MLPA Central Coast Regional Goals and Objectives Matrix

Goal 1: "To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems."

Objectives	Rationale	References to Supporting Data (Regional Profile and GIS IMS)	Design Considerations (Preliminary)	Indicators (Preliminary)
1. Protect areas of high species diversity and maintain species diversity, consistent with natural fluctuations, of populations in representative habitats.	Protection of species is directly related to protection of the region's biodiversity. Representative habitats can be used as a surrogate for some, but not all, species.	Maps showing distribution of habitat types and depth zones. Maps showing areas of high bathymetric complexity and habitat diversity. Maps from NOAA Biogeographic assessment showing areas of high fish and seabird diversity and density.	Optimize species diversity within MPAs using habitat diversity as a proxy. Protect a portion of all representative habitats across a range of depths and latitudes. State Marine Reserve is best classification to address this objective because it removes fishing impacts and allows for natural fluctuations of populations.	Diversity and abundance of key indicator species. Habitat diversity.

2. Protect areas with diverse habitat types in close proximity to each other.	Natural diversity is best protected by protecting diverse habitat types. Habitat types are generally known within region.	Maps showing distribution of all habitat types and depth zones. Maps showing areas of high bathymetric complexity and habitat diversity. Maps from NOAA Biogeographic assessment showing areas of high fish and seabird diversity and density.	Identify areas with diverse habitats in close proximity. Habitat types can be protected through the use of combinations of the three MPA classifications.	Areal extent of different habitats. Status/health indicators for different habitats types.
3. Maintain natural size and age structure and genetic diversity of populations in representative habitats.	Protecting natural size and age structure and genetic diversity of populations is directly related to protecting the region's biodiversity	General knowledge of species distribution and habitat associations. List of species likely to benefit from MPAs	State Marine Reserve is best classification to address this objective because it removes fishing impacts and allows for the development of natural size and age structures in plant and animal populations.	Sample populations of key species for size frequency and age composition. Assess and monitor genetic diversity of key species.
4. Maintain natural trophic structure and food webs in representative habitats.	Directly relates to maintaining the structure, function, and integrity of marine ecosystems.	General knowledge of marine food webs and predator/prey relationships.	Identify areas with natural trophic structure for each habitat type in place State Marine Reserve is best classification to address this objective.	Abundance of key species at different trophic levels Changes in predator/prey relationships over time.

5. Maintain ecosystem integrity and ecological processes to facilitate recovery of natural communities from perturbations.	Directly relates to ecosystem integrity and resiliency.	General knowledge of marine ecosystems and processes needed to maintain them.	Protect large areas that span near-shore to offshore habitats in areas of high productivity, areas with important nursery habitat, and areas that are relatively un-impacted by human use. State Marine Reserve is best classification to address this objective.	Compare relative abundance and size frequency of key species inside and outside of MPAs with comparable habitat as a measure of recovery rates after a major perturbation.

Goal 2: "To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted."

Objectives	Rationale	References to Supporting Data (Regional Profile and GIS IMS)	Design Considerations (Preliminary)	Indicators (Preliminary)
1. Help protect or rebuild populations of rare, threatened, endangered, depleted, or over fished species, where identified, and the habitats and ecosystem functions upon which they rely.	These are legislatively-required protections, and are the species most in need of protection. They are often top predators that help maintain the population structure.	List of species likely to benefit from MPAs. List of T&E, rare, over fished, and depleted species. Knowledge of species/habitat associations and maps of habitat types.	Home range and habitat requirements over the entire life cycle of individual species. Consider SMR classification or SMP or SMCA with restrictions on take of these key species.	Abundance/counts and size frequency of species x, y, and z over time.
2. Protect larval sources and enhance reproductive capacity of species most likely to benefit from MPAs through retention of large, mature individuals.	Relates to sustaining marine populations. Large females (= larval sources) provide relatively more larvae/young which are also more likely to survive.	List of species most likely to benefit from MPAs.. Some knowledge of location of concentrations of large fish. Maps of upwelling and retention areas. Maps of all habitat types, including those such as canyon heads, where large individuals may still be found.	Home range and habitat requirements over the entire life cycle of individual species. Knowledge of source and sink areas and areas where large fish are likely to survive with increased protection. Consider SMCA classification. Larval retention areas provide indicators of annual recruitment success.	Relative abundance and size frequency estimates over time. Changes in expected fecundity over time for individuals based on mean size. Recruitment rates of key species

3. Through the use of State Marine Conservation Areas, allow harvest of migratory, highly mobile, or other selected species where appropriate, while protecting the remainder of species and the habitats on which they all depend.	Not all species benefit equally from establishment of MPAs. Allows harvest of those not likely to remain within boundaries of MPAs due to natural mobility. Reduces overall potential impact to user groups compared with SMR designation.	Default list of species NOT on list of species most likely to benefit from MPAs. Knowledge of range and life history for migratory and highly mobile species. Maps of habitat types.	Consider SMCA classification.	Sustainability of fisheries for migratory and highly mobile species, along with relative abundance and size frequency data for species protected within MPAs.
4. Minimize negative socio-economic impacts to recreational and commercial fishermen, to the extent possible, while following the Master Plan Framework design guidelines for the establishment of regional MPA network components.	Basic intent of MLPA is to protect representative and unique habitats and regional marine biodiversity. Assessing and minimizing adverse socioeconomic impacts and allowing for continued sustainable use of marine resources is desired.	Knowledge and maps of commercial, recreational, and non-consumptive use patterns. Identification of unique habitats and areas of biodiversity significance.	Use SMCA and SMP classifications to reduce potential impact to fisheries; protect key habitats with SMR and use SMP and SMCA designations as buffer zones. Site MPAs in historical fishing areas which are no longer productive but with high quality habitat (i.e. areas have experienced high fishing effort).	Determine displacement of fishing effort after any new MPAs are implemented. Track status of fisheries potentially impacted by any new MPAs.

5. Incorporate existing state and federal fishery management areas to the extent possible when designing new MPAs or modifying existing ones.	This acknowledges that existing fishery management closures have certain benefits to protected species similar to those from MPAs.	Fishery management closures and other regulations.	Incorporate fishery management closures into potential MPAs (e.g. incorporate sections of Rockfish Conservation Area within state waters).	Determine net reduction in impact to fishing from implementation of MPAs due to use of existing fishery management closures (these are already closed to some types of fishing).
6. Protect populations of 19 finfish species per the objectives of the state's Nearshore Fishery Management Plan.	It is a stated goal of the Nearshore Fishery Management Plan to defer to the MLPA process for the incorporation of MPAs which will assist in the sustainability of the nearshore fishery. (see footnote for relevant NFMP objectives)	Nineteen nearshore species should be listed in Regional Profile.	Specifically include candidate areas for MPAs which include some of the 19 nearshore species (not all occur in the central coast study region) and representative habitats on which those species depend.	Compare relative abundance and size frequency of nearshore species within MPAs and in adjacent fished areas of similar habitat.
7. To the extent possible, site MPAs to prevent fishing effort shifts to relatively unfished areas and to help prevent serial depletion of fished species.	Basic intent of MLPA is to protect representative and unique habitats and regional marine biodiversity. Assessing and minimizing adverse socioeconomic impacts and allowing for continued sustainable use of marine resources is desired.	Knowledge of commercial, recreational, and non-consumptive use patterns.	Use SMCA and SMP classifications to reduce potential impact to fisheries compared with potential impact from SMR in similar area. Site MPAs in historical fishing areas which are no longer productive but with high quality habitat (i.e. areas have experienced high fishing effort).	Determine displacement of fishing effort after any new MPAs are implemented. Track status of fisheries potentially impacted by any new MPAs.

8. Protect populations of red and black abalone in order to assist in their recovery per the objectives of the state's draft Abalone Recovery and Management Plan.	It is a stated goal of the Abalone Recovery and Management Plan to defer to the MLPA process for the incorporation of MPAs which will assist in the sustainability of the abalone fishery (see footnote to objectives of abalone plan).	Abalone are discussed under depleted species in Regional Profile. Maps of habitat and retention areas.	Specifically include candidate areas for MPAs which include red and black abalone populations and appropriate abalone habitat.	Compare relative abundance and size frequency of red and black abalone within MPAs and in adjacent areas.

Nearshore Fishery Management Plan

- Restrict take in any MPA [intended to meet the NFMP goals] so that the directed fishing or significant bycatch of the 19 NFMP species is prohibited (NFMP objective)
- Include some areas that have been productive fishing grounds for the 19 NFMP species in the past but are no longer heavily used by the fishery (NFMP objective)
- Include some areas known to enhance distribution or retain larvae of NFMP species (NFMP objective)
- Consist of an area large enough to address biological characteristics such as movement patterns and home range. There is an expectation that some portion of NFMP stocks will spend the majority of their life cycle within the boundaries of the MPA (NFMP objective)
- Consist of areas that replicate various habitat types within each region including areas that exhibit representative productivity (NFMP objective)

Abalone Recovery and Management Plan

Proposed MPA sites should satisfy at least four of the previous criteria.

1. Include within MPAs suitable rocky habitat containing abundant kelp and/or foliose algae
2. Insure presence of sufficient populations to facilitate reproduction.
3. Include within MPAs suitable nursery areas, in particular crustose coralline rock habitats in shallow waters which include microhabitats of moveable rock, rock crevices, urchin spine canopy, and kelp holdfasts.
4. Include within MPAs the protected lee of major headlands which may act as collection points for water and larvae.
5. Include MPAs large enough to include large numbers of abalone and for research regarding population dynamics.
6. Include MPAs which are accessible to researchers, enforcement personnel, and others with a legitimate interest in resource protection.

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."

Objectives	Rationale	References to Supporting Data (Regional Profile and GIS IMS)	Design Considerations (Preliminary)	Indicators (Preliminary)
1. Ensure some MPAs, including State Marine reserves, are close to population centers, research and education institutions, and harbors, and are accessible for recreational, educational, and study opportunities.	Directly relates to improving recreational, education, and study opportunities in and related to MPAs.	Knowledge of location of research institutions, harbors and other access points, and existing use patterns. Maps of research monitoring sites (PISCO, MARINe, etc). Maps of habitats. Identification of areas of regional biodiversity significance. Maps of cities, access points.	Site near research & education institutions. Site near harbors and access points. Site near population centers.	Trends in non-consumptive use. Dissemination of results of research studies within MPAs.
1.Option - Ensure some MPAs, including State Marine reserves are accessible for recreational, educational, and study opportunities.	Directly relates to improving recreational, education, and study opportunities in and related to MPAs.	Knowledge of location of research institutions, harbors and other access points, and existing use patterns.	• Site near schools • Site near research & education institutions • Site near harbors • Site near population centers	Trends in non-consumptive use. Dissemination of results of research studies within MPAs.

2. To the extent possible, provide replicate state marine reserves to function as reference areas for research and monitoring to assess impacts of human use activities and natural events.	Reflects the need to statistically determine the effectiveness of MPAs, more specifically in their ability to distinguish natural changes in populations from those due to human use. Ensuring some SMRs are located near research institutions will facilitate research on "undisturbed" marine habitats	Habitat maps or other knowledge of habitat, and knowledge of associated species, in order to determine if multiple MPA sites truly function as replicates. Maps of research monitoring sites (PISCO, MARINe, etc). Maps of habitats. Identification of areas of regional biodiversity significance. Maps of cities, access points.	Need to find replicate sites accessible for research and monitoring, for each of three classifications. Site near research & education institutions. Site near harbors and access points.	Sample populations of key species for size frequency and age composition within and outside of MPAs.
3. Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula, volunteer dive programs, and fishermen of all ages, and identify participants.	Relates to improving educational and study opportunities while engaging traditional, including youth, volunteer divers, and fishermen.	Knowledge of location of research institutions, harbors and other access points, and existing use patterns. Maps of research monitoring sites (PISCO, MARINe, etc). Maps of habitats. Identification of areas of regional biodiversity significance. Maps of cities, access points.	Need to find replicate sites accessible for research and monitoring, for each of three classifications. Site near research & education institutions. Site near harbors and access points.	Sample populations for size frequency and age composition within and outside of MPAs.

4. Protect or enhance recreational experience by ensuring natural size and age structure of marine populations for observation, photography, and other non-consumptive uses.	Directly relates to improving non-consumptive recreational experience in areas subject to minimal disturbance.	Maps of human use activities. Maps of habitats. Identification of areas of regional biodiversity significance. Maps of cities, access points.	Site near harbors. Site near population centers. Consider SMR classification to provide areas subject to minimal human disturbance. Need to consider possible restrictions on some nonconsumptive activities.	Trends in nonconsumptive human use patterns. Evidence of no significant damage to resources within MPA from nonconsumptive activities.
5. Improve public outreach related to MPAs through the use of docents, improved signage, and production of an educational brochure for central coast MPAs.	Directly relates to public education.	Identification of local, county, state, and federal jurisdictions to assist in these efforts.	This should happen wherever MPAs are sited.	Increase in public recognition of MPAs. Dissemination of brochure. Construction of signs. Recruitment of docents.

Goal 4: "To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters, for their intrinsic value."

Objectives	Rationale	References to Supporting Data (Regional Profile and GIS IMS)	Design Considerations (Preliminary)	Indicators (Preliminary)
1. Identify and protect unique habitats, such as estuaries, heads of submarine canyons, pinnacles, upwelling centers, and larval retention areas for their intrinsic value.	Directly relates to primary focus of MLPA- to protect a wide variety of habitats and unique natural features.	Habitat maps. Identification of areas of regional biodiversity significance (includes many unique habitats). Gap analysis of existing MPAs.	Identify rare/unique habitats and include them within MPAs to the extent possible. Protect important aesthetics of outstanding areas that encompass seascape, adjoining coastal landscape, or possess other scenic or visual qualities.	Regional habitat mapping at a finer scale within MPAs – to ground truth what is captured in MPAs. Percentage cover and status of unique habitats.
2. Protect representatives of all marine habitats identified in the MLPA or the Master Plan Framework across a range of depths for their intrinsic value.	Directly relates to primary focus of MLPA- to protect representative habitats (all those found in region).	Habitat maps. Identification of areas of regional biodiversity significance (includes many unique habitats). Gap analysis of existing MPAs.	Identify representative habitat types and habitat mosaics.	Regional habitat mapping at a finer scale within MPAs – to ground truth what is captured in MPAs. Percentage cover and status of representative habitats

Goal 5: "To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines."

Objectives	Rationale	References to Supporting Data (Regional Profile and GIS IMS)	Design Considerations (Preliminary)	Indicators (Preliminary)
1. For each MPA, develop objectives, a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation, and ensure that each MPA objective is linked to one or more regional objectives.	Added specificity with regard to linking MPA objectives to regional objectives. Also relates to adaptive management of MPAs based on evaluation of their effectiveness. Recognizes that monitoring socioeconomic parameters is just as critical as monitoring biological parameters.	General knowledge of habitats, associated species, and use patterns will assist in development of appropriate objectives for each MPA. General socioeconomic background information in profile	Size, shape, and spacing of each MPA and its relationship to other MPAS directly relates to the appropriate objectives for each MPA.	Is each MPA effective in meeting its stated objectives – measuring indicators linked to objectives. Changes in use patterns over time. Changes in biological resources over time.
2. In developing alternative MPA proposals, consider existing state and federal programs, including but not limited to those related to water quality, fisheries management, species recovery, and those of the Monterey Bay National Marine Sanctuary.	Directly relates to the need for effective management measures, and the need to link MPA effectiveness to other factors outside the scope of the MLPA process, in particular water quality issues and federal government activities related to protection of habitat.	Information on land-sea interactions, water quality issues, jurisdiction and management.	Consider existing Areas of Special Biological Significance. Consider areas of water quality problems, such as agricultural runoff from Salinas River, sewage spills in Pacific Grove. Consider EFH efforts by PFMC. Consider efforts by MBNMS dealing with potential federal MPAs within their boundaries.	Proposals for potential MPAs have considered regional programs. New MPAs linked to existing federal and state programs.

3. To the extent possible, site MPAs adjacent to terrestrial federal, state, county, or city parks, marine laboratories, or other "eyes on the water" to facilitate management, enforcement, and monitoring.	This is a practical consideration to facilitate research, education, and enforcement of MPAs.	Maps of terrestrial /coastal protected areas. Maps of research and educational institutions.	Consider location of terrestrial parks and marine labs.	Evaluate implemented MPAs to determine how the presence of terrestrial parks and marine labs is contributing to effective management, monitoring, and enforcement.
4. If necessary, phase the implementation of central coast MPAs to allow time to ensure their effective management, monitoring, and enforcement.	Directly relates to Section 2857(3) of Fish and Game Code (MLPA). Relates to recognition of need for adaptive management and of realization that adequate funding may not be immediately available to implement, monitor, manage, and enforce all MPAs in preferred alternative.	Not relevant.	Consider phasing in MPA design alternatives.	Successful implementation of preferred alternative in a phased approach.
5. To the extent possible, site MPAs to facilitate use of volunteers to assist in monitoring and management.	Relates to need for effective monitoring management measures.	Recognition of volunteer organizations in central coast region related to marine protection.	Consider availability of volunteers, their potential shore access to MPA sites, and their ability to assist in standardized monitoring activities.	Trends in use of volunteers based on design criteria.

6. To the extent possible, site MPAs to take advantage of existing long-term monitoring studies.	Directly relates to need for effective monitoring and management measures.	Maps of monitoring stations from major programs (PISCO, etc). Long-term monitoring studies are cited in DFG's evaluation of existing MPAs (appendix to profile).	Consider existing monitoring programs and existing sampling locations . Consider location of research institutions, state, and federal agencies, and their ability to access potential MPAs for monitoring.	Dissemination of reports of monitoring in MPAs.
7. Develop regional management and enforcement measures, including cooperative enforcement agreements, adaptive management, and jurisdictional maps, which can be effectively used, adopted statewide, and periodically reviewed.	Directly relates to need for effective management measures and adequate enforcement. These are critical to insure the success and public acceptance of MPAs.	Description of federal, state, and local jurisdictions, and government programs. Also see enforcement section in Master Plan Framework.	Consider ability of DFG to manage enforce new MPAs, including the consideration of assistance from other agencies (feasibility study will be conducted by DFG for MPA proposals).	Trends in citations of violations of regulations within MPAs. Determination of effectiveness of MPAs based on periodic reviews. Feedback on jurisdictional maps.
8. To the extent possible, design MPAs boundaries which facilitate ease of public recognition and ease of enforcement.	Directly relates to need for effective management measures and adequate enforcement. MPAs will not work if they are not recognized by public.	Evaluation of existing MPAs (appendix) has boundary description.	See guidance in Master Plan Framework on how boundaries relate to enforcement.	Trends in citations in violations of regulations. A declining trend would indicate the public has recognized the boundaries and has accepted the MPAs.

9. To the extent possible, effectively utilize scientific guidelines in the Master Plan Framework, including size and spacing of MPAs, in the overall design of individual MPAs.	Directly relates to the need to base the design of MPAs on sound scientific guidelines.	General information on regional habitats and species. Relevant guidance is in the Master Plan Framework.	All criteria recommended by SAT in MPF, plus socioeconomic considerations for minimizing impacts to users while attempting to meet the SAT guidelines.	Evaluate the preferred alternative against the guidelines in the MPF and determine potential socioeconomic impacts of this and other alternatives (CEQA analysis).
10. Secure adequate funding for monitoring, management, and enforcement before implementing any new MPAs.	Directly relates to FGC Section 2859(b): "…the commission …shall implement the program, to the extent funds are available."	Not relevant. This will be addressed separately during the Initiative process.	May require phasing of implementation of new MPAs.	Available funding and estimated costs.

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."

Objectives	Rationale	References to Supporting Data (Regional Profile and GIS IMS)	Design Considerations (Preliminary)	Indicators (Preliminary)
1. To the extent possible, effectively utilize scientific guidelines in the Master Plan Framework, including those related to size and spacing of MPAs, in the overall design of the central coast MPA network component.	Directly relates to the need to base the design of MPAs on sound scientific guidelines. SAT guidelines constitute best readily available science in relation to design.	General information on regional habitats and species. Relevant guidance is in the Master Plan Framework.	All criteria recommended by SAT in Master Plan Framework, plus socioeconomic considerations for minimizing impacts to users while attempting to meet the SAT guidelines.	Evaluate the preferred alternative against the guidelines in the MPF and determine potential socioeconomic impacts of this and other alternatives (CEQA analysis).
2. Develop a regional review and evaluation of implementation effectiveness to determine if regional MPAs are an effective component of a statewide network.	A periodic evaluation of the central coast MPAs is critical. If individual MPAs are not effective, then the statewide network concept is at risk.	This is relevant to the monitoring and evaluation plan for MPAs, which is not in the Regional Profile.	All criteria recommended by SAT in MPF, plus socioeconomic considerations for minimizing impacts to users while attempting to meet the SAT guidelines.	Since the concept of "network" is not precisely defined and subject to interpretation, this is the one objective for which it is most difficult to develop indicators. Perhaps the SAT could assist in this one.

3. Develop a mechanism to coordinate with future MLPA Regional Stakeholder Groups in other regions to ensure that the statewide network meets the goals of the MLPA.	This relates to a conclusion made by the Goals and Objectives Work Team for the need to have continuity between this and other regional MPA processes.	Not specifically addressed. Relates more to long-term planning beyond the MLPA Initiative process.	Not relevant. This is an administrative consideration.	Development and evaluation of mechanism.