

Chapter 1

INTRODUCTION

The California Department of Fish and Game (Department) has prepared this Draft Environmental Impact Report (DEIR) to provide the California Fish and Game Commission (Commission), other responsible agencies, and the public with information about the potential environmental effects of a proposed network of marine protected areas (MPAs) which would be situated off the coast of California, between Alder Creek (near Point Arena) and the California/Oregon border (Proposed Project). This DEIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA Guidelines (California Code of Regulations [CCR] title 14, Section 15000 et seq.).

1.1 Background

1.1.1 Requirements of the Marine Life Protection Act

In 1999, the California legislature approved and the governor signed the Marine Life Protection Act (MLPA; Stats. 1999, Chapter 1015). The MLPA can be found in Chapter 10.5 of the California Fish and Game Code, Sections 2850–2863.

In determining the need for the act, the legislature found that California's marine ecosystems and biological diversity are vital assets to the state and nation, and the health of those assets is threatened by human activities. The legislature held that the MPAs in California, which were in existence at that time, were created without a coherent plan, and as a result California's "array of MPAs creates the illusion of protection while falling far short of its potential to protect and conserve living marine life and habitat." In addition, the legislature recognized the importance of fishing as a community asset, and the essential role of marine life reserves in an MPA system.

The MLPA directs the state, through the Commission, to redesign California's system of MPAs to increase its coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational, and study opportunities provided by marine ecosystems. The goals of the MLPA are:

1. to protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems;
2. to help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted;
3. to improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity;

4. to protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value;
5. to ensure California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines; and
6. to ensure that the state's MPAs are designed and managed, to the extent possible, as a network.

To help achieve the goals of the MLPA, different types of MPA designations are used in the MLPA designation process. These designations are defined in the Marine Managed Areas Improvement Act (MMAIA), a companion to the MLPA (California Public Resources Code [PRC], Sections 36700 and 36710). The MMAIA provides a standardized classification system for all marine managed areas (MMAs), of which MPAs are a subset. Each MPA designation differs according to restricted and allowable uses that can occur within each designated area. Definitions for the designations are described in detail in section 1.1.2, below.

The MLPA also notes that the statewide MPA network shall include several elements:

- an improved marine life reserve¹ component consistent with MLPA guidelines;
- specific identified objectives, and management and enforcement measures, for all MPAs in the network;
- provisions for monitoring, research, and evaluation at selected sites to facilitate adaptive management of MPAs and ensure that the system meets the goals stated in the MLPA;
- provisions for educating the public about MPAs, and for administering and enforcing MPAs in a manner that encourages public participation; and
- a process to establish new MPAs, and modify or abolish existing MPAs, in a manner consistent with the master plan, which shall involve interested parties.

The MLPA requires a master plan, based on the best readily available science, to guide the planning, adoption, and implementation of an improved statewide MPA network. The MLPA specifies components of the master plan, including recommendations for the extent and types of habitat that should be represented within MPAs; identification of species or groups of species likely to benefit from MPAs; recommendations on the minimum size of state marine reserves (SMRs) or other MPA designations to accomplish MLPA goals; and an analysis of existing state MPAs. The Commission adopted a draft MLPA master plan framework in August 2005. This framework was expanded into the Draft MLPA *California Marine Life Protection Act Master Plan for Marine Protected Areas* (MLPA Master Plan), adopted by the Commission in February 2008. The MLPA Master Plan provides guidance and information on:

- California's marine resources and policies;
- conducting regional science-based and stakeholder-driven planning;

¹ The MPA defines marine life reserve as a no-take reserve. The current classification for a no-take area would be a state marine reserve.

- processes to develop alternative packages of MPAs;
- the process for designing alternative MPA proposals; and
- the design, management, enforcement, monitoring, and funding of California's MPAs.

The MLPA Master Plan is a living document. The requirement for a full master plan and implementing regulations will be met when the Commission adopts the final portion of the plan and MPA planning for all marine regions of the coast, including the San Francisco Bay estuarine complex, has been completed. The current master plan can be found at <http://www.dfg.ca.gov/mlpa/masterplan.asp>.

1.1.2 Types of MPAs and Levels of Protection

An MPA refers to a named, discrete geographic marine or estuarine area seaward of the high-tide line or the mouth of a coastal river, including any area of intertidal or subtidal terrain, together with its overlying water and associated flora and fauna. An MPA contains regulations that are designed to protect or conserve marine life and habitat, and are generally more restrictive than the pre-existing regulations in a particular area and its surrounding environs. MPAs are primarily intended to protect or conserve marine life and habitat; therefore, they are a subset of MMAs, which are broader groups of named, discrete geographic areas along the coast that afford protection, conservation, or other types of management of a variety of resources and uses, including living marine resources, cultural and historical resources, and recreational opportunities.

To help achieve the goals of the MLPA, different types of MPA designations are used in the MLPA designation process. These designations are defined in the MMAIA, which provides a standardized classification system for all MMAs, of which MPAs are a subset. Each MPA designation differs according to restricted and allowable uses that can occur within each designated area. Under current law, the Commission has the statutory authority to designate, modify, or delete SMRs, state marine conservation areas (SMCAs), and state marine recreational management areas (SMRMAs) established by the Commission for hunting purposes. State marine parks (SMPs) may only be created, modified, or removed from designation under the authority of the California Park and Recreation Commission. SMRMAs are a different MMA designation and are not specifically MPAs; though similar to MPAs, SMRMAs provide for an allowable take of waterfowl. Summarized definitions of SMRs and SMCAs, as well as associated restrictions and allowances, are identified in **Table 1-1**. SMRMAs, special closures, and SMPs are discussed further below. Exact definitions for all the designations used in California's MPA network, can be found at <http://www.dfg.ca.gov/mlpa/pdfs/revisedmp0108b.pdf>.

Table 1-1. MPA Definitions, Restrictions, and Allowable Uses

Type	State Marine Reserve (SMR)	State Marine Conservation Area (SMCA)
Definition	A nonterrestrial marine or estuarine area that is designated so that the managing agency may achieve one or more of the following: <ul style="list-style-type: none"> ■ Protect or restore rare, threatened, or endangered native plants, animals, or habitats in marine areas; ■ Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems; ■ Protect or restore diverse marine gene pools; or ■ Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems. 	A nonterrestrial marine or estuarine area that is designated so that the managing agency may achieve one or more of the following: <ul style="list-style-type: none"> ■ Protect or restore rare, threatened, or endangered native plants, animals, or habitats in marine areas; ■ Protect or restore outstanding, representative or imperiled marine species, communities, habitats, and ecosystems; ■ Protect or restore diverse marine gene pools; ■ Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems; ■ Preserve outstanding or unique geological features; or ■ Provide for sustainable living marine resource harvest.
Restrictions	It is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, except under a permit or specific authorization from the managing agency for research, restoration, or monitoring purposes. While to the extent feasible the area shall be open to the public for managed enjoyment and study, the area shall be maintained to the extent practicable in an undisturbed and unpolluted state. Therefore, access and use (e.g., walking, swimming, boating, diving) may be restricted to protect marine resources.	It is unlawful to injure, damage, take, or possess any specified living, geological, or cultural marine resources for certain commercial, recreational, or combination of commercial and recreational purposes. In general, any commercial or recreational uses that would compromise protection of the species of interest, natural community, habitat, or geological features may be restricted by the designating entity or managing agency.
Allowable Uses	Research, restoration, and monitoring may be permitted by the managing agency. Educational activities and other forms of nonconsumptive human use may be permitted by the designating entity or managing agency in a manner consistent with the protection of all marine resources.	Research, education, recreational activities, and certain commercial and recreational harvest of marine resources may be permitted.

Source: California Public Resources Code (PRC), Sections 36700 and 36710; PRC, Sections 36600–36620 (Marine Managed Areas Improvement Act)

State Marine Reserve (SMR)

In the simplest terms, an SMR prohibits all take, including injury, damage, or possession of any living, geological, or cultural resource. However, scientific collecting by permit may be allowed for the purpose of research, restoration, or monitoring. SMRs must balance protection and access in marine reserves. The form that this balance takes in an individual SMR depends on the goals and objectives of that reserve. While the MLPA specifically precludes commercial and recreational fishing in SMRs, it also allows for the possibility of restrictions on other activities, including nonextractive activities (e.g., diving, kayaking, snorkeling). Any such restrictions, however, must be based on specific objectives for an individual site and the best readily available science. It is important to note that this statement does not imply that navigation will necessarily be restricted through MPAs or that other nonextractive activities will be regulated, although in some instances the latter may be necessary. For example, it may be necessary to protect populations of sensitive marine birds or mammals in their nesting or breeding areas by prohibiting access to some areas.

State Marine Conservation Area (SMCA)

SMCAs differ from SMRs in their purposes and types of restrictions. This type of MPA allows some level of recreational and/or commercial fishing. The restrictions on fishing may vary with the focal species, habitats, and objectives of an individual MPA within a region, and may, for example, be in the form of restrictions on the catch of particular species or the use of certain types of fishing gear. For example, SMCAs may be useful in protecting more sedentary, benthic (bottom-dwelling) species, while allowing the harvest of more transient species, such as pelagic finfish². Another use of an SMCA would be to allow the continued use of traps, which typically have relatively low bycatch³ rates and are more efficient for harvesting invertebrates, while prohibiting the harvest of finfish species of concern by hook-and-line or trawls, the latter of which typically have relatively high bycatch rates. At present, large fishery closures known as rockfish conservation areas may function similarly to marine conservation areas because bottom fishing for finfishes is prohibited but other types of fishing are allowed. However, because the specific regulations, boundaries, and depth range prohibited for fishing in these areas are subject to change depending on stock assessments, they are more accurately portrayed as traditional fisheries management and do not have the same ecosystem benefits as more continuous protection.

State Marine Recreational Management Area (SMRMA)

In an SMRMA, activities that would compromise the recreational value of the area are restricted. Recreational opportunities may be protected, enhanced, or restricted, while preserving basic resource values of the area. While not specifically an MPA, SMRMAs are

² Pelagic finfish are defined in 14 CCR 632 as northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena* spp.), billfishes (family Istiophoridae), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus* spp.), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias* spp.), swordfish (*Xiphias gladius*), tunas (family Scombridae), and yellowtail (*Seriola lalandi*).

³ Bycatch is the fish and other marine animals that are unintentionally caught in fishing gear targeting other species.

useful for consideration in areas where recreational hunting is allowed while extraction of subtidal living marine resources is prohibited. Specifically, these areas can be used where allowing waterfowl hunting is consistent with the desired level of subtidal resource protection. The use of this designation can specifically allow hunting, while preserving the subtidal resources in a manner similar to an MPA.

Special Closures

Special closures are geographically defined areas subject to either a seasonal or year-round closure to all access, or are inclusive of other boating restrictions that help to protect seabird nesting, breeding, and roosting areas and/or marine mammal rookeries, haul-out, and breeding colonies. A special closure is not an MMA designation; these protected areas are not among the formally identified MPA types set forth in Section 36700 of the PRC. However, special closures provide protection for marine resources within their boundaries similar to MPAs. For the purpose of administrative efficiency, special closures will be included in the current regulatory package being considered by the Commission and have been incorporated as part of the Proposed Project.

State Marine Park (SMP)

SMPs prohibit commercial take, but may allow select recreational harvest to continue. Where the primary goal of MPAs in general is biodiversity conservation, restrictions on fishing within an SMP may be different from those in an SMR, where the primary goal is enhancing recreational opportunities. Unlike SMRs, SMPs allow some or all types of recreational fishing. The types of restrictions on fishing may vary with the focal species, habitats, and objectives of an individual SMP within a region. Additionally, access for permitted research and nonconsumptive use is allowed. As stated previously, SMPs may only be created, modified, or deleted under the authority of the California Park and Recreation Commission. No SMPs are included in the Proposed Project.

Comparison of Levels of Protection among MPAs

There is great variation in the type and magnitude of activities that may be permitted within the different types of MPAs, especially in SMPs and SMCAs. This variety intentionally provides designers of MPA network components with flexibility in proposing MPAs, including SMRs, which either individually or collectively fulfill the various goals and objectives specified in the MLPA. However, this flexibility can result in complexity and possible confusion regarding our understanding of what levels of ecological protection are afforded by any individual MPA or collection of MPAs. In particular, SMCAs allow for many possible combinations of recreational and commercial extractive activities. MPA network proposals with similar numbers and sizes of SMCAs may in fact differ markedly in the type, degree, and distribution of protection throughout the North Coast Study Region relative to a fully-protected area. Therefore, the purpose of categorizing MPAs by their relative level of protection is to clarify comparisons of the overall conservation value of MPAs within and among proposed network components (CDFG 2008).

The evaluation of the level of protection provided by each MPA was largely based on its restrictions for removal or “take” of living marine resources. Three forms of take include:

1. Direct removal of a species,
2. Unintended incidental removal of a species in the process of targeting another species (referred to as “bycatch”), and
3. Perturbation of the ecosystem in such a way that it leads to increased mortality of a species (e.g., alteration of habitat that leads to reduced refuge from predators).

Take is not limited to fishing activities. For example, coastal power-generating stations impinge fishes and invertebrates and entrain their larvae in the process of drawing ocean water for cooling systems. Likewise, many minor seawater intakes and sewage outfalls occur along the coast. The impacts of seawater intakes and sewage outfalls can be diffuse in nature, and can affect ecosystems both locally and regionally (CDFG 2008). Despite this, levels of protection are only assigned to MPAs based on directed take, depending on the allowed uses specified for the MPA.

SMRs provide the greatest level of protection to species and ecosystems by allowing no take of any kind with the exception of take conducted by a holder of a scientific collecting permit. The very high level of protection attributed to an SMR is based on the assumption that no appreciable level of take or alteration of the ecosystem will be allowed. Thus, SMRs provide the greatest likelihood of achieving MLPA goals 1, 2, and 4.

SMCAs have more variable levels of protection and conservation because they may allow any combination of commercial and recreational fishing.

MPAs are most effective at protecting species with limited home ranges and with close associations to seafloor habitats. Less protection is afforded to more wide-ranging, transient species, such as salmon and other pelagic finfish. This relationship may lead to proposals for SMCAs that prohibit take of bottom-dwelling species, while allowing the take of pelagic finfish. However, take of some pelagic finfish, such as salmon, near the sea floor or over rocky substrate in relatively shallow water, may increase the likelihood of inadvertently catching bottom species (e.g., California halibut, lingcod, rockfishes) that are expected to otherwise receive protection within the MPA. Although depth- and habitat-related bycatch information for specific fisheries is not readily available, rates of bycatch in the commercial and recreational fisheries may be higher in shallow water where bottom fish may move closer to the surface and become susceptible to the fishing gear, or may be higher for one type of fishing gear than another (CDFG 2008). A scale of levels of protection was developed by the MLPA Master Plan Science Advisory Team (SAT, see section 1.1.3), based on the ecological impact of removal of a species by a given harvest method, for use in evaluating the relative protection provided by each proposed MPA.

The levels of protection (LOPs), as they apply to the North Coast Study Region, are presented below.

- **Very High**—no take of any kind is allowed. This designation applies only to SMRs.
- **High**—Proposed activities were assigned this level of protection if the SAT concluded that the activity: 1) does not directly alter habitat, 2) is unlikely to substantially alter the abundance of any species relative to an SMR, and 3) is

unlikely to have an impact on community structure relative to an SMR. The mobility of removed species (both target and associated catch) was an important factor in determining the activity's impact on abundance and community structure. Individuals of highly mobile species are expected to move frequently between MPAs and unprotected waters, so local abundance of these species is unlikely to be different in a fished area relative to an SMR. Altered abundance of a species, and the associated changes in ecological interactions (e.g., predator/prey, competitive, or mutualistic relationships), drive changes in community structure. If the proposed activity is unlikely to alter the abundance of any species relative to an SMR, community structure is likewise anticipated to be unaltered and the activity is expected to have little impact on the ecosystem.

- **Moderate-High**—Activities were assigned this level of protection if the SAT concluded that the activity: 1) does not directly alter habitat; 2) may alter the abundance of a targeted or nontargeted species relative to an SMR, but this change in abundance is not likely to be substantial relative to natural variations in population; and 3) has some potential to alter community structure relative to an SMR. Changes in community structure could be caused by a change in the size structure of the targeted population or a temporary reduction in the local abundance of a species, thereby altering the functional role of a species in a community but having little long-term impact on the local population. Activities assigned this level of protection are generally characterized by uncertainty regarding ecosystem impacts. This uncertainty arises in one of three ways: 1) the movement range of the target species is either uncertain or short enough that reserve effects are possible, yielding uncertainty as to whether the abundance of this species will be altered relative to an SMR; 2) the level or composition of incidental catch is uncertain, making it unclear whether the abundance of any nontargeted species will be altered relative to an SMR; or 3) the ecological role of any removed species is unclear, leading to uncertainty about how removal may alter community structure relative to an SMR.
- **Moderate**—Activities were assigned to this level of protection if the SAT concluded that the activity was likely to alter habitat or substantially alter species abundance in the area relative to an SMR, but that these changes were unlikely to affect community structure substantially. Activities that are LOPs likely to cause minor habitat perturbations or alter the abundance of species that play a minor ecological role (e.g., one of many prey items) received this level of protection.
- **Moderate-Low**—Activities were assigned to this LOP if the SAT concluded that the activity was likely to alter habitat (either through direct habitat damage or removal of species that form biogenic habitat) or substantially alter species abundance in the area relative to an SMR, but changes to community structure are likely to occur primarily through species interactions, not habitat effects.
- **Low**—Only activities that affect habitat in a way that is likely to significantly alter community structure were assigned to this level of protection. Activities with the potential to alter habitat substantially, either through damage to substrate or extraction of habitat-forming organisms, received this low LOP.

Coastal MPAs are most effective at protecting species with limited range of movement, most of which are closely associated with seafloor habitats. Less protection is afforded to more

wide-ranging, transient species such as salmon and other pelagics (e.g., albacore and pelagic sharks). See above, in the section, “Comparison of Levels of Protection among MPAs,” for a discussion of how this varying ability to provide protection has led to proposals for SMCAAs that prohibit take of bottom-dwelling species, while allowing the take of transient pelagic species.

The SAT considers each potential allowed use inside an MPA individually, to arrive at the decisions summarized in **Table 1-2**. For an MPA that allows multiple activities, the lowest LOP designation resulting from any allowed activity in that MPA is the one assigned to that MPA. The MLPA Master Plan SAT (see section 1.1.3) acknowledges that multiple uses within an MPA may have cumulative impacts on the ecosystem that exceed those of the individual activities; such cumulative impacts are difficult to predict and have not been included in the evaluations of LOPs. Similarly, the SAT acknowledges that the level of harvest that occurs within a given MPA may also affect the degree of its realized impact on the ecosystem; the level of harvest is also difficult to predict and its effect has not been included in the evaluation of MPAs. For the purpose of assigning LOPs, a “substantial” change in the abundance of a species is defined as a change in abundance that is likely to be persistent and detectable through comparison with a no-take area.

Table 1-2. Level of Protection and Associated Activities

Level of Protection	MPA Types	Activities Associated with this Protection Level
Very high	SMR	No take
High	SMCA	Salmon and other pelagic finfish^a (H&L or troll in waters >50m depth); pelagic finfish^a except salmon (spearfishing); coastal pelagic finfish^b (H&L, round-haul net, dip net, cast net, hand); Pacific lamprey (H&L, hand harvest, spear, bow and arrow, dip net); eulachon (dip net); nonliving shells (hand)
	SMP	
Mod-high	SMCA	Dungeness crab (trap, hoop-net, diving, hand); salmon and other pelagic finfish^a (troll in water <50m depth); surf and night smelts (dip net, a-frame net, cast net); sharks, skates, and rays (spear, harpoon, bow and arrow in nonestuarine waters); trout except steelhead rainbow trout (H&L); California halibut, flounders, soles, turbots, and sanddabs (spearfishing); market squid (H&L, round-haul net, dip net, cast net, hand);
	SMP	
Moderate	SMCA	Redtail surfperch (H&L from shore); surfperch (H&L from shore); California halibut, flounders, soles, turbots, and sanddabs (H&L); coonstripe shrimp and spot prawn (trap); clams (intertidal hand); nori/laver and sea lettuce^c (intertidal hand); salmon and other pelagic finfish^a (H&L in waters <50m depth); white sturgeon (H&L); sharks, skates, and rays (H&L)
	SMP	
Mod-low	SMCA	Pacific halibut (H&L); rockfishes, cabezon and other sculpins, lingcod and other greenlings, California moray eel, wolf eel, and monkeyface and rock prickleback (H&L, spearfishing, trap, hand, bow and arrow); red abalone (free-diving); urchin (diving); surfperch (H&L); shiner surfperch (H&L, dip net, cast net); unspecified finfish (H&L, spearfishing); sharks, skates, and rays (H&L, spear, harpoon, bow and arrow in
	SMP	

Table 1-2. Level of Protection and Associated Activities

Level of Protection	MPA Types	Activities Associated with this Protection Level
Low	SMCA SMP	estuarine waters); limpets and turban snails (hand); octopus (H&L, hand); crabs (trap, hoop net, hand); Turkish towel and Mendocino grapestone^d (intertidal hand)

Notes: H&L = hook and line, m = meter(s), MPA = marine protected area, SMCA = state marine conservation area, SMP = state marine park, SMR = state marine reserve

^a The grouping “pelagic finfish” includes northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena spp.*), billfishes* (family *Istiophoridae*), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicas*), salmon (*Oncorhynchus spp.*), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias spp.*), swordfish (*Xiphias gladius*), tunas (family *Scombridae*), and yellowtail (*Seriola lalandi*). *Marlin is not allowed for commercial take.

^b The grouping “coastal pelagic finfish” includes Northern anchovy (*Engraulis mordax*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicas*), and Pacific sardine (*Sardinops sagax*).

^c *Porphyra spp.* (Nori, Laver), *Ulva spp.* (Sea Lettuce).

^d *Chondrocanthus/Gigartina exasperata* (Turkish Towel), *Mastocarpus spp.* (Mendocino Grapestone).

^e The grouping “canopy-forming algae” includes the following harvested groups: *Alaria spp.* (Wakame), *Lessoniopsis littoralis* (Ocean Ribbons), *Laminaria spp.* (Kombu), *Saccharina/Hedophyllum sessile* ('Sweet' Kombu), *Egregia menziesii* (Feather Boa), and *Fucus spp.* (Bladder Wrack or Rockweed).

For more information regarding the levels of protection and associated activities, refer to Chapter 3, page 12, of *Methods Used to Evaluate Marine Protected Area Proposals in the MLPA North Coast Study Region*, available here: <http://dfg.ca.gov/mlpa/pdfs/northcoastproposals/evaluationmethods.pdf>.

Source: California MLPA Master Plan Science Advisory Team 2011

1.1.3 MLPA Initiative MPA Planning Process

In August 2004, the California Natural Resources Agency, the Department, and the Resources Legacy Fund Foundation launched a public-private partnership, the MLPA Initiative, to implement the MLPA.

Rather than attempting to design a single MPA network for the entire state at one time, the MLPA Initiative recommended a series of regional processes focused on five study regions. MPA networks for three of the five study regions are in place, and the North Coast Study Region will complete the network along California’s open coast, leaving only the San Francisco Bay Study Region to be completed. The five study regions from north to south are:

- North Coast Study Region (California/Oregon border to Alder Creek near Point Arena) [in Commission process February 2011]
- North Central Coast Study Region (Alder Creek near Point Arena to Pigeon Point) [implemented May 2010]

- San Francisco Bay Study Region (waters within San Francisco Bay, from Golden Gate Bridge northeast to Carquinez Bridge) [future process design to be determined]
- Central Coast Study Region (Pigeon Point to Point Conception) [implemented September 2007]
- South Coast Study Region (Point Conception to the California/Mexico border) [implemented January 2012]

For each study region, a Blue Ribbon Task Force (BRTF), a Master Plan SAT, a Regional Stakeholder Group (RSG), and a Statewide Interests Group (SIG) was established for the MLPA Initiative process, to participate in the process of determining MPA design alternatives for the Commission's consideration. For each of the five study regions listed above, the BRTF may submit recommendations for a preferred alternative for a network of MPAs and other MPA network alternatives developed by stakeholders (and potentially modified by the BRTF) to the Commission, who has the authority to designate them. As such, the MLPA Initiative had an advisory role to the Commission on MLPA policy implementation.

The following groups and organizations were involved in the MLPA Initiative planning process for the North Coast Study Region:

- MLPA Initiative staff (contracted);
- California Department of Fish and Game (Department) staff;
- California Department of Parks and Recreation (State Parks) staff;
- Many volunteer bodies, including:
 - The BRTF—an oversight body;
 - The SAT—an expansion of the former Master Plan Team with additional, local expertise;
 - The SIG—for providing advice on the initiative process;
 - North coast community groups—developed external proposed MPA arrays for the first round of MPA planning;
 - The MLPA North Coast Regional Stakeholder Group (NCRSG)—developed proposed MPA arrays in second and third planning rounds;
- The Commission;
- Tribes and tribal communities; and
- Members of the public.

1.1.4 Design Considerations for MPAs

According to the MLPA, the proposed alternatives must include MPA networks with an improved marine life reserve component, designed according to each of the following guidelines:

- Each MPA shall have identified goals and objectives. Individual MPAs may serve varied primary purposes while collectively achieving the overall MLPA goals and guidelines.
- Marine life reserves in each bioregion shall encompass a representative variety of marine habitat types and communities, across a range of depths and environmental conditions.
- Similar types of marine habitats and communities shall be replicated, to the extent possible, in more than one marine life reserve in each biogeographical region.
- Marine life reserves shall be designed, to the extent practicable, to ensure that activities that upset the natural ecological functions of the area are avoided.
- The MPA network and individual MPAs shall be of adequate size, number, type of protection, and location to ensure that each MPA meets its objectives and that the network as a whole meets the MLPA goals and guidelines.

The SAT provided guidance on how to meet the guidelines listed above. As has been done in previous study regions, the SAT also conducted analyses to identify biogeographically relevant subregions (hereafter referred to as “bioregions”) within the large-scale biogeographic region to help ensure that distinct species assemblages within each study region are adequately represented in MPAs. The SAT identified two bioregions that characterize the North Coast Study Region:

- Alder Creek near Point Arena to the mouth of the Mattole River
- Mouth of the Mattole River to California/Oregon border

Although the SAT guidance is not prescriptive, any significant deviation from it should be consistent with both regional goals and objectives (see Chapter 2), and MLPA requirements. The following SAT guidelines inform MPA network design:

- To protect the diversity of species that live in different habitats and those that move among different habitats over their lifetime, every “key” marine habitat should be represented in the MPA network.
- To protect the diversity of species that live at different depths, and to accommodate the movement of individuals to and from shallow nursery or spawning grounds to adult habitats offshore, MPAs should extend from the intertidal zone to deep waters offshore.
- To best protect adult populations, based on adult neighborhood sizes and movement patterns, MPAs should have an alongshore extent of at least 3 to 6 statute miles (mi) (5 to 10 kilometers [km]) of coastline, and preferably 6 to 12.5 mi (10 to 20 km). Larger MPAs are required to fully protect marine birds, mammals, and migratory fish.

- To facilitate dispersal among MPAs of important bottom-dwelling fish and invertebrate groups, based on currently known scales of larval dispersal, MPAs should be placed within 31 to 62 mi (50 to 100 km) of each other.
- To enable analysis for management comparisons, and to buffer against catastrophic loss of an MPA, at least three to five replicate MPAs should be designed for each habitat type within each biogeographical region, and at least 1 replicate of each key habitat in each bioregion (distinct regions within each biogeographic region).
- To lessen negative impact, while maintaining value, placement of MPAs should take into account local resource use and stakeholder activities.
- Placement of MPAs should take into account the adjacent terrestrial environment and associated human activities.
- To facilitate adaptive management of the MPA network into the future, and the use of MPAs as natural scientific laboratories, the network design should account for the need to evaluate and monitor biological changes within MPAs.

The SAT's guidance acknowledges that not every MPA will necessarily meet all of these objectives, and that the diversity of species and habitats to be protected, and the diversity of human uses of marine environments, prevent a single optimum network design in all environments.

The Department is the lead agency responsible for the design, implementation, and enforcement of the statewide network of MPAs. The Department provided guidance for creating feasible MPAs that are easy for the public to understand and comply with, and are easily enforced. The Department's guidance acknowledges that not every MPA will meet all the feasibility guidelines, but adhering to them as closely as possible will facilitate compliance and enforcement of the network of MPAs. The Department's feasibility guidelines on MPA network design include these measures:

- to ensure the public can identify MPA boundaries, use straight lines (due north/south or east/west) coming off easily recognizable, permanent landmarks, for boundaries when possible, or use major lines of latitude/longitude;
- to facilitate compliance, use simple regulations and avoid unnecessarily complex arrangements of adjacent marine reserves, marine conservation areas and marine parks;
- consider accessibility when placing MPA boundaries;
- to ensure the public can identify MPA boundaries, avoid depth contour or "distance from shore" boundaries; and
- avoid intertidal MPAs that do not have an offshore component.

State Parks is responsible for managing California's terrestrial parks, many of which are sited along the California coast, and for designating any SMPs that may be forwarded as a recommendation in the alternatives. State Park's guidelines on design of MPAs adjacent to state park lands include these measures:

- consider areas offshore of terrestrial state parks as to their appropriateness and suitability for MPAs;
- consider especially areas offshore from state parks when they provide opportunities for public visitation, help protect representative habitats and species, provide special protection for intertidal species and habitats, provide venues for marine interpretation and education, and facilitate law enforcement; and
- when designing MPAs offshore of terrestrial parks, consider the state park's general plan as well as existing public use patterns.

NCRSG considered the goals and guidelines of the MLPA and guidance from the SAT, the Department, and State Parks during the iterative planning process. In addition, the BRTF provided guidance to the NCRSG to design a cross-interest network of MPAs that meets the goals and guidelines of the MLPA, is feasible from the compliance and enforcement point of view, and complements terrestrial parks. The BRTF overarching guidelines on MPA network design include these measures:

- Place great weight on SAT evaluations.
- Strong emphasis will be placed on MPAs that fall within the SAT preferred size and spacing range; proposals should include MPAs with “very high” or “high” levels of protection; marine reserves should be the “backbone” of any proposal; and proposals may include MPAs with at least a “moderate-high” level of protection or greater (see section 1.1.2 for definitions of levels of protection).
- Cross-interest support for MPA proposals and cross-interest involvement in their development is important and will be given great weight.
- NCRSG should strive for convergence in geographies and regulations, where possible.
- Strong consideration should be given to Department feasibility guidelines. NCRSG should provide rationale for any deviations from the recommendations in the feasibility analysis conducted by the Department.
- Where possible and as information allows, avoid areas where traditional, noncommercial, tribal gathering, subsistence, harvesting, ceremonial and stewardship activities occur and conform as closely as possible to the SAT guidelines. MPAs that are otherwise intended as state marine reserves, but for continued traditional, noncommercial, tribal gathering, subsistence, harvesting, ceremonial and stewardship activities, should be classified as state marine parks or state marine conservation areas.
- Special closures should be used sparingly and selectively.

1.1.5 Location and General Characteristics of the North Coast Study Region

The Proposed Project is located in state waters along the northern California coast, from Alder Creek, 5 mi north of Point Arena in Mendocino County, to the California/Oregon border in Del Norte County (**Figure 1-1**). The straight-line distance between these two



Figure 1-1
Project Location and Existing Conditions

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points is approximately 225 mi, but the actual length of the shoreline is much longer (about 17 mi). The North Coast Study Region (Study Region) has been divided into two bioregions, as described above, the first of which extends from the California/Oregon border to the mouth of the Mattole River, and the second extending from that location south to Alder Creek.

In general, state waters in the Study Region extend from the mean high-tide line to 3 nautical miles (nm) (3.4 mi) seaward along the mainland shore. However, state waters in the Study Region also include 3 nm around offshore rocks such as Reading Rock and Southwest Seal Rock. In total, the Study Region is approximately 1,027 square statute miles (mi^2) and extends from the shoreline (mean high-tide line) to a maximum depth of approximately 1,667 feet (ft) in Mattole Canyon. Most of the Study Region is relatively shallow (less than 100 meters). The Study Region contains nearly 20 estuaries and lagoons greater than 0.5 mi^2 in size.

The human population, their broad range of interests, the sensitive marine ecosystem, and the unique conditions of the California Current Large Marine Ecosystem (LME) combine to create a complex setting. Some of the unique features of the Study Region include (MLPAI 2010):

- a complex system of oceanographic currents and features that make up the California Current LME, one of only four temperate upwelling systems in the world;
- diverse habitats ranging from rocky coasts and sandy beaches to soft- and hard-bottom deep habitat and some of the least developed coastal areas in the state;
- kelp forests dominated by bull kelp and associated species assemblages of flora and fauna;
- nearly 20 estuaries and lagoons that are greater than 0.5 mi^2 in size, and high biodiversity of fish, birds, invertebrates, and marine mammals;
- the Smith River, the largest river system in California that flows freely along its entire course;
- Castle Rock, an offshore rock supporting the largest population of Common Murres in California;
- Humboldt Bay, the second largest estuary in California and home to approximately 40% of the known eelgrass in the state;
- Cape Mendocino, location of the Mendocino Triple Junction and one of the most seismically active regions in the contiguous United States;
- submarine canyons, such as Mendocino, Mattole, Delgada and Spanish canyons, that bring deepwater habitats and species into close proximity to the near-shore;
- the Eel River, the third largest watershed in California with the highest recorded average sediment yield per drainage area of any river of its size or larger in the contiguous United States;
- productive commercial fisheries, targeting a wide diversity of species that help support economies of coastal communities;

- opportunities for consumptive recreational activities, including shore and vessel-based fishing, kayak angling, clamming, and abalone picking and diving, which is currently only allowed in California north of San Francisco Bay; and
- opportunities for a range of nonconsumptive activities, such as diving, surfing, kayaking, beach-going, swimming, and shore and boat-based wildlife viewing.

1.1.6 Jurisdictions of Coastal and Open Waters

The waters of the California coast include local, state, federal, and international jurisdictions, including the State Tidelands and Submerged Lands (State Tidelands), Outer Continental Shelf, territorial sea, contiguous zone, Exclusive Economic Zone (EEZ), and high seas (**Figure 1-2**). These jurisdictions are used to describe areas of offshore ownership and sovereignty, as well as various forms of mineral, fishery, national security, or regulatory controls. The State Tidelands are owned, managed, and regulated by the State of California. The federal government has authority in the waters beyond the State Tidelands, but this authority can be limited by international regimes. Additionally, some tribes have territorial boundaries over coastal lands adjacent to California coastal waters in the Study Region.

The Proposed Project is located within waters that are under the jurisdiction of the State of California, as confirmed by the Submerged Lands Act of 1953 (43 United States Code 1301–1315). The Department, part of the California Natural Resources Agency, is the state agency responsible for the conservation and management of living marine resources. The Commission has the authority to designate, delete, or modify SMRMAs, SMRs, and SMCAs, as delineated in PRC Section 36725(a).

State Tidelands and Submerged Lands (Mean High-Tide Line to 3 Nautical Miles Offshore)

The Federal Submerged Lands Act of 1953 generally conferred ownership of the submerged land and marine resources within 3 nm of the mean high-tide line to coastal states such as California. This authority provides for state control and regulation of the development of resources such as oil, gas, and fisheries within this area.

Outer Continental Shelf (Seaward of 3 Nautical Miles from Shore)

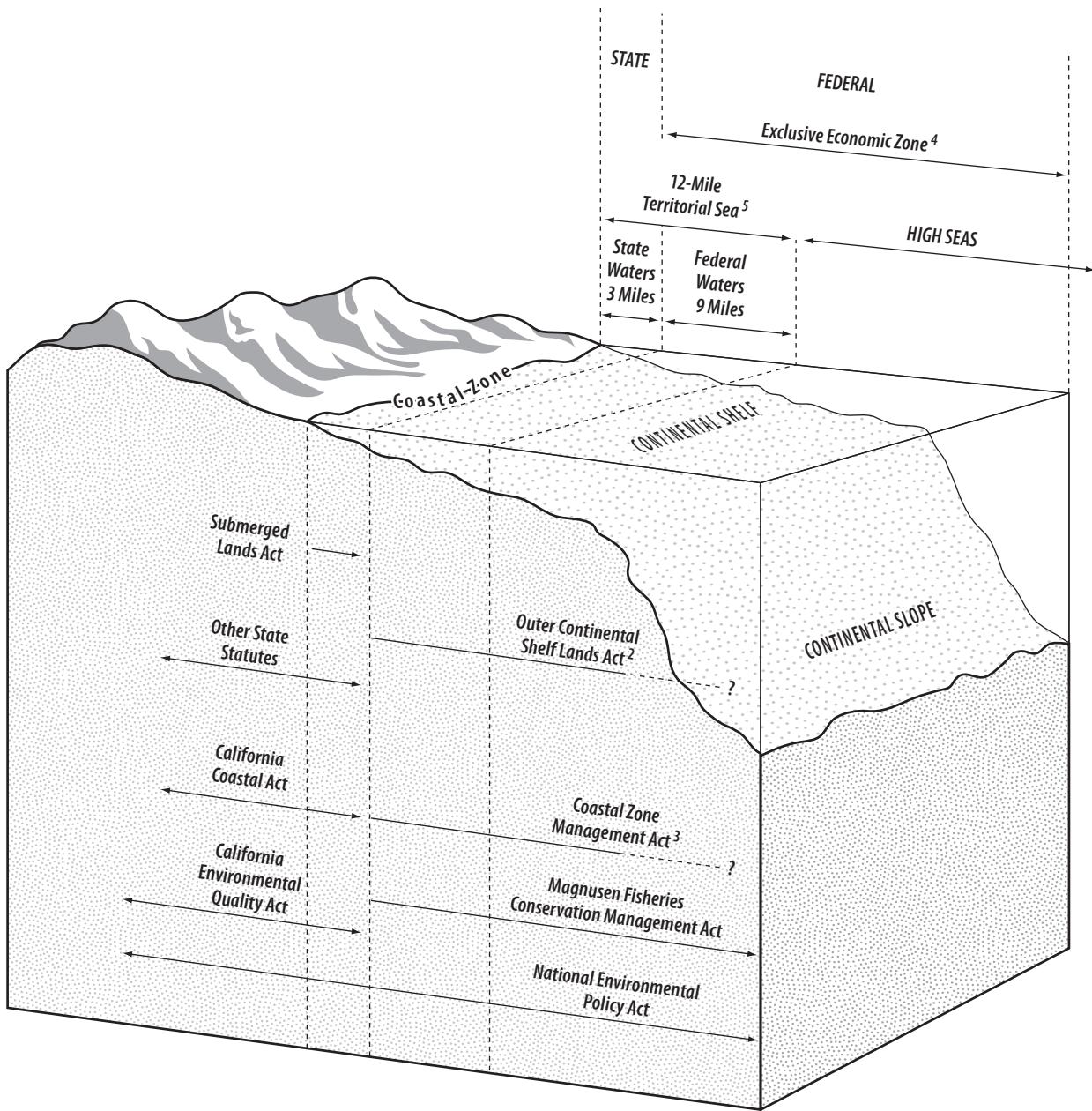
The Outer Continental Shelf Lands Act of 1953, passed in coordination with the Submerged Lands Act, confirmed federal jurisdiction over resources beyond 3 nm from shore and created a legal process for developing those resources.

Territorial Sea (Shoreline to 12 Nautical Miles Offshore)

Pursuant to a 1988 Presidential Proclamation, the United States now asserts sovereign rights over the lands and waters out to 12 nm from shore. The previous territorial sea designation was coextensive with the State Tidelands in California. This proclamation does not disturb the rights of states in the waters out to 3 nm confirmed by the Submerged Lands Act.

Contiguous Zone (12–24 Nautical Miles Offshore)

Pursuant to a 1999 Presidential Proclamation, the United States exercises the control necessary to prevent infringement of its customs, fiscal, immigration, or sanitation laws.



¹ The Legislature adopted maps defining the inland boundary of the coastal zone.

² The seaward reach of the continental shelf cannot be precisely delineated.

³ The landward and seaward reach of the CZMA cannot be precisely delineated.

⁴ In accord with article 57 of the 1982 Law of the Sea Convention, the EEZ is defined from the baseline of the Territorial Sea out to 200 miles. California's State Waters extend three miles offshore.

⁵ By proclamation in 1988, the U.S. Territorial Sea was extended from three to twelve miles offshore.

Figure 1-2
Legal Jurisdictions Offshore California

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Exclusive Economic Zone (3–200 Nautical Miles Offshore)

Pursuant to the 1983 Presidential Proclamation, the United States asserts jurisdiction over the living and nonliving resources within the EEZ. Although coastal states have primary jurisdiction and control over the first 3 nm of the EEZ, the federal government has primary jurisdiction over and controls the remaining 197 nm. The Coastal Zone Management Act (CZMA), however, provides coastal states with substantial authority to influence federal actions beyond 3 nm.

High Seas (Beyond 12 Nautical Miles from Shore)

This designation includes all portions of the sea not included in the territorial sea of any nation. High seas are partially coextensive with the contiguous zone (not formally adopted in the United States) and the EEZ. The primary characteristic of the high seas is a nation's right to freely navigate its vessels (including war vessels) within this area.

Tribally Owned Lands

The following federally recognized tribes maintain jurisdiction over coastal lands adjacent to the Study Region:

- Smith River Rancheria
- Yurok Tribe of the Yurok Reservation
- Wiyot Tribe

Tribally owned lands of the Smith River Rancheria encompass some portions of Lopez Creek, the land above the shoreline opposite Prince Island, and Prince Island.

The Yurok Tribe of the Yurok Reservation owns the Klamath River and 1 mi of land on either side of the river bank, beginning at the confluence of the Trinity and Klamath Rivers and extending to the river mouth.

The Wiyot Tribe maintains tribally owned lands and affected waterways, including the Table Bluff Reservation along southern Humboldt Bay; the Old Reservation, which abuts McNulty Slough; Indian Island in Humboldt Bay; and Cock Robin Island in the Eel River Estuary.

1.1.7 Resource-Based Agencies and Commissions

There are a number of state and federal agencies and commissions that have jurisdictional and regulatory responsibility over California coastal marine and ocean resources. Ocean resource management in California falls under the authority of two executive branch agencies, the Natural Resources Agency (which includes the Department) and the California Environmental Protection Agency (Cal/EPA). Although the authority to direct most ocean management issues rests with the Natural Resources Agency, Cal/EPA oversees development of ocean water quality standards and regulation of waste discharges to the marine environment. Federal jurisdiction over ocean resources is divided among seven large departments, including the U.S. Departments of Agriculture, Commerce, Defense, Interior, and Transportation; the Food and Drug Administration; and the U.S. Environmental Protection Agency (USEPA). Many of these federal entities have some

jurisdiction or responsibilities within the Study Region. The jurisdiction and responsibilities for these entities are summarized below.

State Agencies, Commissions, and Programs

California Department of Fish and Game/California Fish and Game Commission

The Department is a public trustee for fish and wildlife resources, and has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and habitat necessary for biologically sustainable populations of those species. The Department has conservation and management authority over living marine resources within state waters, as well as administration and enforcement authority of fisheries regulations and delivered catch to California ports. Thus, the Department has some authority beyond state waters and often enforces regulations in this area. In addition, the Department enforces marine aquaculture regulations within state waters, such as those encompassed by state water bottom leases for oyster mariculture that exist in Humboldt Bay within the Study Region.

The Commission is an appointed body that formulates general policies for the conduct of the Department. The Department director is guided by those policies and responsible to the Commission for the administration of the Department in accordance with those policies, (Fish and Game Code Section 703), although the Commission does not have any powers in relation to the administration of the Department (Fish and Game Code Section 104). The Commission also has authority to regulate fisheries, to list species as endangered or threatened under the California Endangered Species Act and to designate, delete, or modify SMRs and SMCAs, and SMRMAs established for hunting purposes (PRC Section 36725).

California Coastal Commission

The California Coastal Commission (CCC) is responsible for administering the California Coastal Act (Coastal Act) and the federally approved California Coastal Management Program pursuant to the federal CZMA. The Coastal Act policies implemented by CCC address issues such as public access and recreation, natural resource protection, agricultural operation, coastal development projects, port activities, and energy production. Jurisdiction is within the 1,100-mi-long coastal zone, which encompasses 1.5 million acres of land, including all state waters and up to 5 nm inland from the mean high-tide line. This jurisdiction also extends into the ocean to the federal waters limit through CCC's federal consistency authority under the CZMA.

State Lands Commission

The California State Lands Commission (SLC) has jurisdiction over all of California's ungranted public tidal and submerged lands, beds of naturally navigable rivers and lakes (each of which are sovereign lands), swamp and overflow lands, and school lands (proprietary lands). Management responsibilities of the SLC extend to activities within submerged lands and those within state waters. Pursuant to SLC administrative actions and recent legislative leasing restrictions, the SLC currently has no program for offshore oil and gas leasing in state tidelands. However, the SLC carefully monitors existing offshore oil and gas activities to ensure revenue accountability, efficient resource recovery, and protection of the environment.

California Department of Parks and Recreation/California Park and Recreation Commission

State Parks manages coastal wetlands, estuaries, beaches, and dune systems along California's coastline. Through submerged land leases, State Parks has management authority over 15 underwater areas, though it does not have authority to restrict the take of living marine organisms. Three underwater areas in the Study Region are under lease from SLC: MacKerricher, Russian Gulch, and Point Cabrillo Light Station. In addition, there are 20 state parks adjacent to the coast in the Study Region.

The State Park and Recreation Commission has authority to designate, delete, or modify SMRs, SMPs, SMCAs, SMRMAs, and state marine cultural preservation areas (PRC, Section 36725). However, the State Park and Recreation Commission may not take these actions without the concurrence of the Fish and Game Commission regarding any proposed restrictions on, or change in, the use of living marine resources.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) establish California's water quality standards pursuant to the requirements of the state's Porter-Cologne Water Quality Control Act and the federal Clean Water Act. The SWRCB has developed a series of statewide water quality control plans to set water quality standards for California. These include the Enclosed Bays and Estuaries Plan, Thermal Water Quality Control Plan, and California Ocean Plan (Ocean Plan). The Ocean Plan presents water quality objectives and establishes the basis for the regulation of waste discharges under the National Pollutant Discharge Elimination System (NPDES) program and associated permitting process. The SWRCB is responsible for adopting the Ocean Plan, and the RWQCBs are responsible for interpretation and implementation of the Ocean Plan through issuance of NPDES permits and follow-up enforcement activity. The SWRCB has authority to designate, delete, or modify state water quality protection areas (including areas of special biological significance) (PRC Section 36725).

The Ocean Plan identifies beneficial uses of marine waters that can be maintained through water quality control and establishes a set of narrative and numerical water quality objectives to protect these uses. Examples of such uses include marine life habitat, fish migration, fish spawning, shellfish harvesting, rare and endangered species habitat, recreation, industrial water supply, commercial and sport fishing, mariculture, aesthetics, and navigation.

Federal Agencies, Commissions and Programs**National Oceanic and Atmospheric Administration (U.S. Department of Commerce)**

The National Oceanic and Atmospheric Administration's (NOAA's) ocean-related responsibilities include conducting a comprehensive and integrated program of marine policy, ocean, atmosphere, and earth data collection and resource management, as well as providing grants for research, education, and advisory services. The five divisions within NOAA are the National Environmental Satellite, Data, and Information Service; National

Marine Fisheries Service (NOAA Fisheries); National Ocean Service; National Weather Service; and Office of Oceanic and Atmospheric Research.

NOAA Fisheries

NOAA Fisheries manages certain living resources (i.e., marine finfish, invertebrates, marine mammals) generally between 3 and 200 nm seaward of the U.S. coast. NOAA Fisheries has lead management responsibility for all marine mammals except sea otter, walrus, manatee/dugong, and polar bear, all of which are under the authority of the U.S. Fish and Wildlife Service (USFWS). Sea turtles (at sea) are managed under the federal Endangered Species Act (ESA) authority of NOAA Fisheries, while seabirds are within the purview of USFWS.

Pacific Fishery Management Council

The Pacific Fishery Management Council (PFMC) and seven other regional councils were created by the Magnuson-Stevens Fishery Conservation and Management Act in 1976, with amendments added in 1996 and 2006, with the primary role of developing, monitoring, and revising management plans for fisheries conducted in federal waters, generally within 3 to 200 nm (the EEZ) of the U.S. coast. PFMC is not a federal agency, but a regional body funded through the U.S. Department of Commerce. PFMC develops plans for ocean fisheries off California, Oregon, and Washington in need of regional management. To date, PFMC has adopted and implemented a Pacific Coast Groundfish Fishery Management Plan (FMP), Pacific Coast Salmon FMP, Coastal Pelagic Species FMP, and West Coast Highly Migratory Species FMP, and is developing an ecosystem management plan that is still early in the process.

U.S. Fish and Wildlife Service

USFWS is responsible for protecting and conserving freshwater and anadromous fisheries, wildlife (birds and most mammals), and their habitats for the benefit of the public. USFWS monitors and implements programs for managing migratory birds and fish, national wildlife refuges and national fish hatcheries; restoration programs; and listing, protection, and development of recovery programs under the ESA for candidate species. The agency also comments on federal proposals and federally permitted projects, and provides research and support for international negotiation regarding fisheries, migratory wildlife, and protected species.

USFWS has jurisdiction over freshwater and estuarine fishes and a regulatory role concerning federal activities with potential impact on certain marine mammals (southern sea otter, manatee/dugong, polar bear, walrus), migratory birds, sea turtles on shore, freshwater fishes, and endangered species onshore or within national wildlife refuges. NOAA Fisheries Service holds jurisdiction over most threatened and endangered marine mammals (i.e., whales, seals, sea lions), and anadromous (salmon) and marine fisheries. USFWS has jurisdiction over inland and freshwater species, and seabirds.

U.S. Environmental Protection Agency

USEPA was established to perform two primary functions: research and development; and abatement and control of pollution through a combination of research, monitoring, standard-setting, and enforcement activities. Although USEPA has no direct ocean resource management responsibilities, it administers and enforces various environmental protection statutes of general application. One of those statutes is the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), under which it registers and regulates the use of pesticides or approves state plans for that purpose. Among the products regulated under FIFRA is tributyltin, a component of ship-bottom anti-fouling paints, which has an adverse effect on marine life. USEPA also manages the National Estuary Program, which identifies, restores, and protects nationally significant estuaries.

U.S. Bureau of Land Management

The U.S. Bureau of Land Management (BLM) administers 262 million surface acres of America's public lands, located primarily in 12 western states. BLM was established to sustain the health, diversity, and productivity of public lands under its jurisdiction for the use and enjoyment of present and future generations. Among other holdings, BLM manages lands within the National Landscape Conservation System through development and implementation of resource management plans, though BLM's jurisdiction ends at the mean high-tide mark.

Adjacent to and within the Study Region, BLM manages several onshore coastal properties and the California Coastal National Monument (CCNM), which statewide encompasses more than 20,000 offshore rocks and small islands above mean high tide within 12 nm of the coast, and about 1,000 acres of offshore lands. BLM has entered into partnerships with federal, tribal, state, and local entities, including the Department and State Parks, to coordinate management of these lands. BLM's management goals for the CCNM emphasize protection of the biological, geological, aesthetic, and cultural resources of the rocks and islands.

Department of Homeland Security U.S. Coast Guard

The Department of Homeland Security U.S. Coast Guard is the primary maritime law enforcement agency. U.S. Coast Guard establishments adjacent to the Study Region include the Air Station Humboldt Bay, Station Humboldt Bay, Station Noyo River, and the Boating Station in Del Norte County.

U.S. National Park Service

The National Park Service (NPS) manages several park lands located along the California Coast. Redwood National and State Parks is a cluster of Redwood National Park and three state parks managed as a single unit by NPS and State Parks. The typical seaward boundary of coastal national park lands extends approximately 0.25 mi offshore. NPS administers the uses within that 0.25 mi (1000 feet). The scope of jurisdiction (i.e., exclusive, concurrent, or proprietary) varies with each location.

1.2 Overview of CEQA Requirements

CEQA is the cornerstone of environmental law and policy in California. CEQA's primary objectives are to:

- ensure that the significant environmental effects of proposed activities are disclosed to decision makers and the public;
- identify ways to avoid or reduce environmental damage;
- prevent environmental damage by requiring implementation of feasible alternatives and/or mitigation measures;
- make public the reasons for agency approval of projects with significant environmental effects;
- foster multidisciplinary interagency coordination in the review of projects; and
- enhance public participation in the planning process.

With certain strictly limited exceptions, CEQA requires all state and local government agencies to consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. It establishes both procedural and substantive requirements that agencies must satisfy to meet CEQA's objectives. For example, the agency with decision-making authority (the lead agency, in this case, the Commission) must first assess whether a proposed project would result in significant environmental impacts. If the project could result in significant environmental impacts, CEQA requires that the agency prepare an EIR, analyzing both the proposed project and a reasonable range of potentially feasible alternatives.

As described in the State CEQA Guidelines (CCR, tit. 14, Section 15121 subdiv. [a]), an EIR is a public information document that assesses potential environmental effects of a proposed project as well as identifies mitigation measures and alternatives to the project that could reduce or avoid potentially significant environmental impacts (CCR, tit. 14, Section 15121 subdiv. [a]). Other key requirements include developing a plan for implementing and monitoring the success of the identified mitigation measures, and carrying out specific noticing and distribution steps to facilitate public involvement in the environmental review process.

The EIR is an informational document used in the planning and decision-making process. It is not the purpose of an EIR to recommend either approval or denial of a project. Consistent with CEQA requirements, the Department has engaged in a good faith, reasonable effort toward full public disclosure of potential project effects. Note that an EIR does not expand or otherwise provide independent authority of the lead agency to impose or address project-related significant environmental impacts beyond that authority already within the lead agency's jurisdiction.

1.3 Scope and Intent of this Document

This DEIR has been prepared in accordance with CEQA, under which the Proposed Project constitutes a "project." That is, in proposing to amend the previous regulations and create

marine protected areas with the proposed regulations, the Fish and Game Commission is proposing to carry out and approve a discretionary project subject to CEQA. The Commission will use the analyses presented in this DEIR, and the public response to them, to evaluate the Proposed Project's environmental impacts and to further modify, approve, or deny approval of the Proposed Project based on the analyses provided herein.

1.3.1 Type of EIR: Project EIR

As described in State CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental effects of a proposed project and identifies mitigation measures and alternatives to the project that could reduce or avoid adverse environmental impacts (14 CCR 15121[a]). The Commission's recommendation of the Proposed Project (i.e., proposed MPAs, as described in Chapter 2) constitutes a "project" under CEQA.

The purpose of this document is to:

- identify potential direct and indirect environmental impacts associated with the Proposed Project;
- identify its potential contributions to cumulative regional impacts in the Study Region;
- evaluate the potential for growth inducement that would result from the Proposed Project;
- describe mitigation measures that would avoid any potentially significant impacts or reduce them to a less-than-significant level; and
- discuss potential alternatives that would avoid or reduce one or more of the identified significant impacts of the Proposed Project.

As described below, the DEIR will be made available for public review and comment.

1.3.2 Baseline Conditions

Under CEQA, the environmental setting or "baseline" serves as a gauge to assess changes to existing physical conditions that would occur as a result of a proposed project. Per the State CEQA Guidelines (CCR, tit. 14, Section 15125), for purposes of an EIR, the environmental setting is generally the existing physical conditions in and around the vicinity of the Proposed Project, as those conditions exist at the time the Notice of Preparation (NOP) is published.

1.4 Topics Dismissed from Detailed Analysis

Upon review of the nature and scope of the Project, no potential for adverse impacts exist for several of the standard CEQA checklist resource topics. A brief description of these resource topics and considerations for their dismissal from further analysis in the DEIR is indicated below.

Aesthetics (CEQA Appendix G Checklist Section 1)

The Study Region's approximately 517 mi of shoreline provide natural aesthetic appeal. Mendocino Headlands State Park is the most visited state park in the Study Region, with over 1 million visitors in 2007–2008. The state, county, and city beaches in the Study Region attract visitors for wildlife viewing and natural scenery observations. The Proposed Project involves regulation changes whose effects result in changes in human uses along certain sections of the coastline. Specifically the Proposed Project would restrict certain types of fishing activities within MPAs. No physical alteration of land or coastal development is proposed. The Proposed Project area is limited to the state waters along the Study Region with any impacts accruing subsurface. No scenic vistas or scenic resources would be adversely affected either directly or indirectly from the Proposed Project or its alternatives. The visual character of State waters is expected to remain the same and the Proposed Project would not add any new sources of substantial light or glare adversely affecting nighttime views in the area. No significant adverse aesthetic impacts would be anticipated to result from the Proposed Project.

Geology and Soils (CEQA Appendix G Checklist Section 6)

The Study Region has unique geologic features, including rocky shores, beaches of varying grain sizes (gravel to fine-grained), salt marshes, tidal flats, underwater pinnacles, and submarine canyons. These features are the result of active tectonism, erosion, and wave action in the surrounding area and provide marine life habitat as well as public enjoyment. The Proposed Project would not interfere with these resources or processes, and it would not expose people or structures to adverse effects from seismic ground failure or shaking. The Proposed Project would protect geologic resources and, therefore, would not be anticipated to result in an adverse impact.

Hazards and Hazardous Materials (CEQA Appendix G Checklist Section 7)

Pursuant to Section 65962.5 of the Government Code sites listed on the Department of Toxic Substances Control's Cortese List adjacent to the Study Region include military sites, airports, and old lumber mills. Listed sites currently undergoing cleanup are shown below in **Table 1-3**.

Table 1-3: Hazardous Waste and Substances Sites in the Study Region

ENVIROSTOR ID	Site / Facility Name	Address Description	City	ZIP	County	Latitude	Longitude
80000155	Big Lagoon Bombing Target (Ind Reserv) (J09CA0064)		Big Lagoon		Humboldt	41.16111	-124.124
12360001	Centerville Beach Naval Facility	5 Miles West of Ferndale	Ferndale	95336	Humboldt	40.56667	-124.351
80000565	Del Norte County Airport		Crescent City		Del Norte	41.77778	-124.235

Table 1-3: Hazardous Waste and Substances Sites in the Study Region

ENVIROSTOR ID	Site / Facility Name	Address Description	City	ZIP	County	Latitude	Longitude
23240008	Georgia-Pacific Corporation	90 West Redwood Avenue	Fort Bragg	95437	Mendocino	39.43198	-123.812
23970001	Point Arena Air Force Station	Eureka Hill Road; East of Point Arena, CA	Point Arena	95468	Mendocino	38.8911	-123.55

Source: California Department of Toxic Substances 2011

None of the sites listed in Table 1-3 occur within the Proposed MPAs or special closures. The Proposed Project would not interfere with cleanup efforts, nor would it exacerbate hazardous conditions at the sites. Known sites of contaminated water bodies and pollutant sources that may discharge to waters within the Study Region are discussed in Section 3.4 "Water Quality" in Chapter 3.

Existing risks to the public and environment from the effects of hazardous materials spills or wildfires would not be altered by the Proposed Project. The Proposed Project also would not affect existing emergency response and evacuation plans. Therefore, the Proposed Project would not be anticipated to result in impacts related to hazards or hazardous material. Potential impacts associated with vessels that transport or utilize hazardous materials are evaluated in the DEIR analysis of vessel traffic impacts (Section 6.5).

Mineral Resources (CEQA Appendix G Checklist Section 10)

A federal moratorium on new outer continental shelf oil and gas leasing activities off the California coast has been in place since 1982, and issuing new state oil and gas leases in state tidelands has been banned since 1989. The federal moratorium is based on annual Congressional appropriations bans on using federal funds to plan or support offshore leasing in California, Florida, and the eastern seaboard. The ban on leasing state tidelands for oil and gas exploration and production is based on several actions, including a 1989 decision of SLC, which has jurisdiction over all state property. This ban also was a result of the California Sanctuary Act of 1994 (PRC Section 6240 et seq.), which prohibits leasing of any state tidelands, with exceptions. Although the federal moratorium and California state ban on issuing new offshore leases are both subject to change, oil and gas exploration and production in state tidelands currently are prohibited. Based on the 2010 Outer Continental Shelf Oil and Gas Strategy announcement by the Department of Interior (U.S. Department of the Interior 2011), the entire California coast is identified as an area of low resource potential/low support for potential new leasing such that new leases are not anticipated through at least 2017. Because any future conflicts are speculative, the Proposed Project would have no potential for an impact on mineral resources.

Noise (CEQA Appendix G Checklist Section 11)

Noise thresholds focusing on local general plans, noise ordinances, and land-based sensitive receptors are not applicable to the ocean-based Proposed Project. A threshold of significance for noise impacts could be described as any noise created by the Proposed Project that would disturb the nesting, breeding, or feeding of marine species. No such effects are anticipated because increases in vessel traffic are not anticipated, and because shifts in locations of fishing activity to areas outside the proposed MPAs would not change the noise level resulting from such activities beyond what normally occurs under existing conditions. Additionally, the Proposed Project designates special closures around ecologically important marine mammal haul outs and seabird rookeries; this further would reduce any potential for noise-related disturbances in proximity to these resources. Therefore, the Proposed Project would not be expected to result in noise-related impacts.

Population and Housing (CEQA Appendix G Checklist Section 12)

The Proposed Project would implement changes in allowable fishing and other uses within defined water along a portion of the California coast. Although these changes may result in economic impacts on commercial fishing interests and ocean-dependent fishing businesses, such impacts have been evaluated and minimized during the design of the Proposed Project. The Proposed Project would not induce substantial population growth or cause a substantial change in the availability of housing adjacent to the Study Region or elsewhere. No substantial adverse impacts on population and housing would be anticipated to result from the Proposed Project.

1.5 Consumptive Uses and Associated Socioeconomic Considerations

The implementation of an MPA network would alter the economic and social dynamics of consumptive uses of fishery resources. In general, fishing reduces species abundance, alters size and age composition of fished populations, alters species diversity, changes biological interactions among species, and sometimes alters habitats. More importantly with regard to CEQA, a new MPA network may change the physical resources and the species, population, community and meta-population dynamics in and around the established zones of no-take or limited take.

Section 15131 of the State CEQA Guidelines states that “economic or social effects shall not be treated as significant effects on the environment.” Unlike the National Environmental Policy Act (NEPA), CEQA does not require the determination or presentation of dollar amounts associated with the costs or benefits of a policy change or project implementation. Therefore, no significance criteria for the Proposed Project’s socioeconomic impact on commercial and recreational consumptive uses are established. While not considered under CEQA, the Commission is considering these factors as part of the regulatory review process. Appendix B includes a detailed discussion of consumptive uses, including commercial and recreational fishing, and socioeconomic considerations, including microeconomic and macroeconomic considerations and fishery displacement and congestion in the Study Region. This information has been included in this EIR for informational purposes only.

CEQA does, however, concern itself with economic or social effects when they cause a physical impact on the environment (Bass et al. 1999 as cited in CDFG 2009). Consequently, this linkage between potential economic or social changes of commercial and recreational consumptive use (as described in Appendix B) and the indirect impact on the physical resources on which those industries depend are addressed in this EIR. Ultimately, the choices that individual fishermen would make following the implementation of a proposed MPA network along the north coast cannot be predetermined. Nevertheless, the likely range of potential displacement-related indirect impacts on the physical environment requiring consideration under CEQA can be assessed. These effects are discussed in the following resource sections: Agricultural Resources (Section 3.1), Air Quality (Section 3.2), Global Climate Change and Greenhouse Gas Emissions (Section 3.3), Water Quality (Section 3.4), Biological Resources (Chapter 4), Cultural Resources (Chapter 5), Land Use and Utilities (Section 6.1), Public Services and Law Enforcement (Section 6.2), Recreation (Section 6.3) Research and Education (Section 6.4), Vessel Traffic and Hazards (6.5), and Environmental Justice (Section 6.6). For the remainder of environmental resource topics evaluated in this EIR, no substantial adverse impacts associated with consumptive use or socioeconomic effects are anticipated.

1.6 CEQA and Rulemaking Process

One of the purposes of CEQA is to establish opportunities for the responsible and interested agencies and the public to review and comment on projects that may affect the environment. CEQA provides public participation through:

- publication of the NOP
- project scoping
- public review of the DEIR
- public hearings

1.6.1 Notice of Preparation

The purpose of the NOP is to solicit participation from responsible and coordinating federal, state, and local agencies and from the public so as to determine the scope and content of an EIR. The scoping process was formally initiated for this DEIR on September 12, 2011, with the submittal of the NOP to the State Clearinghouse in compliance with CEQA. A copy of the NOP is included as Appendix A. A number of agencies, organizations, and members of the public have provided comments on the NOP. Comments submitted in response to the NOP are available in the MLPA North Coast MPA Project Scoping Report (see Appendix A).

1.6.2 Scoping Comments and Meetings

Scoping refers to the process used to determine the focus and content of an EIR. Scoping solicits input on the potential topics to be addressed in an EIR, range of project alternatives to be considered, possible mitigation measures, and agencies with regulatory authority over the proposed project. Scoping is also helpful in establishing methods of assessment and in selecting the environmental effects to be considered in detail. The tools used in scoping this

EIR included extensive stakeholder and interagency consultation before NOP circulation, publication of the NOP, and four public scoping meetings.

Public scoping meetings were hosted at the following dates, locations, and times:

1. Crescent City—Monday, September 26, 2011, from 6:30 to 8:00 p.m., held at the Del Norte County Board Chamber Building (981 H Street, Crescent City, CA 95531);
2. Fortuna—Tuesday, September 27, 2011, from 6:30 to 8:00 p.m., held at the Fortuna River Lodge (1800 Riverwalk Drive, Fortuna, CA 95540);
3. Fort Bragg—Wednesday, September 28, 2011, from 6:30 to 8:00 p.m., held at the Dana Grey Elementary School (1197 Chestnut Street, Fort Bragg, CA 95437); and
4. Sacramento—Tuesday, October 4, 2011, from 6:30 to 8:00 p.m., held at the Sacramento Department of Health Care Services and Department of Health Building (1500 Capitol Avenue, Sacramento, CA 95814).

A notice of the meeting was sent to resource agencies and members of the public via U.S. Mail and e-mail, and was posted on the Department's website (www.dfg.ca.gov/mlpa) to encourage participation. In total, approximately 27 people attended the four scoping meetings. The scoping meetings provided opportunities for attendees to comment on potentially significant environmental impacts, ways to minimize those impacts, and feasible alternatives. Participants were afforded the opportunity to provide both verbal and written comments during the scoping meeting, and to submit comments in writing through the close of the scoping comment period on October 14, 2011. A summary of comments received and verbal and written comments in their entirety are available in Appendix A.

1.6.3 DEIR and Draft Regulations

The primary purpose of the DEIR is to analyze and disclose the direct and reasonably foreseeable indirect physical environmental impacts that may occur as a result of the Proposed Project. The Proposed Project consists of the draft regulations contained in Chapter 2. The DEIR, as informed by public and agency input, provides analysis and disclosure of the potential environmental impacts associated with MPAs established in the Study Region.

1.6.4 Public Review and Meetings

This DEIR is being circulated to local, state, and federal agencies, as well as to interested organizations and individuals who may wish to review and comment on the report. Its publication marks the beginning of a 45-day public review period.

All documents mentioned herein or related to the Proposed Project can be reviewed on any Department business day between the hours of 8 a.m. and 4 p.m., at the Department's office located at 1812 Ninth Street, Sacramento, CA 95811, as well as at other Department Marine Region offices and various public libraries.

Three public meetings will be held in the Study Region. The dates, times, and exact locations of the public meetings will be published in local newspapers prior to the events and are included in the Notice of Availability of this DEIR.

1.6.5 Final EIR and Proposed Regulations

Written and oral comments received in response to the DEIR will be addressed in a Final EIR (FEIR), which will include responses to comments, as well as the DEIR (as updated). The responses to comments will include written responses to substantive issues raised in comments received during the review period. The Commission will then review the Proposed Project, the FEIR, Department recommendations, and public and agency comments, and decide whether to certify the EIR and whether to authorize, modify, or deny the Proposed Project.

If significant impacts are identified by the EIR that cannot be mitigated to a level of insignificance, and the Proposed Project is approved, a statement of overriding considerations must be included in the record of the project approval and mentioned in the notice of determination (14 CCR 15093[c]).

1.6.6 Further Notification Requirements

CEQA requires lead agencies to “adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment” (PRC 21002). Throughout the EIR, mitigation measures, where appropriate, have been clearly identified and presented in language that would facilitate establishment of a mitigation monitoring and reporting program (MMRP). Any mitigation measures adopted by the Commission as conditions for approval of the Proposed Project would be included in an MMRP. If appropriate, a draft of the MMRP for the Proposed Project will be included with the FEIR.

1.7 Organization of this EIR

This DEIR contains the following components:

- *Executive Summary:* A summary of the project, a description of the issues of concern, project alternatives, and a summary of environmental impacts are provided in this chapter.
- Chapter 1, *Introduction.* This chapter describes the project background, the purpose and organization of the DEIR, and the DEIR preparation, review, and certification process.
- Chapter 2, *Project Description.* This chapter outlines the project objectives and summarizes the Proposed Project, Proposed Project Alternatives, and management, enforcement, and monitoring of MPAs.
- Chapter 3, *Physical Resources.* This chapter and the subsequent three chapters each analyze a subset of environmental issue areas. Each subset of these chapters describes the existing environmental setting as it relates to that topic,

discusses environmental impacts associated with project implementation that relate to that topic, and identifies mitigation measures for each significant (or potentially significant) impact. The physical resource issues include agricultural resources, air quality, global climate change and greenhouse gas emissions, and water quality.

- Chapter 4, *Biological Resources*. The biological resource issues include ecosystems and habitats and species of interest.
- Chapter 5, *Cultural Resources*. The chapter discusses the archaeological and historical resources, as well as traditional cultural properties and tribal practices in the Proposed Project area.
- Chapter 6, *Social Resources*. The social resource issues include land use, public services and utilities, recreation, research and education, vessel traffic, and environmental justice.
- Chapter 7, *Other Statutory Considerations*. This chapter discusses cumulative impacts, significant irreversible changes, significant unavoidable impacts, and the potential for the Proposed Project to induce urban growth and development.
- Chapter 8, *Alternatives Analysis*. This chapter describes alternatives to the Proposed Project.
- Chapter 9, *Report Preparation*. This chapter provides the names of the DEIR authors and consultants.
- Chapter 10, *References Cited*. This chapter provides a list of printed references and persons consulted during the preparation of this DEIR.
- Appendices: The appendices include the scoping report (Appendix A), characterization of consumptive uses and associated socioeconomic considerations (Appendix B), habitat and species atlas maps (Appendix C), a list of species likely to benefit from MPAs (Appendix D), the cultural resource report (Appendix E), and supplemental information provided by the Yurok Tribe of the Yurok Reservation (Appendix F).

1.7.1 Terminology Used in this DEIR

This DEIR uses the following terminology to describe environmental effects of the Proposed Project.

Significance Criteria: Significance criteria are used by the lead agency to determine at what level, or “threshold,” an impact would be considered significant. Significance criteria used in this DEIR are based on criteria set forth in the State CEQA Guidelines (or that can be discerned from the State CEQA Guidelines), based on factual or scientific information and on regulatory standards of local, state, and federal agencies.

CEQA Baseline: The existing environment at the time an action is commenced can be used as the baseline.

No Impact: “No impact” is declared if, based on the current environmental setting, the stated impact would not occur in the context of the Proposed Project, or if the stated impact would not result in an adverse change to existing conditions in the environment.

Less-than-Significant Impact: A project impact is considered less than significant when it does not reach the standard of significance and thus would cause no substantial change in the environmental (no mitigation required). A project impact may also be considered less than significant if the adoption of mitigation measures would avoid the impact or reduce it below a level of significance (mitigation required).

Potentially Significant Impact: A potentially significant impact is an environmental effect that may cause a substantial adverse change in the environment. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.

Significant Impact: A project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects in the context of specified significance criteria. Mitigation measures or alternatives are identified to reduce these effects on the environment.

Significant and Unavoidable Impact: A project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment that cannot be avoided or mitigated to a less-than-significant level if the project were to be implemented.

Cumulative Significant Impact: A cumulative impact results from the collective impacts of related past, present, or reasonably foreseeable future projects. Significant cumulative impacts may result even where individual impacts are minor. The DEIR will analyze whether the Proposed Project would make a considerable contribution to any significant cumulative impacts.

The DEIR also identifies particular mitigation measures that are intended to lessen project impacts. (The MLPA [California Fish and Game Code 2862] also requires mitigation of impacts inconsistent with the MLPA goals and guidelines.) The State CEQA Guidelines (14 CCR 15370) define mitigation as:

- (a) avoiding the impact altogether by not taking a certain action or parts of an action;
- (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (c) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- (e) compensating for the impact by replacing or providing substitute resources or environments.

1.8 Submittal of Comments

The Department is now circulating this DEIR for a 45-day public review and comment period, which will end on the date stated in the Notice of Availability of this DEIR. The Commission will host at least three public meetings during the public review period. The purpose of public circulation and the public meetings is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the contents of the DEIR. Specific dates, times, and locations for public meetings are provided in the Notice of Availability, on the Department's MLPA website, and on the Commission's main website.

For those interested, written comments or questions concerning this DEIR should be submitted within this review period and directed to the name and address listed below. Submittal of written comments via e-mail (Microsoft Word format) would be greatly appreciated.

MLPA North Coast CEQA
California Department of Fish and Game
c/o Horizon Water and Environment
P.O. Box 2727
Oakland, CA 94602
Email: MLPAComments@HorizonWater.com

All documents mentioned herein or related to the MLPA Program can be reviewed online at the Program website (<http://www.dfg.ca.gov/mlpa>).

Written comments received in response to the DEIR during the public review period will be addressed in the Response to Comments chapter of the FEIR.