially Longspine thornyhead and Shortspine thornyhead
<i>Strongylocentrotus</i> spp.	sea urchins, especially Red sea urchins
<i>Scorpaenichthys marmoratus</i>	Cabazon
<i>Tresus nuttalli</i>	Pacific gaper clam

Recreational Fishing - including commercial passenger fishing vessels (CPFVs), diving (free-diving, SCUBA, other), private vessels (including kayaks), and shore-based fishing

Scientific Name	Common Name
Bivalvia	clams, mussels, and oysters, especially California mussels, Olympia oysters, Pacific gaper clams, Pacific littleneck clams, Pacific oysters, and Razor
<i>Cancer magister</i>	Dungeness crab
Embiotocidae	surfperches
<i>Haliotis rufescens</i>	Red abalone
Hexagrammidae	especially Kelp greenling and Lingcod
Kelps and other algae	especially Bull kelp, dulse, <i>Eulaira (Alaria) fistulosa</i> , <i>Laminaria</i> spp., and nori
<i>Oncorhynchus</i> spp.	salmonids
Osmeridae	smelt, especially Night smelt, Surf (Day) smelt
<i>Paralichthys californicus</i>	California halibut
<i>Scorpaenichthys marmoratus</i>	Cabazon
<i>Sebastes</i> spp.	rockfishes, especially Black rockfish
<i>Strongylocentrotus</i> spp.	sea urchins, especially Red sea urchins

Tribal Traditional, Non-commercial Subsistence Activities: As with all of the draft monitoring metrics within this appendix, those below are not an exhaustive list. Proposals can extend beyond the draft metrics provided. These metrics were identified through conversations with North Coast Tribes and from the North Coast Regional Profile. We look forward to working closely with the Tribes to continue to develop and revise these metrics.

Scientific Name	Common Name
Bivalvia	clams, mussels, and oysters
<i>Cancer</i> spp.	rock crabs
Embiotocidae	surfperches
<i>Haliotis</i> spp.	abalone
Kelps and other algae	---
Olividae	olive snails
<i>Oncorhynchus</i> spp.	salmonids, including trout
<i>Ophiodon elongatus</i>	Lingcod
Osmeridae	smelt
Petromyzontiformes	lampreys
<i>Sebastes</i> spp.	rockfishes

Draft North Coast MPA Monitoring Metrics for Non-consumptive Uses

The following non-consumptive activities are those identified as community priorities.

- Beach use
- Diving – free-diving and SCUBA diving
- Educational use
- Kayaking
- Surfing and windsurfing
- Tidepooling in Rocky Intertidal Ecosystems
- Wildlife viewing – boat-based and on-shore (especially in Estuarine and Wetland Ecosystems)

Attributes and indicators of these metrics could include

- Number of boat trips and passengers per access point and site
- Number of visitors per day, access point, and site