FREQUENTLY ASKED QUESTIONS

1. What is the role of this document?

This document provides a scientifically based framework and approach to guide monitoring of MPAs in the North Central Coast region, along with options and recommendations for implementation. The approach and framework form the basis of the North Central Coast MPA Baseline Program and are designed to guide implementation of long-term MPA monitoring in the region.

This document is not a workplan or implementation plan for MPA monitoring. Baseline monitoring is being implemented through the North Central Coast MPA Baseline Program (see Question 5). For long-term monitoring, decisions about which parts of this monitoring plan to implement, and at what levels, will be made during implementation. This plan includes guidance for making those decisions.

2. Who are the intended audiences for this document?

This document has been developed to provide guidance to the Department of Fish and Game, as the agency with statutory authority for implementing the Marine Life Protection Act (MLPA), and for the Fish and Game Commission, as the decision-making entity designated under MLPA. Other key audiences for this document include MPA stakeholders, existing and potential partners in conducting MPA monitoring, and existing and potential funders of MPA monitoring.

3. How and when will this plan be implemented?

The approach and framework forming the core of this monitoring plan are being implemented initially though the North Central Coast MPA Baseline Program, which will begin in 2010 and continue through 2013, then through development of long-term monitoring. Long-term monitoring will follow, and build on the foundation established by, the Baseline Program (see Question 5) and will be implemented when resources become available. Long-term monitoring has been designed to be implemented through cooperative efforts and partnerships, to make efficient use of available resources.

4. Who will oversee and manage MPA monitoring?

Under the MLPA, the Department of Fish and Game has statutory authority for implementing MPAs. The Department has an existing infrastructure in place within its Marine Region's MPA Project that will be a source for the oversight and management of the MPA monitoring. Additionally, the Department, through potential future partnerships, could augment its existing resources for MPA monitoring.

5. Is this monitoring plan related to the North Central Coast MPA Baseline Program?

Yes. This plan describes the approach and framework for monitoring that underpins both the Baseline Program and long-term monitoring. Long-term monitoring will build on the foundation of information and knowledge to be developed through the Baseline Program, which will begin in 2010 and continue through 2013. The Baseline Program was developed to address the most time-sensitive aspects of MPA monitoring, specifically: (1) characterization of key aspects of the ecology and socioeconomics of the North Central Coast region near the time of MPA implementation, and; (2) documentation of initial changes after MPAs take effect. Findings from the Baseline Program will be used to refine the long-term monitoring metrics and inform implementation of long-term monitoring.

The Ocean Protection Council has authorized $4M to support the North Central Coast MPA Baseline Program. A Request for Proposals (RFP) to implement the program was released by California Sea Grant in July, 2009. Proposals received in response to the RFP were subjected to rigorous review of their scientific and technical merits, alignment with the purposes of the Baseline Program, and cost. Eleven projects were selected for funding. More information is available on the California Sea Grant website at www.csgc.ucsd.edu.

6. What are the core elements of MPA monitoring?

The MPA monitoring plan adopts an ecosystem-based approach to provide a broad umbrella to encompass habitats, marine life populations, diversity and abundance, and human activities, including consumptive and non-consumptive uses of marine resources and ecosystems. This enables assessment of the performance of the regional MPA network against the full range of MLPA goals. The monitoring plan adopts a hierarchical framework to allow collection and reporting of results at various scales including the North Central Coast region, individual MPAs, individual ecosystem types (e.g., kelp forests), and selected species.

Nine Ecosystem Features, selected in consultation with stakeholders and scientists to collectively represent and encompass the North Central Coast marine ecosystems and human uses, provide the overarching structure for MPA monitoring. The Ecosystem Features provide the top level of the monitoring framework, which includes two core monitoring elements: long-term tracking of ecosystem condition; and evaluation of specific MPA design and management decisions. Each component of the monitoring plan is designed to be adaptable to best fit with available resources and capacity at the time of implementation. For example, two options have been included for monitoring ecosystem condition through time: Ecosystem Feature Checkups are designed to take advantage of the capacity for citizen-science groups and community organizations to collect monitoring information, while Ecosystem Feature Assessments are designed to take advantage of technically robust monitoring partnerships such as among state agencies and with federal agencies and research institutions.

The plan also recognizes the importance of other types of information, referred to as contextual information, for correctly interpreting monitoring results. Contextual information includes, for example, oceanographic, water quality, and economic information. Linkages and information exchanges with programs collecting contextual information are explicitly provided for in the plan.

7. Does this plan include monitoring of MPA enforcement and compliance?

No, not directly. Information about MPA compliance will be essential for correctly interpreting monitoring data, along with information about economic trends, oceanographic conditions, water quality and other vital information. MPA enforcement and compliance monitoring is the responsibility of the Department of Fish and Game and will be conducted by the Department and its potential partners, and all available compliance information will be used during analysis and interpretation of monitoring results.

However, the monitoring framework and approaches described in this plan have been designed to include assessment of the effects of consumptive and non-consumptive human uses on marine ecosystems and ecosystem components. This includes, for example, possible illegal taking of marine organisms.

8. Does this plan include fisheries monitoring as part of MPA monitoring?

Yes. Fisheries monitoring is required to assess the effectiveness of the MPAs and to meet the requirements of the MLPA. The monitoring plan incorporates monitoring of socioeconomic and ecological aspects of consumptive human

activities, including commercial and recreational fishing. For example, monitoring of the spatial distribution, landings, catch per unit effort (CPUE), and economic value of commercial and recreational fisheries is included, focusing on economically and ecologically important species predicted to respond to MPA implementation. The monitoring plan incorporates use of existing fisheries information as well as collection of new data at the spatial resolution necessary to detect potential MPA effects. In addition, monitoring of ecological characteristics, such as density and size structure, of selected fishery species is also included. For example, 10 of the 19 species in the Nearshore Fishery Management Plan are included as Tier 1 or Tier 2 metrics within Ecosystem Feature Assessments. However, MPA monitoring does not encompass all monitoring that may be required for fisheries management purposes.

9. Will information collected through MPA monitoring also inform fisheries management?

Yes. MPA monitoring metrics have been chosen that will benefit fisheries management as much as possible without compromising the ability to meet MLPA requirements For example, many of the focal species selected for monitoring are fished species, including some unassessed species. Both the North Central Coast MPA Baseline Program and long-term monitoring will generate ecological data, including abundances and size distributions, for important fishery species, as well as the status of and changes in commercial and recreational fisheries. The plan also includes monitoring of key aspects of commercial and recreational fisheries to assess socioeconomic changes following MPA implementation. These data can inform fisheries management. However, MPA monitoring is not intended to be sufficient to support fisheries management.

10. Does this plan consider water quality?

Yes. Some species that are sensitive to water quality are included in the monitoring plan. Direct measurement of pollutant or contaminant levels and other, more comprehensive water quality monitoring is beyond the scope of this monitoring plan. However, water quality information will be essential for correctly interpreting monitoring results. Linkages with programs monitoring water quality in the North Central Coast region are provided for in the plan to ensure exchange of information and inform analysis of MPA monitoring data.

11. Does this plan consider climate change?

Yes. Some species that are expected to be sensitive to possible climate change effects (such as by changing range) are included in the monitoring plan. Direct monitoring of possible climate change effects, such as ocean acidification and changes in the strength or timing of upwelling events, is beyond the scope of this monitoring plan. However, such information will be important for correctly interpreting monitoring results, and available information will be used during the analysis of monitoring data.

12. Does this plan consider the dynamic nature of marine ecosystems?

Yes. The monitoring plan recognizes the natural spatial and temporal variation in ecosystems and ecosystem components, and this has been considered in the design of monitoring and the selection of monitoring metrics. Collection and analysis of time series data will be essential to reveal trajectories of ecosystem change inside and outside MPAs, and to assess potential MPA effects in a naturally variable system. In addition, analysis of monitoring data will take into account contextual information on oceanographic conditions and trends.

13. How many MPAs will be monitored and how often?

The number of MPAs that will be monitored and the frequency of monitoring will depend on available resources, management priorities at the time of implementation, and the specific monitoring methods employed.

The Baseline Program (see Question 5) will encompass as many MPAs as possible and will include projects of up to three years in duration to provide a robust foundation to inform and support long-term monitoring. For long-term monitoring, specific MPAs to be monitored will be selected when long-term monitoring is implemented. The monitoring plan includes two example monitoring spending plans based on monitoring six MPAs and six reference sites for each of the nine Ecosystem Features. Because not all Ecosystem Features are found in all MPAs, this would include sampling of approximately 12-15 MPAs.

14. What is the cost of MPA monitoring?

For baseline monitoring, the Ocean Protection Council has provided $4M to help support collection and analysis of baseline data (see Question 5).

For long-term monitoring, this plan includes two example MPA monitoring spending plans, reflecting two hypothetical regional MPA monitoring budget scenarios of $1,000,000 and $2,000,000 annually. These budget scenarios are for illustration purposes only. The spending plans are based on costs of MPA monitoring and related activities currently occurring in California, adjusted and augmented as needed to implement North Central Coast MPA monitoring that will meet MLPA requirements. The spending plans include collecting, analyzing, and reporting monitoring results, assume leveraging of resources consistent with existing programs and partnerships, and do not reflect all possible costs of monitoring implementation (for example, Department of Fish and Game staff costs are not included). However, the spending plans include the majority of anticipated new costs of MPA monitoring in the North Central Coast region, tailored to take best advantage of the two hypothetical budget scenarios. Either spending plan would enable assessment of the effectiveness of the regional MPA network in meeting MLPA goals and would facilitate adaptive MPA management, as required by the Act.