

Initial Study/Proposed Negative Declaration

Spiny Lobster Fishery Management Plan and Proposed Regulatory Amendments



January 2016

PREPARED FOR:





Initial Study/Proposed Negative Declaration

**Spiny Lobster Fishery Management Plan and
Proposed Regulatory Amendments**

PREPARED FOR:

California Fish and Game Commission
1416 Ninth Street, Suite 1320
Sacramento, CA 95814
Contact: Tom Mason
Senior Environmental Scientist

PREPARED BY:

Ascent Environmental, Inc.
455 Capitol Mall, Suite 300
Sacramento, CA 95814
Contact: Curtis E. Alling, AICP
Michael Eng

January 2016

Cover Photo: Courtesy of California Department of Fish and Wildlife

NOTICE OF PUBLIC REVIEW AND NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

The California Fish and Game Commission (Commission) proposes to adopt a Negative Declaration (ND) pursuant to the California Environmental Quality Act of 1970 (Section 15000 et. seq., Title 14, California Code of Regulations) for the Spiny Lobster Fishery Management Plan (FMP) and Proposed Regulatory Amendments for the California spiny lobster (*Panulirus interruptus*) fisheries.

The project would serve as the framework for managing the recreational (sport) and commercial fisheries for the California spiny lobster. The commercial fishery subject to the FMP is located in coastal and offshore waters in California and extends from Point Conception in Santa Barbara County, south to the U.S.-Mexico border. The recreational fishery subject to the FMP is also located within the coastal waters of California, ranging from central San Luis Obispo County south to the U.S.-Mexico border.

The 45-day period for public review and comment on the proposed ND begins January 21, 2016. All comments must be submitted by March 7, 2016. Please address comments on the proposed Negative Declaration as follows:

California Department of Fish and Wildlife
3883 Ruffin Road
San Diego, CA 92123
Attn: Marina Som
Marina.Som@wildlife.ca.gov

A copy of the Initial Study and proposed ND and supporting documents can be reviewed at the California Department of Fish and Wildlife (CDFW) offices at the following locations:

1416 9th Street, 12th Floor
Sacramento, CA 95814

4665 Lampson Avenue, Suite C
Los Alamitos, CA 90720

3883 Ruffin Road
San Diego, CA 92123

1933 Cliff Drive, Suite 9
Santa Barbara, CA 93109

The Initial Study and ND can also be viewed online at:
<https://www.wildlife.ca.gov/Conservation/Marine/Lobster-FMP>.

For further information regarding the proposed FMP, regulatory amendments, Initial Study, and ND, please contact Tom Mason, Senior Environmental Scientist, at (562) 342-7107 or Tom.Mason@wildlife.ca.gov.

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS	III
1 INTRODUCTION	1-1
1.1 Introduction.....	1-1
1.2 Project Location.....	1-1
1.3 Purpose of this Document	1-1
1.4 Project Approvals.....	1-4
1.5 Document Organization	1-4
2 PROJECT DESCRIPTION.....	2-1
2.1 Proposed Project Actions	2-1
2.2 Project Background	2-1
2.3 Goals and Objectives of the FMP	2-2
2.4 Existing Fishery	2-3
2.5 Characteristics of the FMP and Regulations	2-5
2.6 Reasonably Foreseeable Compliance Responses	2-15
2.7 Future FMP Amendments	2-18
3 ENVIRONMENTAL CHECKLIST.....	3-1
3.1 Aesthetics.....	3-3
3.2 Agriculture and Forest Resources	3-5
3.3 Air Quality	3-8
3.4 Biological Resources	3-15
3.5 Cultural Resources	3-19
3.6 Geology and Soils	3-22
3.7 Greenhouse Gas Emissions.....	3-25
3.8 Hazards and Hazardous Materials	3-27
3.9 Hydrology and Water Quality.....	3-31
3.10 Land Use and Planning	3-36
3.11 Mineral Resources	3-38
3.12 Noise	3-39
3.13 Population and Housing.....	3-42
3.14 Public Services.....	3-44
3.15 Recreation.....	3-46
3.16 Transportation/Traffic.....	3-48
3.17 Utilities and Service Systems.....	3-51
3.18 Mandatory Findings of Significance	3-54
4 REFERENCES	4-1
5 LIST OF PREPARERS	5-1

Appendices

- A Summary of Marine Biological Resources and Background Water Quality in the Proposed Spiny Lobster Fisheries Management Plan Project Area and Potential Environmental Effects of the FMP on Marine Biological Resources and Water Quality

Exhibits

Exhibit 1-1	California Spiny Lobster Range	1-2
Exhibit 1-2	Marine Districts within Project Area	1-3
Exhibit 2-1	Traditional and Conical Hoop Nets.....	2-4

Tables

Table 2-1	Reference Points	2-6
Table 2-2	Harvest Control Rule (HCR) Matrix	2-8
Table 2-3	Proposed FMP Measures/Regulatory Amendments and Examples of Reasonably Foreseeable Compliance Responses	2-17
Table 3-1	National and State Air Quality Attainment Statuses at Affected Counties	3-9
Table 3-2	2013 Emissions Inventory for Affected Air Districts Showing Contribution of Overall Fishing Vessel and Recreational Boat Activity ^a (tons/year).....	3-10
Table 3-3	Thresholds of Significances for Each Affected Air District for Operational Impacts Only	3-12

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMS	Applied Marine Sciences
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BOEM	Bureau of Ocean Energy Management
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Air Quality Standards
CAPs	Clean Air Plans
CCAA	California Clean Air Act of 1988
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO ₂	carbon dioxide
Commission	California Fish and Game Commission
CPUE	catch per unit effort
DTSC	California Department of Toxic Substances Control
FGC	California Fish and Game Code
FMP	Fishery Management Plan
FMP or proposed plan	Spiny Lobster Fishery Management Plan
GHGs	greenhouse gases
GO ID	Get Outside identification number
IPCC	Intergovernmental Panel on Climate Change
IS/Proposed ND	Initial Study/Proposed Negative Declaration
LAC	Lobster Advisory Committee

MBUAPCD	Monterey Bay Unified Air Pollution Control District
MLMA	Marine Life Management Act
MLPA	Marine Life Protection Act
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service
MPA	Marine Protected Area
mt	metric tons
MT CO ₂ e	metric tons per carbon dioxide equivalent
MT/year	metric tons per year
NAAQS	National Ambient Air Quality Standards
NAAQS	National Ambient Air Quality Standards
NO _x	nitrous oxides
PM ₁₀	respirable particulates
PM _{2.5}	fine particulates
ROG	reactive organic gases
RWQCB	Region Water Quality Control Board
SB	Senate Bill
SBCAPCD	Santa Barbara County Air Pollution Control District
SCAQMD	South Coast Air Quality Management District
SCB	Southern California Bight
SDAPCD	San Diego County Air Pollution Control District
SLOAPCD	San Luis Obispo County Air Pollution Control District
SPR	Spawning Potential Ratio
SWRCB	Sacramento Water Resources Control Board
TAC	Total Allowable Catch
USEPA	U.S. Environmental Protection Agency
VCAPCD	Ventura County Air Pollution Control District
WRCC	Western Regional Climate Center

1 INTRODUCTION

1.1 INTRODUCTION

This Initial Study/Proposed Negative Declaration (IS/Proposed ND) has been prepared for the California Fish and Game Commission (Commission) to evaluate potential environmental effects resulting from implementation of the Fishery Management Plan (FMP) and proposed regulatory amendments for the California spiny lobster (*Panulirus interruptus*) in waters off the coast of California. The FMP would serve as the framework for managing the recreational (sport) and commercial fisheries for California spiny lobster upon adoption by the California Fish and Game Commission (Commission) (California Fish and Game Code [FGC] Section 7078). The regulatory amendments would implement the FMP under statutorily prescribed frameworks (California Fish and Game Code [FGC] Sections 7072, 7075, and 7080-7088).

1.2 PROJECT LOCATION

Endemic to the North American west coast, the California spiny lobster range is from Monterey County, California, to the tip of Baja California, with a small isolated population in the northwestern corner of the Gulf of California (Exhibit 1-1). The project area is limited to the central portion of the California spiny lobster's range within the jurisdiction of the California Department of Fish and Wildlife (CDFW) (Exhibit 1-2). The commercial fishery subject to the FMP in California is located within ocean waters extending from Point Conception in Santa Barbara County, south to the U.S.-Mexico border. The California recreational fishery is also within coastal waters, from central San Luis Obispo County south to the U.S.-Mexico border. The CDFW Marine Districts that are within the FMP project area are shown in Exhibit 1-2.

1.3 PURPOSE OF THIS DOCUMENT

Under the California Environmental Quality Act (CEQA), the Commission is the lead agency with primary responsibility for approval of the proposed project. As the public trust agency with direct management responsibility over the fishery, CDFW has prepared the draft FMP and supported the regulatory amendment process, as well as assisted in the preparation of an analysis that complies with CEQA.

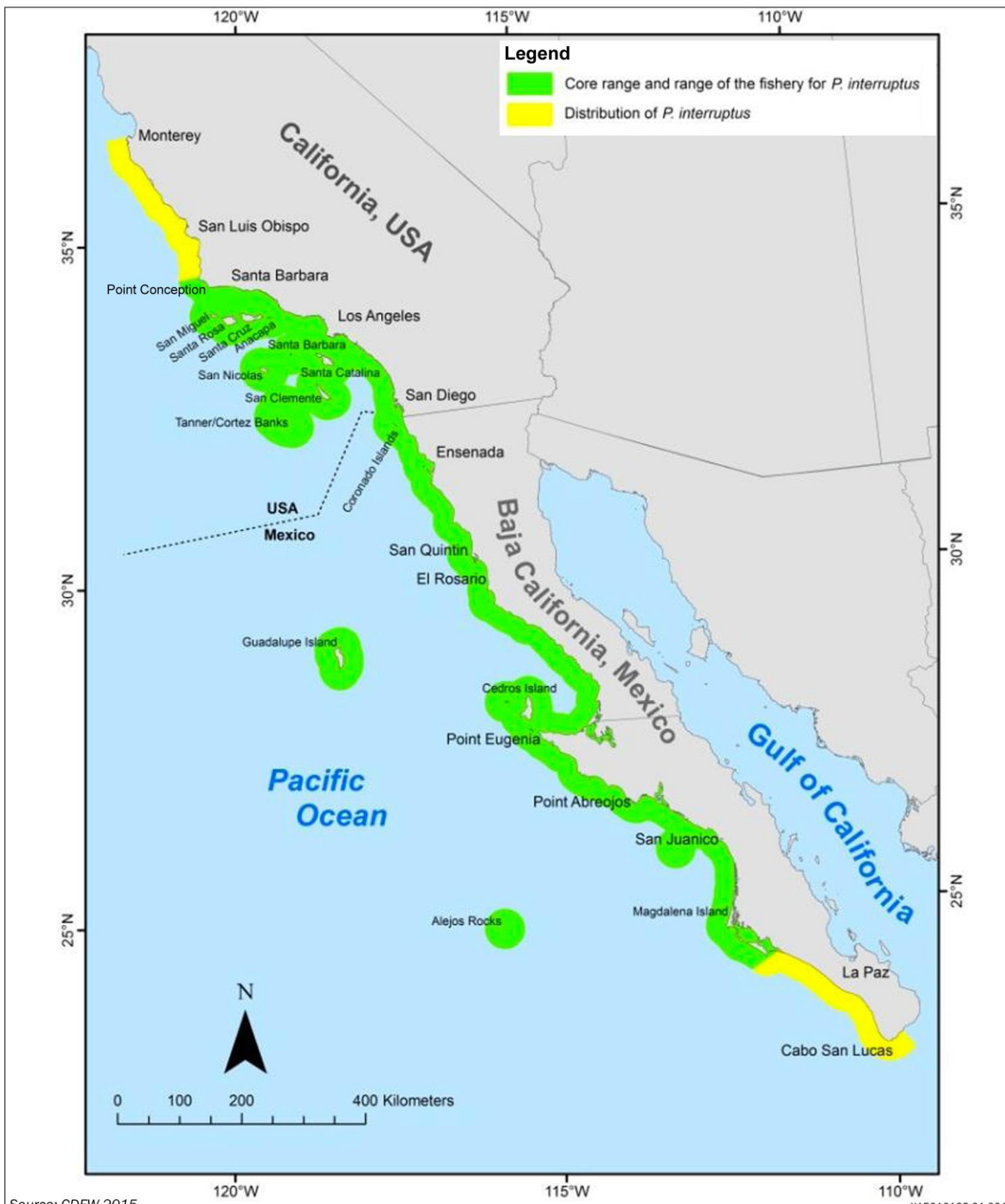
The purpose of this document is to present to decision-makers and the public an analysis of the potential environmental consequences of implementing the proposed FMP and regulatory amendments. This IS/Proposed ND discloses the conclusions of the environmental analysis; it is being made available to the public for review and comment for a 45-day public review period from January 21, 2016 to March 7, 2016.

If you wish to send written comments by postal mail or e-mail, the postal mail must be postmarked or email must be dated no later than March 7, 2016. Please address written comments to:

California Department of Fish and Wildlife
3883 Ruffin Road
San Diego, CA 92123
Attn: Marina Som

E-mail comments should be addressed to: Marina.Som@wildlife.ca.gov.

If you have questions regarding the IS/Proposed ND, please call Tom Mason at (562) 342-7107.



Source: CDFW 2015

X15010103 01 001

Exhibit 1-1

California Spiny Lobster Range





Exhibit 1-2

Marine Districts within Project Area

After comments are received from the public and reviewing agencies, the Commission must consider those comments in addition to the environmental conclusions of the IS/Proposed ND. Based on this evaluation, the Commission may, then either: (1) adopt the ND and approve the proposed FMP, or a modification of the proposed FMP, along with the attendant regulatory amendments; (2) undertake additional environmental studies before making a decision; or (3) decline to adopt the ND and approve the FMP and associated regulatory amendments. If the FMP and regulatory amendments are adopted, CDFW could proceed with implementation of the FMP.

A copy of the IS/Proposed ND is available for public review at the following CDFW offices:

1416 9th Street, 12th Floor
Sacramento, CA 95814

4665 Lampson Avenue, Suite C
Los Alamitos, CA 90720

3883 Ruffin Road
San Diego, CA 92123

1933 Cliff Drive, Suite 9
Santa Barbara, CA 93109

1.4 PROJECT APPROVALS

The FMP would become effective upon its adoption by the Commission through a public process (FGC Section 7077). The regulations would be approved through a separate Commission rulemaking process, in accordance with the Administrative Procedures Act (Government code section 11340 et seq.). Once the regulations are adopted, they are codified in Title 14 of the California Code of Regulations. Most of the proposed regulatory changes would be effective for the 2017-2018 commercial and recreational California spiny lobster season.

1.5 DOCUMENT ORGANIZATION

This IS/Proposed ND is organized as follows:

Chapter 1: Introduction. This chapter provides an introduction to proposed FMP and regulatory amendments. It describes the organization of this document, as well as issues not requiring detailed analysis.

Chapter 2: Project Description. This chapter describes the background of the proposed FMP and regulatory amendments, identifies their basic objectives, and provides a detailed description of the proposed plan.

Chapter 3: Environmental Checklist. This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines if project actions would result in no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, or a potentially significant impact. If any impacts were determined to be potentially significant, an EIR would be required. For this project, however, none of the impacts were determined to be significant.

Chapter 4: References. This chapter lists the references used in preparation of this IS/Proposed ND.

Chapter 5: List of Preparers. This chapter identifies report preparers.

2 PROJECT DESCRIPTION

2.1 PROPOSED PROJECT ACTIONS

The California spiny lobster is an important natural resource that has been managed by the state of California for more than 100 years. The species supports a valuable commercial fishery and a significant recreational fishery. California spiny lobsters also act as important keystone predators within the southern California nearshore ecosystem. The proposed project actions are adoption of the *Spiny Lobster Fishery Management Plan* (FMP or proposed plan), which would include implementation of a harvest control rule, and adoption of regulatory recommendations from the Lobster Advisory Committee (LAC) and CDFW to promote a sustainable and orderly fishery (CDFW 2015a).

2.2 PROJECT BACKGROUND

The Marine Life Management Act (MLMA), which became California law on January 1, 1999, calls for using several tools to meet its statutory objectives.

The MLMA's overriding goal is to ensure the conservation, sustainable use, and restoration of California's marine living resources (FGC Section 7050[b]). This includes the conservation of healthy and diverse marine ecosystems and marine living resources (FGC Section 7050[b]1). To achieve this goal, the MLMA calls for allowing and encouraging only those activities and uses that are sustainable (FGC Section 7050[b]2). Within this overall policy on marine living resources, the MLMA sets the State's policy for marine fisheries (FGC Sections 7055 and Section 7056). Both commercial and recreational fisheries are to be managed to ensure the long-term economic, recreational, cultural, and social benefits of the fisheries and the marine habitats upon which they depend. With this in mind, the MLMA establishes a marine fishery conservation program to:

- ▲ ensure conservation;
- ▲ achieve sustainable use of fisheries;
- ▲ rebuild depressed stocks;
- ▲ prevent overfishing;
- ▲ promote habitat protection and, where feasible, restoration; and
- ▲ develop information for management decisions.

The MLMA states that FMPs "shall form the primary basis for managing California's sport and commercial marine fisheries" (FGC Section 7072). FMPs are documents that consolidate available information under the statutorily prescribed frameworks (FGC Sections 7072, 7075, and 7080-7088); their contents and any subsequent amendments form the basis for all fishery management decisions. The California Department of Fish and Wildlife (CDFW) is responsible for drafting the FMPs in collaboration with stakeholders and presenting them to the California Fish and Game Commission (Commission) for adoption.

FMPs are used to assemble information, analyses, and management alternatives that allow CDFW to provide a coherent package of information and management measures to the Commission. Under the MLMA, FMPs are required to include the following core elements:

- ▲ a description of the fishery;
- ▲ fishery science and essential fishery information;
- ▲ basic fishery conservation and management measures;
- ▲ habitat provisions;
- ▲ bycatch and discards;
- ▲ overfishing and rebuilding; and
- ▲ procedures for review and amendment of an FMP.

FMPs must consider and describe existing conservation and management measures that contribute to the goals of the MLMA. The California spiny lobster fisheries are currently managed with a variety of measures (e.g., size limits, fishing seasons, gear restrictions, and bag limits), and also are subject to Marine Protected Area (MPA) regulations (14 CCR Section 632). The Marine Life Protection Act (MLPA) required CDFW to develop a Marine Life Protection Program, including a Master Plan for a network of MPAs within state waters. In 2012, the state implemented a network of 50 MPAs along the mainland and around the Channel Islands within the Southern California Bight (SCB) under the MLPA. The SCB is defined as the coast and its immediate offshore areas between Point Conception to the north and the U.S.–Mexico border to the south. Sport and/or commercial lobster fishing are prohibited in 44 of the 50 MPAs. CDFW estimates that 14.6 percent of known mapped lobster habitats in the SCB are contained in the MPAs where the take of California spiny lobster is prohibited (CDFW 2015a).

The management measures and strategies in the FMP are not designed to independently solve every ecosystem-related issue attributed to the California spiny lobster fisheries. Instead, the FMP adaptive management strategies, the MPAs, and existing management measures all have their respective strengths and weaknesses, and are meant to complement each other to further long-term adaptive management and sustainability of the California spiny lobster fisheries.

An extensive public scoping process was used by CDFW to develop the proposed Spiny Lobster FMP and implementing regulations. The Lobster Advisory Committee (LAC) was formed in early 2012 following a call for nominations by CDFW for representatives from various public stakeholder groups. The LAC provided guidance on FMP objectives, as well as management recommendations that addressed key issues put forth by members of the public. The LAC consisted of representatives from the marine science community, the recreational fishing sector, commercial fishing sector, the non-consumptive recreational sector, the environmental community, and the federal government. Nine LAC meetings occurred between June 2012 and September 2013. All meetings were open to the public and public input was encouraged. Meeting announcements were posted on CDFW's website and the public was encouraged to sign up for the Spiny Lobster FMP news email service. Meeting summaries and background documents are available on the CDFW website: <https://www.wildlife.ca.gov/Conservation/Marine/Lobster-FMP>.

2.3 GOALS AND OBJECTIVES OF THE FMP

The overarching goal of the FMP is to conduct a comprehensive review of the California spiny lobster fishery and define a management framework that establishes the basis for informed management decision-making to achieve a sustainable fishery considering the entire ecosystem. In developing the FMP, CDFW applied the goals and objectives of the MLMA to address the management needs of the fishery.

Fish and Game Code Section 7056 lists objectives for the fishery management system to foster fisheries that can reliably provide the range of benefits Californians seek from marine wildlife (i.e., sustainable fisheries). These features include limiting bycatch, rebuilding depressed fisheries, prioritizing long-term benefits over short-term benefits, making decisions with public input, basing decisions on best readily available scientific information, and adapting to changing circumstances. The goal of the FMP is to formalize a management strategy that can respond effectively to changes in the California spiny lobster fisheries pursuant to the tenets of the MLMA.

The objectives of the FMP are to:

- ▲ develop a framework for management that will be responsive to environmental and socioeconomic changes;
- ▲ manage the California spiny lobster resource for the long-term benefits of the present and future generations of Californians;

- ▲ conserve the health and diversity of marine ecosystems and marine living resources;
- ▲ ensure that the California spiny lobster fishery is conducted and managed in a sustainable manner, such that long-term health of the resource is not sacrificed in favor of short-term benefits;
- ▲ recognize the importance of the California spiny lobster resource to the economy and culture of California;
- ▲ base management decisions on best readily available scientific information;
- ▲ involve all interested parties; and
- ▲ promote the dissemination of accurate information through the management process.

2.4 EXISTING FISHERY

The existing fisheries include a commercial sector and recreational (or sport) sector. The open seasons for the California spiny lobster fisheries run from early October to mid-March, with the recreational sector starting four days earlier than the commercial fishery (FGC Section 8251; Title 14 California Code of Regulations [CCR] Section 29.90[a]). This results in a 23 to 24-week commercial fishing season and a 23.5 to 24.5-week recreational fishing season, depending on the year. The 2011 CDFW stock assessment (the latest available assessment) indicates that the California spiny lobster stock is stable under the management actions currently in place (Neilson 2011). The seasonal closure (late March-early October) protects the sensitive spawning period of the species. Both of the fishery sectors are described in more detail below.

2.4.1 Commercial Fishery

The commercial California spiny lobster fishery can be characterized by several distinct periods. Commercial landings peaked at an all-time high of 485 metric tons (mt) (1.07 million pounds) during the 1949-1950 fishing season, and declined to a record low of 69 mt (152,000 pounds) during the 1974-1975 fishing season. The reason for this decline was thought to have been the illegal take of sublegal-size adults, and was corrected by the introduction of a requirement for escape ports in lobster traps in 1976, which allowed sublegal-size individuals to exit the traps (Barsky 2001). After 1976, the harvest slowly increased until the 2000-2001 fishing season, when 319 mt (702,000 pounds) were landed. Since 2000, landings have fluctuated within a relatively narrow range, exceeding 300 mt (661,000 pounds) each season.

The commercial fishery is a limited-entry fishery, and the number of active participants has remained relatively consistent between 145 to 160 participants since 2000. However, over time, the number of permits would be reduced to 148 through attrition and the non-transferable limitation on certain permits.

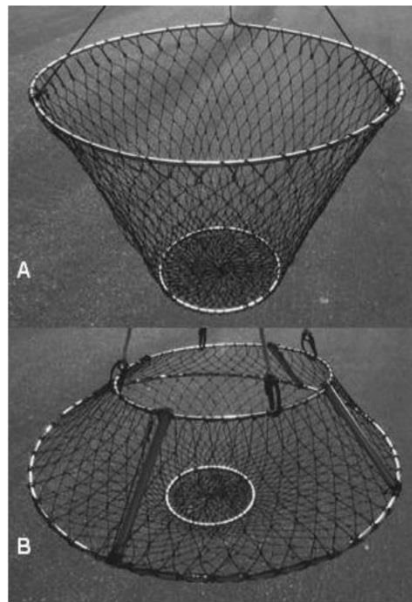
To catch California spiny lobsters, commercial fishermen use wire box traps deployed from boats. Traps are the only legal method of take in the commercial fishery. Properly placed and serviced traps do not generally disturb the marine environment (Eno et al. 2001). Traps are usually deployed at a depth of less than 31 meters (100 feet), but some are deployed as deep as 93 meters (300 feet). Currently, commercial fishermen generally operate between 75 and 1,000 traps each season, with a median of 300 traps. California law requires fishermen to service (i.e., pull and clean) each deployed trap at least once every 96 hours, weather conditions permitting (FGC Section 9004).

Commercial landings tend to be distributed evenly between San Diego County, Los Angeles/Orange Counties, and Santa Barbara/Ventura Counties; however, fishing effort is not equally distributed. In general, 80 percent of a season's catch is landed within the first half of the commercial season by mid-January. Commercial fishing effort (i.e., number of trap pulls) has been increasing in recent years despite an overall

decrease in the number of active fishermen since the late 1990s. High effort in the commercial fishery may present challenges to sustainability, because it results in a high harvest rate.

2.4.2 Recreational Fishery

Recreational lobster fishermen are permitted to catch California spiny lobster either by using baited hoop nets or by hand when diving (SCUBA or skin diving). CDFW allows two types of hoop nets: traditional hoop nets and rigid conical hoop nets (14 CCR Section 29.80) (Exhibit 2-1). The traditional hoop nets (Exhibit 2-1[A]) lie flat on the seafloor and only take their three-dimensional shape when pulled to the surface. Conical hoop nets (Exhibit 2-1[B]) have rigid sides and do not lie flat on the seafloor, and the lobster must climb up and into the net to reach the bait. Most California spiny lobsters captured by the recreational fishery are caught in areas where commercial fishing is prohibited (CDFW 2015a). In the recreational fishery, hoop nets are limited to five per person or ten per boat, and two per person, if fishing from a public pier.



Source: CDFW 2014

Exhibit 2-1

Traditional (A) and Conical Hoop Nets (B)

CDFW has not been able to accurately quantify the sport recreational fishery catch until recent years, when the recreational lobster report card was first put into use in the fall of 2008 season. However, because of low return rates, the report cards have not produced reliable results until the most recent season. Statistical comparison between hoop netters and divers has been particularly problematic. For example, in 2009, only 50.9 percent of all report cards returned were from hoop netters, even though both the CDFW lobster creel survey and the recreational industry representatives indicated that a large majority of the recreational sector fishermen used hoop nets at that time. Lobster report card data from the 2014-2015 fishing season lobster report cards season produced recreational catch estimates of 155.4 mt (342,583 pounds), or about 26 percent of the total catch (i.e., recreational plus commercial catches).

2.4.3 Bycatch

The term, “bycatch,” means fish or other marine living resources that are taken in a fishery, but are not the target of the fishery. This includes non-target organisms, whether or not they are discarded, and organisms discarded, because they are of an undesirable species, size, sex, or quality, or because they are required by law not to be retained. The FMP describes that bycatch, regardless of species, is often returned relatively

unharmful and alive to the ocean once discovered (CDFW 2015a). Commercial and recreational fishermen are not allowed to retain sublegal-size lobsters under current California law (FGC Section 8252; Title 14 CCR Section 29.90). However, commercial lobster fishermen may retain legal-size rock crab, octopi, and Kellet's whelk until the whelk's annual total allowable catch (TAC) is reached (Title 14 CCR Section 127; FGC Section 8250.5(b)). Recreational lobster hoop netters may also retain incidentally caught, legal-sized species of crabs (Title 14 CCR Section 29.80 (b)).

Seabird and otter bycatch are not common within the California spiny lobster fisheries. However, if bycatch of these species occurs, compliance with the Marine Mammal Protection Act (MMPA), the federal and California Endangered Species Acts, and the Migratory Bird Treaty Act would be required and further monitoring may be necessary (16 USC Sections 1361 *et seq.*; 16 USC Sections 1531 *et seq.*; 16 USC Sections 703 *et seq.*). Any additional measures pursuant to those regulations would be implemented under existing practices.

Research conducted on sea otter entrapment and mortality in fish and shellfish traps suggests that the California spiny lobster fishery would not contribute to otter mortality, if the current geographic extent of the fishery and the current otter range both remain unchanged (USGS 2014). Of the 15 reported instances of trap-related sea otter mortalities during 1974-2007, 14 occurred in either Pacific cod or crab traps (Hatfield *et al.* 2011). One incidence of a sea otter mortality associated with a lobster trap was recorded in 1987 (Carretta *et al.* 2014). The majority of California's southern sea otter mortalities on record were the result of shark attacks, boat strikes, mating trauma, diseases, parasites, infections, and biotoxins (CDFW-MWVCRC 2013).

Marine mammal mortality as a result of entanglement in lobster fishing gear is rare in the California spiny lobster fishery. Lobster traps are generally deployed in less than 100 feet of water, a depth range where large marine mammals, such as whales, are not generally found. However, the number of whales observed entangled in trap gear on the California coast increased in recent years (based on the National Marine Fisheries Service stranding database). Since 2000, there have been four recorded incidences of gray whales and one unidentified whale entangled in lobster gear (Carretta *et al.* 2014; National Marine Fisheries Service stranding database) and one recorded incidence of bottlenose dolphin entanglement in 2008 (Carretta *et al.* 2014). Mortality as a result of entanglement was confirmed for the unidentified whale.

The National Marine Fisheries Service classifies fisheries based on their level of interaction with marine mammals, and guides when incidental take permits under MMPA are required. Under MMPA, a fishery would require an incidental take permit if it is classified as "Category I" or "Category II" (50 CFR Section 229.2). The California spiny lobster fishery was classified as "Category III" in 2014 (79 FR 77934). Such fisheries "have a remote likelihood of, or no known incidental mortality and serious injury of marine mammals" (50 CFR Section 229.2). The fishery should continue to remain in Category III as long as its annual take of any marine mammals continues to remain less than 1 percent of a given stock's potential biological removal level or, in combination with other mortality sources, is responsible for less than 10 percent of the stock's potential biological removal level (50 CFR Section 229.2).

2.5 CHARACTERISTICS OF THE FMP AND REGULATIONS

2.5.1 Harvest Control Rule

The proposed FMP prescribes a harvest control rule (HCR) for the California spiny lobster fishery. The HCR serves as the foundation for managing the fishery in the future, as well as the primary mechanism to prevent, detect, and recover from overfishing, as required by the MLMA. The rule is a type of adaptive management framework that identifies potential conservation problems and prescribes appropriate management responses. The HCR consists of three components: 1) reference points, 2) a control rule matrix, and 3) a control rule toolbox. These components are discussed below.

REFERENCE POINTS

Reference points are the metrics used to gauge the status of the California spiny lobster stock and commercial fishery. The three California spiny lobster fishery management reference points are: 1) a moving average of catch, 2) a moving average of catch per unit effort (CPUE), and 3) Spawning Potential Ratio (SPR), as shown in Table 2-1 and described in more detail below.

Table 2-1 Reference Points		
Reference Point	Threshold	Rationale
Catch	$\frac{\text{Average Catch for 3 most recent seasons}}{\text{Average Catch for 10 most recent seasons}} \leq 0.9$	Identifies possible change in stock stability, particularly growth overfishing ¹
CPUE (Catch per Unit Effort)	$\frac{\text{CPUE for 3 most recent seasons}}{\text{CPUE for 10 most recent seasons}} \leq 0.9$	Identifies potential adverse changes in the fishery, mainly economic overfishing ²
SPR (Spawning Potential Ratio)	$\text{SPR}_{\text{CURRENT}} \leq \text{SPR (Average 2000-2008)}$	Detects biological sustainability, particularly recruitment overfishing ³
¹ Growth overfishing: Fishing in which yield per recruit is lower than theoretical maximum values due to the harvesting of small and rapidly growing fish (Diekert 2012). ² Economic overfishing: Level of fishing effort that exceeds maximum economic yield (Flaaten 2010). ³ Recruitment overfishing: Level of fishing that creates significant adverse impact to the species diversity, trophic composition, and productivity of an ecosystem (Murawski 2000).		

Catch (Total Catch per Season)

Catch trends over time can serve as a proxy for abundance. A significant change in catch is susceptible to multiple interpretations. However, the fact that a significant change in catch appears is a clear indicator that an impact is occurring.

It is important to note that this reference point is primarily designed to detect trends. Catch can fluctuate drastically from year to year due to socioeconomic, environmental, and biological factors. These fluctuations often do not reflect problems that warrant management responses. The multi-year running averages incorporated into the catch threshold serve to identify when a trend is significant enough to warrant management considerations. The average catch of the three most recent seasons is used in the numerator to smooth variability in recent catch values, and is divided by the average catch of the 10 most recent seasons to account for approximately decadal shifts in temperature regime. The catch-based reference point threshold is 0.9 (see Table 2-1).

CDFW originally obtained a catch reference point threshold of 0.8 through consultation with several lobster fishery experts during the LAC process (Dr. Douglas Neilson, Dr. Ray Hilborn, Dr. Matthew Kay, Dr. Hunter Lenihan, Dr. Richard Parrish, and Dr. Jeremy Prince). A catch reference point value above 0.8 indicates that recent catch has been within 20 percent of the average for the last decade. Hilborn (2010) suggests that yields within 20 percent of a calculated maximum sustainable yield should be sustainable. The threshold was changed to 0.9 following independent scientific peer review of the FMP (CDFW 2015a, Appendix VIII). The threshold value was modified from 0.8 to 0.9 resulting in a more sensitive threshold.

Catch per Unit Effort (CPUE)

CPUE is used by fishery managers in two important ways. First, it serves as a proxy for the abundance of fish in an area. This proxy assumes that there is a relationship, though not necessarily a linear one, between the condition of a stock and the rate at which they are captured under any given unit of effort (e.g., time spent fishing, amount of gear deployed). As with total catch, long-term trends in CPUE can provide insight into changes in the stock, which would influence management decisions.

In addition, CPUE is also very useful for tracking the optimal effort level and detecting economic overfishing. The threshold for the CPUE-based reference point was also originally any value for CPUE current that is equal

to or less than 0.8 (see Table 2-1). The threshold for the CPUE-based reference point was also increased to 0.9 in response to independent scientific peer review recommendations to make the threshold more sensitive (see Table 2-1).

Spawning Potential Ratio (SPR)

In addition to yield, harvest rate also affects the ability of a stock to replace itself. Because fishing tends to reduce the number and the size of individuals, it has the potential to diminish the reproductive output of a population. The reproductive output (number of eggs) of a population is often referred to as the spawning potential.

The SPR is usually a ratio of the number of eggs produced by a fished population divided by the number of eggs produced by an unfished population. SPR values range from 1.0 to 0.0. For example, SPR values of 1.0, 0.5, and 0.0 correspond to harvest rates at which a population can produce all, half, or none of the number of eggs produced when the stock is unfished, respectively. At low harvest rates, SPR values are high because many large animals remain in the population.

At higher harvest rates, SPR declines and may ultimately reach zero if no size limit is in place to protect at least some portion of the breeding stock. It is important to note that SPR assumes that an unfished population would produce a relatively constant amount of eggs or maintain a relatively constant spawning stock biomass (Rochet 2000).

SPR can be calculated in several ways. The method currently employed by CDFW uses data from commercial logbooks and commercial landing receipts to calculate the average weight of lobsters caught in a given fishing season. CDFW then relates the average weight to a corresponding fishing mortality (F) and calculates an SPR value using the resulting F. This calculation is currently accomplished using the Cable-CDFW Model (CDFW 2015a). The Cable-CDFW Model calculates the SPR as an output based on 46 user-specified inputs, each responsible for the calculation of various biological, economical, and operational characteristics of the fishery.

CONTROL RULE MATRIX

The three reference points selected to monitor and manage the California spiny lobster fishery (Catch, CPUE, and SPR) are incorporated into an HCR Matrix. This matrix provides a “dashboard” approach to assist managers in interpreting the status of Catch, CPUE, and SPR reference points in relation to their respective thresholds (Table 2-2). Based on these interpretations, the matrix provides interpretations for stock health and particular courses of action to address the current condition of the fishery. Depending on the respective trend and status of each measurement (i.e., have any of the reference points thresholds been exceeded?), the matrix identifies various management strategies ranging from easing harvest regulations, to no regulatory action, to further restricting the fishery.

The HCR is discretionary and not every triggering event would necessarily lead to an immediate regulatory response. Additional evaluation is needed before taking action to determine if external factors (i.e., new regulations, market dynamics, or environmental changes) have caused or contributed to the reference point(s) being exceeded. This process would include consultations with the fishing communities and other stakeholders. For example, if the triggering of the catch-based reference point coincides with a new effort-based regulation, the first task would be to determine if the triggering event is caused by the new regulation. If it is determined that the triggering event is caused by the new regulation and not biological processes, no further management action would be necessary. In the event that management actions are warranted, the HCR calls for the implementation of one or more of the eight regulatory options provided in the control rule toolbox (discussed below).

Table 2-2 Harvest Control Rule (HCR) Matrix

Scenario	Reference Point ¹			Interpretation/possible causes	Suggested management response sequence
	CATCH	CPUE	SPR		
1	↑	↑	↑	Stock productivity and fishery performance stable and/or increasing	a) Monitor reference point trends b) Make no change (if reference points are stable or just above thresholds) c) Ease effort regulations (if reference point trends are increasing)
2	↓	↑	↑	Fishery under-harvested (i.e., fishing effort and harvest rates are low, could be caused by drop in price or other economic factors)	a) Monitor reference point trends b) Make no change (if CPUE/SPR trends stable/just above threshold) c) Ease effort regulations (if explanations for decreasing catch are not biological and CPUE/SPR trends increasing)
3	↑	↓	↑	Catchability down Potential economic overfishing Potential early warning of recruitment overfishing	a) Monitor reference point trends b) No change (if SPR trends are stable/above threshold) c) Effort reduction (if SPR trends declining) d) No change, or ease catch restriction (if catchability is proven to be lower than usual and is causing CPUE decline)
4	↓	↓	↑	Catchability down Potential economic overfishing Potential early warning of recruitment overfishing	a) Monitor reference point trends b) Investigate underlying causes c) Confirm SPR trends and model inputs d) If action is needed, implement one or more of the eight regulatory options in the control rule toolbox as appropriate e) Effort reduction (if SPR trends declining)
5	↑	↑	↓	Stock overfished Recruitment largely provided from Mexican stock	a) Investigate underlying causes b) Confirm SPR trends and model inputs c) If action is needed, implement one or more of the eight regulatory options in the control rule toolbox as appropriate
6	↓	↑	↓	Stock overfished, and Possible catchability increase (effort creep due to technology, etc.)	a) Investigate underlying causes b) Confirm/monitor CPUE (misreporting?) c) Confirm SPR trends and model inputs d) If action is needed, implement one or more of the eight regulatory options in the control rule toolbox as appropriate
7	↑	↓	↓	Stock overfished Overfishing indicated	a) Investigate underlying causes b) Confirm SPR trends and model inputs c) If action is needed, implement one or more of the eight regulatory options in the control rule toolbox as appropriate
8	↓	↓	↓	Stock overfished Overfishing indicated Disease	a) Investigate underlying causes b) Confirm SPR trends and model inputs c) If action is needed, implement one or more of the eight regulatory options in the control rule toolbox as appropriate

¹ Interpretation of different scenarios in which reference points thresholds are exceeded, and recommended management responses. Symbols for each reference point are: ↑ (“safe”, does not exceed threshold), and ↓ (exceeds threshold). Note that once $CATCH_{THRESHOLD}$ or $CPUE_{THRESHOLD}$ are exceeded, monitoring CPUE and Catch trends provides valuable information that managers can use to “fine tune” the fishery or to detect overfishing early (i.e., before the stock becomes overfished).

CONTROL RULE TOOLBOX

The FMP prescribes a control rule toolbox of eight regulatory conservation and management measures that are available to the Fish and Game Commission when reference point thresholds are triggered. The specific actions in the toolbox are:

- ▲ change commercial trap limit,
- ▲ change recreational bag limit,
- ▲ establish total allowable catch,
- ▲ implement district closures,
- ▲ change season length,
- ▲ change minimum legal size,
- ▲ establish maximum legal size, and
- ▲ implement sex-selective fishery (i.e., male-only fishery or female-specific size restriction).

Each of the eight regulatory options in the control rule toolbox carries specific benefits and limitations that managers would need to carefully evaluate, including impacts to constituents, level of regulatory change, and duration of regulatory change (i.e., how long it would remain in place). CDFW would consult with the fishing communities and other stakeholders to better inform any management recommendation to the Commission on the proper regulatory response. Each of the regulatory options is discussed in more detail below.

Change Commercial Trap Limit

The commercial California spiny lobster fishery is not currently regulated by a trap limit. However, a recent rise in fishing effort has led to possible economic inefficiency within the fishing sector (CDFW 2015a). Furthermore, an excess of lost traps may create further environmental and social concerns. CDFW has worked closely with its constituents to resolve these issues, and as part of the implementing regulations for this FMP, CDFW proposes a formal trap limit program that allows the Commission to adjust commercial sector fishing effort.

A limit of 300 traps per permit is proposed, based on the 2013 “California Department of Fish and Wildlife Commercial Lobster Survey” conducted by CDFW, which targeted all holders of transferrable and nontransferrable lobster operator permits. Of the 111 permit holders who responded, more than 76 percent agreed that a trap limit is needed. Of the respondents who supported the trap limit, 48 percent wanted a trap limit of 300 or less and 34 percent wanted a trap limit of 350-400. Based on the responses to the surveys, CDFW proposes that each licensed fisherman would be allowed to possess a maximum of two lobster operator permits, and each permit would allow fishermen to receive 300 trap tags issued by CDFW. Traps would be required to be tagged with CDFW issued trap tags. Although a trap limit of 300 is currently being proposed, a trap limit range of 200 to 500 traps is being evaluated in this ND to accommodate any potential future changes to the trap limit as contemplated in the HCR. Any recommended future change to the trap limit would be based on ecological considerations and consultation with constituents and subject to adoption by the Commission.

Change Recreational Bag Limit

An adjustment to the recreational bag limit would serve to control effort in the recreational sector. Adjustment options may consist of daily, weekly, monthly, or annual limits. A bag limit would change the number of lobsters a recreational fisherman can keep. MLMA requires any type of allocation within an FMP to be equitably shared between the recreational and commercial sectors (FGC Section 7072(c)). Any proposed change to the recreational bag limit is allocative by nature, and should be considered in conjunction with possible adjustments for the commercial sector.

Total Allowable Catch

A Total Allowable Catch (TAC) or a TAC/Individual Transferrable Quota management framework can prevent a stock from being overfished. However, management challenges in quota fisheries include, but are not

limited to, allocation of catch among fishermen, consolidation of capacity when quota is transferable, accounting for natural fluctuations in stock size that may render the TAC too restrictive or aggressive from year to year, and access to the fishery if/when quota shares increase in price.

Approaches for determining a TAC for California include, but are not limited to: (a) accurately estimate the biomass of the stock, and then determine what fraction of the stock the fishery is allowed to harvest; (b) determine a conservative catch level (i.e., one that is historically low/modest) that is clearly sustainable and set that as the TAC; or (c) identify a target CPUE and adjust the TAC through time until CPUE falls to within some range of the target value. Equitable distribution of the TAC between the commercial and recreational sectors would be necessary (FGC Section 7072(c)). If a quota system is adopted, allocation between and within sectors (commercial and recreational) would need to be considered.

District Closures

The FMP identifies closure of Fishing Districts (shown in Exhibit 1-2) as a possible management response. Areas closed to fishing tend to experience very low fishing mortality (although some fishing mortality can occur related to spillover and poaching). Population increase inside closed areas can increase the spawning output of the entire stock. However, closing areas off to fishing can also displace fishing effort to other areas, placing more pressure on the unprotected portion of the stock. Existing CDFW records show that most of the recreational take in the state occurs in locations where commercial fishing is prohibited.

A number of Fishing Districts are presently closed to commercial harvest (Exhibit 1-2). Prominent examples include the north side of Catalina Island and Santa Monica Bay. If the status of the SPR-reference points threshold is exceeded and following investigations indicate that action is necessary, these areas could be additionally closed to recreational harvest. Doing so would enhance the spawning output of populations in these areas.

Change in Season Length

Seasonal closures reduce fishing mortality by reducing the number of days that fishing is allowed each year. Closed seasons can protect stocks during important life events, such as spawning. A longer closed season could also improve survival of individuals that would have succumbed to fishing, which in turn increases SPR. The current closed season in California protects reproduction, and any extension of current seasonal closures is unlikely to provide substantial protection for reproductive behaviors or activities. However, if the SPR-based threshold reference point is exceeded, fishing season length could be shortened, either by delaying the opening date or by closing the season early. Most catch occurs during the first part of each season; therefore, reducing the duration of the season would have a disproportionately small effect on overall fishing mortality.

Change Minimum Legal Size

Increasing the minimum legal size would ensure that lobsters would, on average, reproduce more times before they are caught. Furthermore, females would be slightly larger and produce more eggs. Increasing the minimum legal size is an effective way to increase SPR. If the SPR-based threshold reference point is exceeded, the minimum legal size could be increased to a size that ensures a target SPR within a specified time frame. A reduction in minimum legal size would have the opposite effect, if future conditions suggest that SPR could be reduced.

Establish Maximum Legal Size

If the SPR-based threshold reference point is exceeded, a maximum legal size could be implemented to protect larger spawning females. As the communities inside MPAs mature, they would likely comprise more of these adults with higher fecundity, and a maximum legal size would be expected to protect these important spawning females as they move outside of the boundaries of the MPAs.

Sex-Selective Fishery

A sex-selective restriction allowing the harvesting of male lobsters (and consequently not allowing the harvesting of female lobsters) could be implemented for the California spiny lobster fishery. If the SPR-based threshold reference point is exceeded, changing sex regulation for females could be an efficient means to increase SPR. Prohibiting the take of berried females (i.e., female lobsters carrying fertilized eggs) is another sex-selective provision that could be considered.

2.5.2 Inoperative Statutes

The Fish and Game Code dictates that each FMP and plan amendment shall include a list of any statutes and regulations that shall become inoperative, as to the particular fishery covered by the FMP, upon the Commission's adoption of implementing regulations for that FMP (FGC Section 7088). As such, to implement the control rule toolbox as proposed in the FMP, the following Fish and Game Code sections would be moved to Title 14 CCR and rendered inoperative once they are adopted by the Commission:

1. FGC Section 8251: This section dictates the season length for the commercial California spiny lobster fishery. The HCR prescribed by this FMP incorporates changes to season lengths as a possible management adjustment.
2. FGC Section 8252: This section prescribes the size limit for the commercial sector, which is identical to the recreational sector size limit found in the CCR. The commercial size limit will be moved into Title 14, CCR reflecting the Commission's authority to make adjustment.
3. FGC Section 8254(c): This section states an annual lobster permit fee of \$265. The permit fee will change due to implementation of the trap tag program.
4. FGC Section 8258: This section lists the Districts where commercial lobster traps may be used to take CA lobster. The use of commercial traps to take California spiny lobster in certain Districts may change if the District closure option within the harvest control rule toolbox is used.

This FMP would render the following sections of the Fish and Game code inoperative as applied to only the California spiny lobster fisheries once the implementing regulations are in place:

1. FGC Section 7857(e): This section prohibits CDFW from issuing more than one of a single type of permit, including a lobster permit, to a single fisherman. The trap limit program envisioned by the FMP may allow fishermen to stack multiple permits, and thus this section will be rendered inactive for lobster operator permits.
2. FGC Section 7857(j): This section prohibits the transfer of a commercial fishing license, permit, or other entitlement. This section will be made inoperative to be consistent with the objectives of this FMP related to permit transferability and the acquisition of a second permit as part of the proposed trap limit program.
3. FGC Section 8102: This section states the conditions for issuing limited entry permits to a working partner of a permit holder in cases where the permit holder dies, is incapacitated or retires. This section will be made inoperative as it applies to the California spiny lobster fishery to be consistent with the commercial California spiny lobster limited entry fishery permit program and trap limit program as described in the FMP.
4. FGC Section 8104: This section states the conditions for transferring limited entry permits upon the death of the permit holder. This section will be made inoperative as it applies to the California spiny lobster fishery to be consistent with the commercial California spiny lobster limited entry fishery permit program and trap limit program as described in the FMP.

5. FGC Section 9004: This section requires commercial fishermen to service any deployed trap every 96 hours. However, proposed regulations will extend this servicing requirement to every 168 hours. As such, this section will be rendered inoperative as applied to the California spiny lobster fishery.

2.5.3 Lobster Advisory Committee Regulatory Recommendations

During the LAC process, described above in Section 2.2, constituent representatives were able to reach consensus on a number of items pertaining to the California spiny lobster fisheries. The LAC has also reached consensus on five objectives to guide future allocation considerations for the lobster fishery:

- ▲ Identify current effort levels for each sector and establish controls to prevent unrestricted growth.
- ▲ Identify the proportion of overall catch and/or effort from each sector, and if necessary, take corrective action to maintain those proportions if the percent of total catch and/or effort by sector deviates significantly from a pre-determined base period.
- ▲ Recognize the current differences between sectors in traditional fishing grounds and time-of-day fished, and seek to maintain those differences.
- ▲ If increases or decreases in effort to catch in the fishery are required due to application of the control rule, those changes should seek to maintain equitability and not give an advantage to either sector unless biological triggers require a change to allocation.
- ▲ End illegal commercialization of sport-caught lobsters.

In addition to providing input on the development of the FMP, the LAC also formed consensus on several commercial and recreational regulatory amendments that serve to create a more orderly and safe fishery, improve management, clarify regulations, improve enforceability of regulations, and benefit marine resources. The LAC proposals were compiled into a finalized consensus recommendation on September 11, 2013. Representatives from CDFW met separately with the LAC recreational and commercial representatives to clarify and define the details for describing regulation changes that would be enforceable and effective. The LAC proposals along with CDFW's recommendations were submitted to the Commission for its consideration at its April 2015 meeting. At the Commission's June 2015 meeting the Commission directed CDFW to prepare a regulatory package that includes both the LAC and CDFW recommendations described below.

COMMERCIAL TRAP LIMIT

A trap limit of 300 attached to each valid lobster operator permit is being proposed. This trap limit is proposed, in part, to cap and potentially reduce the current effort level. However, the proposal also aims to eventually cap the maximum long-term effort capacity of the commercial fishing fleet at 44,400 traps (148 transferable permits x 300 traps each). Furthermore, licensed commercial fishermen would have the option to purchase a second transferable permit (as they become available) for a maximum of two permits. This proposed mechanism would give fishermen the flexibility to fish up to 600 traps. The commercial trap limit includes a catastrophic trap tag loss provision through the submission of an affidavit to CDFW describing the circumstances of the loss to allow for the replacement of tags lost during a season. Catastrophic loss as defined by the LAC is the loss of 75 or more tags per lobster operator permit. CDFW would be required to add new fees and forms associated with the trap tag system for administrative requirements.

Even with the ability to hold two permits, some existing fishermen, especially those currently fishing between 600-1,000 traps, may need to extensively modify their fishing practices. However, the interest of these fishermen must be balanced with the risk of ecological impacts related to lost gear, if trap intensity

continues to escalate; the externalized economic inefficiency impacting the rest of the commercial fleet; and the desire of other fishermen in favor of fewer traps in the water.

CLARIFY THE POSSESSION AND USE OF SCUBA GEAR FROM COMMERCIAL LOBSTER VESSELS

Existing regulations do not explicitly prohibit SCUBA equipment on commercial lobster vessels, but do prohibit commercial fishermen from using SCUBA equipment “to assist in the take of lobsters” (14 CCR 122[g]). SCUBA gear can be an important tool for recovery of lost traps that might otherwise “ghost fish” or entangle other marine life. It can also be used for disentanglement in instances when trap lines are caught on a vessel’s propeller or on other gear. This proposal would clarify that commercial fishermen may use SCUBA for the purpose of securing traps for retrieval purposes only, retrieving lost gear, or to unfoul a line from a vessel; it would remain illegal to use SCUBA gear for the take of lobster.

JOINT LIABILITY FOR PERMITTEES OPERATING FROM THE SAME VESSEL

Neither the FGC nor the CCR prohibits two or more holders of lobster operator permits from operating from the same vessel on a trip. However, how liabilities are shared between these fishermen in the event of a violation is currently unclear. As such, the LAC proposes that each permittee whose traps are being pulled must be aboard the vessel and all permittees would be jointly responsible in the event of a FGC or CCR violation.

EXTEND THE COMMERCIAL TRAP SERVICE INTERVAL

Federal regulations require fixed gear (includes traps) in federal waters to be serviced at least every 7 days (50 Code of Federal Regulations Section 660.230(b)(3)). The desire to conform to federal regulation and to provide lobster fishermen with more flexibility in servicing their gear led to the proposal for a longer soak time for lobster traps, extending it from 4 to 7 days. This extended service requirement would only apply to lobster traps.

FORMALIZE THE USE OF NOTES IN THE COMMERCIAL FISHERY

Lobster fishermen are allowed to authorize another lobster operator permit holder to pull his or her traps by assigning that permit holder a note. This system was designed to allow one permit holder to pull the traps of another in the event of an emergency, such as sudden illness or vessel breakdown. Formalizing the note system would give CDFW more oversight through the submission of a waiver for CDFW approval to minimize potential abuse. To allow for the retrieval of lost gear, the proposed regulation includes a provision to allow lobster operator permit holders to recover up to six lost traps belonging to another permit holder without a waiver.

ADDITIONAL GRACE PERIOD FOR DEPLOYING AND RETRIEVING COMMERCIAL TRAPS

It is also proposed to extend the grace period for trap deployment before the commercial season opens and the grace period for trap retrieval after the commercial season closes. Commercial fishermen are currently allowed to deploy traps in the water 6 days before the season opens. They are also given 6 days to remove their traps from the water after the season closes. However, all traps left in the water during the grace periods must be unbaited with doors wired open. Fishermen may not bait the traps until 24 hours prior to the season opening and traps must still be emptied of baits and wired open when season closes.

To decrease the chance of accidents and navigational hazards, the grace period for deploying and retrieving traps would be extended to 9 days. Fishermen are still prohibited from baiting the traps until 24 hours before the season opens, and traps must still be emptied and wired open when the season closes.

DEFINE ABANDONED TRAPS

To define when a trap is considered abandoned, traps would be deemed abandoned if they are not retrieved 14 days after the season ends. In addition, new proposed regulations would allow for retrieval of this lost gear by lobster operator permit holders and CDFW designees from 15 days after the season to September 15.

TAIL CLIPPING/HOLE-PUNCHING OF RETAINED RECREATIONAL LOBSTER

Tail-clipping/hole-punching is practiced in other recreational lobster fisheries. For example, Australia requires the marking of retained recreationally-caught lobsters, where enforcement officers can use clipping or hole-punching to distinguish recreationally-caught lobsters from commercially-caught lobsters. The same can be accomplished in California. This tool is relatively simple to implement and enforce, and can help prevent recreationally caught lobsters from entering the black market. This potential regulatory change would require the hole-punching or the tail-clipping of the central tail fin of all retained lobsters, and prohibit the release of hole-punched or tail-clipped lobsters in the recreational sector. The proposed regulations would also prohibit commercial possession, sale, or offer for sale hole-punched or tail-clipped lobsters, although commercial fishermen would be allowed to keep them for personal use. This proposed change is an optional regulatory amendment.

CHANGING THE OPENING TIME FOR RECREATIONAL SEASON

The midnight opening time for the recreational season has led to confusion within the recreational fishing community. Because of fatalities occurring on opening nights, there were concerns with safety. Furthermore, a midnight opening is more difficult for CDFW to enforce than a day time opening. Because of the safety and enforcement issues associated with a midnight opener, the recreational season opener would be moved to an alternate time. This proposed regulatory change would move the recreational season opener from 12:01 a.m. to 6:00 a.m. on the Saturday preceding the first Wednesday in October. Overall, this reduces the season length by 6 hours.

MARKING RECREATIONAL HOOP NET FLOATS

A rule requiring the marking of all hoop net floats with the operator's unique Get Outside identification number (GO ID) found on their recreational fishing licenses (e.g., individual license numbers, GO ID numbers) is also proposed. This would allow enforcement officers to better identify hoop net operators and lost/abandoned gear. This regulatory change would require hoop netters to mark hoop net floats with their GO ID numbers, and would not result in a change in fishing behavior.

CLARIFYING REGULATORY LANGUAGE ON POSSESSION OF SPEAR GEAR WHILE DIVING FOR LOBSTERS

Current regulation prohibits the possession of "hooked devices" when diving for lobsters. This has led to different interpretations of the language, as well as citations for spear fishermen who were in possession of spear guns while attempting to take lobsters by hand. Clarifications to focus the regulatory language on how lobsters may only be taken by hand when diving is proposed. Merely carrying spearfishing gear while taking lobsters should be legal, while the use of such gear or any hooked devices to aid in lobster fishing should remain illegal. The proposed regulations would make these clarifying amendments.

CLARIFY REGULATORY LANGUAGE FOR MEASURING OF RECREATIONALLY CAUGHT LOBSTERS

Current recreational regulation states that lobsters shall be measured at the water line and prohibits under-sized lobsters from being brought aboard boats. The proposed change would allow for bringing under-sized lobster aboard a vessel for measurement purposes. All lobsters would be measured immediately and any undersize lobster must be released immediately into the water.

IMPROVE FISHERY DEPENDENT DATA COLLECTION

Regulatory changes would require that lobster logbooks and landing receipts be modified to capture more precise location and landings information to improve essential fishery information needed to more efficiently manage the commercial fishery.

PROHIBIT PERMIT TRANSFERS IN THE EVENT OF PENDING VIOLATIONS

The transfer of a lobster operator permit would be prohibited under the proposed regulations, when there are pending administrative, civil, or criminal processes that could result in suspension or revocation of the permit.

EXTEND THE PERMIT TRANSFER PERIOD FOR AN ESTATE

To allow more time for an estate to transfer a transferable lobster operator permit in the event of the death of the permit holder, the death provision transfer period would be changed in the proposed regulations from 1 to 2 years.

REQUIRE APPLICATION FOR PERMIT TRANSFER

An application would be required by the proposed regulations for the transfer of lobster operator permits. Currently, transfers are completed using a notarized document and not a formal CDFW application.

REPORTING OF COMMERCIAL TRAP LOSS

Commercial lobster fishermen would be required under the proposed regulations to report at the end of each fishing season the number and last known location of traps not recovered.

ADDITIONAL NONSUBSTANTIVE CHANGES

Additional regulatory changes are proposed to clean up existing language for consistency, enforceability, and clarity. These proposed changes would not result in substantive changes to current regulations.

2.6 REASONABLY FORESEEABLE COMPLIANCE RESPONSES

The purpose of this IS/Proposed ND is to evaluate potential environmental effects resulting from implementation of the Spiny Lobster FMP and proposed regulatory amendments. Pursuant to CEQA Guidelines Section 15064(d), lead agencies shall consider direct physical changes and reasonably foreseeable indirect physical changes in the environment that may be caused by a project. Adoption of a management plan and regulatory amendments, by itself, does not cause a direct physical change in the environment. Therefore, the potential indirect effects of reasonably foreseeable compliance responses (i.e., the actions reasonably expected to occur in response to implementation of the plan and proposed regulatory actions) are evaluated in this IS to the extent feasible, when those responses may result in changes to the physical environment.

While the types and examples of foreseeable compliance responses can be reasonably predicted, the specific location, intensity, and setting of these actions cannot. As a result, the IS discusses broadly defined types of environmental impacts, rather than specific locations or site-specific environmental characteristics associated with the potential impacts. The impacts identified in the IS would apply generally within the project area. Many of the foreseeable compliance responses do not alter the physical environment, as defined in the CEQA Guidelines Section 15360. Other responses would lead to actions that may affect the marine environment of the project area. The following features from the FMP and regulatory amendments

would not result in a direct or indirect effect to the environment, because they do not involve activities that alter physical conditions of the marine environment. Therefore, these are not evaluated further in this IS:

- ▲ implementing regulations that describe the definitions used in the FMP, process and timing, the harvest control rule SPR, CPUE, and Catch threshold levels, and making certain FGC sections inoperable;
- ▲ requiring hoop net operators to mark hoop net floats with GO-ID numbers;
- ▲ changing the estate transfer period from 1 year to 2 years after the death of a transferable lobster operator permit holder;
- ▲ adding a catastrophic trap tag loss provision for in-season trap tag replacement. Catastrophic loss is defined as the loss of 75 or more tags per permit;
- ▲ implementing a waiver requirement for permit holders to service another fisherman's traps;
- ▲ adding fees and forms associated with the trap tag program;
- ▲ clarifying methods of take for lobster, and when lobsters are required to be measured and undersized lobsters released;
- ▲ extending the lobster operator permit death provision transfer period from 1 to 2 years;
- ▲ prohibiting the transfer of a lobster operator permit until all pending violation(s) have been resolved;
- ▲ requiring an application for the transfer of lobster operator permits; and
- ▲ any regulatory amendments clarifying or modifying language of current regulations not resulting in a substantive change in the intent of the regulations.

Table 2-3 provides a list of FMP management tools and regulatory amendments with examples of reasonably foreseeable compliance responses that could be associated with the proposed regulatory changes.

Reasonably foreseeable direct or indirect effects to the physical environment of the FMP management tools and regulatory amendments in Table 2-3 are discussed in Chapter 3. The California spiny lobster fishery would be adaptively managed within the framework of the FMP and regulatory amendments and all future compliance responses cannot be reasonably known at this time. Therefore, Table 2-3 includes examples of the types of compliance responses that could be expected to occur, to provide context for the environmental analysis in Chapter 3. Table 2-3 is not meant to be an exhaustive list of compliance responses that have the potential to occur through implementation of the FMP and regulatory amendments. It is important to note that CDFW is directed to use the best readily available science to meet the ecosystem and fishery objectives of the MLMA when developing any future applications of the FMP management tools in Table 2-3.

Table 2-3 Proposed FMP Measures/Regulatory Amendments and Examples of Reasonably Foreseeable Compliance Responses

FMP Management Tools	Examples of Compliance Responses
Changing the commercial trap limit	▲ Would place a limit on the total number of traps used in the fishery, which would be beneficial to benthic habitats and potentially reduce overall bycatch and marine mammal interactions.
Changing the recreational bag limit ¹	▲ Could lead to an increase or decrease in fishing effort and total catch, depending upon the bag limit being increased or decreased
Setting a Total Allowable Catch	▲ Could result in a change to total catch relative to current catch and more or less pressure on the lobster population and marine environment.
District Closures	▲ Could result in fishing effort shifts (i.e., increased pressure) from a closed District to remaining open areas and additional travel by some fishermen.
Changing the season length ¹	▲ Could result in either an increase or decrease in recreational and commercial fishing effort and total catch.
Changing minimum legal size	▲ Could increase recreational and commercial fishing effort because it would initially take longer for fishermen to catch legal sized lobsters. Initially it would result in overall reduction in catch for both the commercial and recreational fisheries until the lobster population caught up to the new size limit. If minimum size were decreased, it would likely not have as much an impact on effort, but this could lead to decreases in spawning output.
Establishing a maximum legal size	▲ Would protect larger lobsters, which could increase egg production and SPR.
Establishing a sex selective fishery (i.e., male-only fishery or female-specific size restriction) ¹	▲ Would reduce total catch in the fishery and could lead to increased recreational and commercial fishing effort, because it would take more time to reach a limit of legal lobsters of the appropriate sex.
Regulatory Amendments	Examples of Compliance Responses
Requiring traps to be serviced at least every 7 days (currently 4 days)	▲ Potentially less frequent servicing/tending to traps could result in increased bycatch, and increased gear loss, which could increase effects on benthic habitats and marine mammal gear interactions.
Adding a provision to allow permit holders to recover up to 6 lost traps belonging to other permit holders	▲ Would allow the recovery of lost traps by other permit holders, which could reduce ghost fishing effects, and possibly reduce marine mammal interactions and benefit benthic habitats.
Reporting of commercial trap loss	▲ Would provide CDFW with additional essential fishery information needed to inform management decisions and could benefit trap recovery efforts.
Defining abandoned traps. Traps considered abandoned if not retrieved 14 days after the season ends. Fifteen days after the commercial season ends lobster operator permit holders and CDFW designees may recover an unlimited number of abandoned lobster traps	▲ Would aid lost fishing gear recovery projects by allowing the recovery of lost traps by other permit holders and CDFW designees. The recovery of lost traps would reduce ghost fishing, possibly reduce gear interactions with marine mammals and benefit benthic habitats.
Extending the period (from 6 to 9 days) for deploying and retrieving traps before and after the season	▲ Would allow for safer trap deployment and retrieval which could result in less gear loss. May result in lobster traps and associated gear being in the ocean for up to 3 additional days pre and post season.
Clarifying SCUBA gear possession on commercial vessels	▲ Could result in less gear loss, because it would allow fishermen to recover gear at the time of loss.
Improving fishery dependent data collection	▲ Would support the long-term sustainable management of the lobster fishery. ▲ Could result in earlier detection of issues and a subsequent improvement in adaptive management response time to resolve these issues.

Table 2-3 Proposed FMP Measures/Regulatory Amendments and Examples of Reasonably Foreseeable Compliance Responses

Setting the trap limit to 300 traps per permit with the ability to purchase a second permit for a maximum 600 traps	<ul style="list-style-type: none"> ▲ Would reduce the total number of traps in the water at one time and possibly reduce the chances for entanglement by marine species. ▲ Could reduce the total amount of fishing effort, because fishermen would be limited to 300 traps per permit. ▲ Could reduce vessel travel time for those that currently fish more than 300 traps. ▲ Could result in less abandoned traps, because it provides incentive for fishermen to recover their traps and equipment due to a limited number of trap tags issued each season.
Changing recreational season opener from 12:01 am to 6:00 a.m.	<ul style="list-style-type: none"> ▲ Could reduce harm caused to the marine environment and improve safety by removing the midnight season opener. This may reduce accidents, damage to the marine environment, and loss of equipment because fishing effort would be spread out over daylight hours and no longer all focused at midnight.
Potentially requiring hole-punching or fin-clipping of retained lobsters in the sport fishery	<ul style="list-style-type: none"> ▲ Could reduce the illegal sale of sport-caught lobster, which would benefit the lobster resource.
¹ Features that could increase recreational lobster activity.	

2.7 FUTURE FMP AMENDMENTS

If new, relevant information becomes available, an FMP amendment based on that information may be appropriate. Any amendment that would affect an existing regulation or requires new regulations would be accompanied by a regulatory amendment proposal for the Commission. Amendment of the regulations would require a rulemaking process.

CDFW may propose an FMP amendment on its own initiative and discretion. In this case, CDFW would solicit opinions input from the public and the Commission. The public would have at least 30 days to review any proposed amendments prior to the hearing. CDFW may submit the proposal to the Commission after 30 days, or it may hold further public meetings before submission (see also FGC Section 7077). Interested parties may also propose plan provisions or amendments to either CDFW or the Commission.

An FMP amendment can be focused on a particular portion of the document; an amendment process should not automatically trigger the amendment of the entire FMP. However, an amendment on one portion of the FMP should not contradict another part.

Future amendments to the regulations or to the FMP would be subject to CEQA review in a manner consistent with the statute and guidelines. An additional CEQA document would only be needed, if substantial changes requiring major revisions arise or new information of substantial importance becomes available, in accordance with CEQA Guidelines Sections 15162 – 15164.

3 ENVIRONMENTAL CHECKLIST

This environmental checklist has been prepared to evaluate whether implementation of the Spiny Lobster Fishery Management Plan (FMP) and proposed regulatory amendments would result in significant or potentially significant effects on the environment. The checklist and explanatory discussion compose the Initial Study for the project that supports the adoption of the proposed Negative Declaration (ND) by the lead agency, California Fish and Game Commission (Commission).

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |
| | <input checked="" type="checkbox"/> None | <input type="checkbox"/> None with Mitigation |

The environmental analysis in the Initial Study indicates that the project would not result in any significant or potentially significant effects on the environment.

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☒ I find that the project could not have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- ☐ I find that although the project **COULD** have a significant effect on the environment, there **WILL NOT** be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- ☐ I find that the project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- ☐ I find that the project **MAY** have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature

Date

Mike Yaun

Acting Executive Director
California Fish and Game Commission

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.1.1 Environmental Setting

The project area consists of the coastline of the Pacific Ocean and the open ocean extending approximately 20 miles offshore from San Luis Obispo County, California, south to the U.S.–Mexico border and the Channel Islands. Aesthetic resources include numerous views of coastal and marine features from the coastline and from vessels. For divers within the project area, the aesthetic setting also includes the underwater environment.

This project area is characterized by open ocean and scattered rocky ocean outcrops. Views of the adjacent coastline include sandy beaches, bluffs, coastal terraces, and areas of coastline development. Views of the project area from the coastline include expansive views of the open ocean and very distant views of the Channel Islands on the horizon. Views from the vessels on the ocean surface include the open ocean, foreground views of the Channel Islands, and distant views of the beaches and coastline development along the coast of California.

The Channel Islands are largely undeveloped and have topography ranging from flat beaches and rolling hills to steep outcroppings. Santa Catalina Island is the most developed of the islands within the project area and views of the island include rugged topography with commercial and residential development. Views of the island also include marinas and various recreational and commercial watercraft. Underwater views include varied sea floor topography and aesthetically important marine resources, such as kelp forests, sea caves, and marine life.

State Route (SR) 1, Interstate 5, and/or U.S. Highway 101, which are all eligible as a state scenic highways, follow the coastline adjacent to the project area for much of the distance between San Luis Obispo County and the U.S.–Mexico border (California Department of Transportation 2011). There are many scenic vistas along the coastline and these scenic highways offering expansive views of the Pacific Ocean and the project area.

3.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than Significant. The project area is visible from several highways that are eligible as state scenic highways and a number of scenic vistas along the coast and from the Channel Islands. During the open season for the California spiny lobster fishery, there are views of commercial and recreational vessels on the open water as well as buoys for submerged traps. Commercial fishermen and recreational hoop-netters deploy submerged traps into the ocean, and divers submerge themselves to capture lobsters. These activities occur underwater, and all activities are seasonal and do not leave behind permanent structures. Implementation of the FMP and regulatory amendments may cause slight changes in the number and/or location of vessels and/or buoys on the water on any given day or may result in the concentration of fishing to shift from one District to another within the overall project area. However, none of the proposed changes would increase the overall level of fishing activity within the project area and views from a scenic vista would not be degraded. Therefore, the FMP and regulatory amendments would not have a substantial adverse effect on scenic vistas. This impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway or roadway?

Less than Significant. Because the project area is within a marine environment, there are no trees or historic buildings associated with a scenic highway located within the project area. There are some rocky ocean outcrops within the project area; however, commercial and recreational fishing activity takes place within the open water of the project area and no new structures are proposed as part of the FMP and regulatory amendments. The FMP and regulatory amendments could cause shifts of fishing activity within the overall project area, but the proposed amendments would not change the type or level of fishing activities in a manner or magnitude that would substantially affect views within the project area. Therefore, this impact would be less than significant.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant. The visual character of the project area would include the open ocean along the coast of California and the underwater environment visible to divers. The FMP and regulatory amendments could cause shifts in the amount of fishing at a given location within the overall project area, but not an increase in the overall amount of fishing. These shifts would be seasonal and would only result in slight changes in visible fishing activity within the area. The visual character of the open ocean would not change noticeably. There would be a decrease in the number of commercial lobster traps in the water over time, which would result in fewer intrusions by fishing gear into natural underwater views. In addition, the existing fisheries are not currently known to substantially degrade the existing scenery of the coastline or underwater environment, and the FMP and regulatory amendments would not result in substantial changes to the existing fisheries. Therefore, this impact would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant. Commercial lobster fishing is prohibited at night. Recreational fishing vessels may be on the water at night and would use limited vessel lighting for safety and navigation. However, none of the regulatory amendments would not cause an overall increase in recreational fishing. In addition, any specific-day increase in recreational fishing effort that may occur would primarily take place during daytime hours. Therefore, the FMP and regulatory amendments would have a less-than-significant impact on light and glare.

3.2 AGRICULTURE AND FOREST RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.</p>				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with existing or planned aquaculture operations or uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.2.1 Environmental Setting

The California Department of Conservation considers Prime Farmland and Farmland of Statewide Importance to be defined as land that: "Has been used for irrigated agricultural production at some time during the four years before the Important Farmland Map date. Irrigated land use is determined by Farmland

Mapping and Monitoring Program staff by analyzing current aerial photos, local comment letters, and related GIS data, supplemented with field verification” (California Department of Conservation 2015). The project area consists of an open ocean and underwater marine environment, so it does not contain any terrestrial farmlands.

As defined in the Public Resources Code (PRC, various sections), there is no timberland-zoned land or other timberland-related or forest-related land in the project area, because it is an open ocean and underwater marine environment.

Aquaculture, or mariculture in the marine environment, is the production of marine and freshwater organisms under controlled conditions or within the natural environment. In California, this includes shellfish for human consumption and finfish for stock enhancement (e.g., white seabass hatchery program).

Some types of aquaculture in California are practiced in the open ocean and in bays where products such as mussels, clams, and white seabass are grown. Other aquaculture occurs in artificial earthen ponds, tanks or raceways that are the primary source of farm-raised catfish, tilapia, bass, shrimp, crawfish, baitfish, and ornamental fish and plants (National Association of Aquaculture 2015).

According to the list of aquaculture registrants (CDFW 2015b), there are registered aquaculture companies/organizations within the range of the project area, including Santa Barbara County, San Luis Obispo County, San Diego County, Riverside County, Ventura County, and Orange County. These companies produce organisms varying from freshwater to marine species of fish, shellfish, and crustaceans. There are currently five aquaculture facilities within the project area. Facilities for freshwater species are typically inland and those that cultivate marine species are near or within the marine environment on both public and private land.

3.2.2 Discussion

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**
- b) **Conflict with existing zoning for agricultural use or a Williamson Act contract?**

No Impact. The project area is a marine environment, so it does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as mapped by the California Resources Agency, because the project area is an open ocean and underwater marine environment. Currently, there is no effect on terrestrial agriculture from the fisheries and the project would not cause changes that would result in direct or indirect conversion of these types of farmland. Additionally, because there is no terrestrial Farmland in or near the project area, there is no potential for conflict with zoning for agricultural use or a Williamson Act contract. Therefore, there would be no impact.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**
- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact. The project area is a marine environment, so it does not contain any forest land (as defined by PRC), timberland, or zoned Timberland Production (as defined by Government Code). Currently, there is no

effect on forest land or other related resources from the fisheries and the project would not cause changes that would result in direct or indirect conversion of or conflict with zoning related to forestland types of land uses. Therefore, there is no impact.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The FMP and regulatory amendments only involve changes to the existing management of the commercial and recreational California spiny lobster fisheries in waters of the state. Currently, the California spiny lobster fishery has no connection to Important Farmland or forest land uses in surrounding terrestrial areas, and the FMP and regulatory amendments would not result in any changes or conversions to of either Important Farmland or forest land uses to other land uses. In addition, as described above in Section 3.2.2 for questions “a” and “b,” there would also be no substantial effect to existing aquaculture facilities and/or resources. Therefore, there would be no impact.

f) Conflict with existing or planned aquaculture operations or uses?

Less than Significant. Five aquaculture facilities are currently located within the project area; however, no potential conflict with these existing facilities or any planned aquaculture operations or uses would result from implementation of the FMP and regulatory amendments. It is anticipated that over time, the number of commercial lobster traps in the water would decrease, because of implementation of the proposed regulatory amendments. The management measures in the FMP and proposed regulatory amendments would not alter existing fishing practices or intensities within the project area in such a way as to affect existing aquaculture facilities. This impact would be less than significant.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Environmental Setting

The proposed plan and regulatory amendments would affect lobster fishing activities at docking locations and off-shore along the southern coast of California from Monterey County to San Diego County, although nearly all fishing activity occurs south of Santa Barbara County. This stretch of coastline includes the following counties: Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego; and the following air districts: Monterey Bay Unified Air Pollution Control District (MBUAPCD), San Luis Obispo County Air Pollution Control District (SLOAPCD), Santa Barbara County Air Pollution Control District (SBCAPCD), Ventura County Air Pollution Control District (VCAPCD), South Coast Air Quality Management District (SCAQMD), and San Diego County Air Pollution Control District (SDAPCD). These areas are located in the North Central Coast, South Central Coast, South Coast, and San Diego air basins. The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Climate and wind patterns along this stretch of coastline would vary with topography and location. Generally, marine winds flow inland from the Pacific Ocean eastward and temperatures along the coastline are mild (WRCC 2015).

Of the many pollutants, ozone and particulate matter (i.e., respirable [PM₁₀] and fine [PM_{2.5}] particulates) are of primary concern within the coastal counties, as well as for much of the rest of the State.

Table 3-1 below shows the attainment status of each of the affected counties for the State and Federal ozone (1-hour and 8-hour) and particulate matter standards. These standards are pursuant to the terms of the California Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

Table 3-1 National and State Air Quality Attainment Statuses at Affected Counties			
National Standard			
County	Ozone^a	PM₁₀	PM_{2.5}^b
Monterey	Attainment	Attainment	Attainment
San Luis Obispo	Nonattainment (Marginal)	Attainment	Attainment
Santa Barbara	Attainment	Attainment	Attainment
Ventura	Nonattainment (Serious)	Attainment	Attainment
Los Angeles ^c	Nonattainment (Extreme)	Attainment	Nonattainment (Moderate)
Orange	Nonattainment (Extreme)	Attainment	Nonattainment (Moderate)
San Diego	Nonattainment (Marginal)	Attainment	Attainment
State Standard			
Monterey	Nonattainment	Attainment	Nonattainment
San Luis Obispo	Nonattainment	Attainment	Nonattainment
Santa Barbara	Nonattainment	Unclassified	Nonattainment
Ventura	Nonattainment	Attainment	Nonattainment
Los Angeles	Nonattainment	Nonattainment	Nonattainment
Orange	Nonattainment	Nonattainment	Nonattainment
San Diego	Nonattainment	Nonattainment	Nonattainment
a. Reflects the national 8-hour standard. The 1-hour standard was revoked on June 15, 2005. b. Reflects the latest 2012 PM _{2.5} standard. c. For the South Coast portion only.			
Source: ARB 2013a, USEPA 2015			

As described in the management toolbox of the FMP, the proposed FMP and regulatory amendments could result in seasonal shifts in vessel transit and transportation activity within discreet areas due to district closures or a change in season length. Potential temporal and spatial shifts in fishing activity could include changes in the timing and location of vessel transit, docking services, and running of on-board generators. Although, the FMP and regulatory amendments have the potential to result in more concentrated fishing activities, they would not involve any construction or ground disturbance activities or result in an overall increase in fishing activity.

In an effort to characterize the existing contribution of emissions from commercial and recreational fishing vessels in general (and not just those engaged in lobster fishing), Table 3-2 below shows the relative contribution of emissions from fishing vessels and recreational boats for each affected air district in 2013. These emissions include vessel activity on all navigable waters in the air districts, including those inland. The California Air Resources Board (ARB) reports these emissions in tons per year and breaks down emissions by source categories. Reported criteria pollutants include reactive organic gases (ROG) and nitrous oxides (NO_x), which are major ozone precursors, as well as PM₁₀ and PM_{2.5}. Table 3-2 shows that the commercial and recreational fishing sectors accounts for no more than 10 percent of an air district's annual emissions, of which lobster fishing activity would only account for a small subset.

Table 3-2 2013 Emissions Inventory for Affected Air Districts Showing Contribution of Overall Fishing Vessel and Recreational Boat Activity^a (tons/year)

Emissions Source	ROG	NO _x	PM ₁₀	PM _{2.5}
MBUAPCD	49.01	74.17	43.84	11.69
Fishing Vessels ^b	0.12	1.43	0.06	0.06
Recreational Boats	1.95	0.38	0.12	0.09
All Other Emissions Sources in Air District	46.95	72.36	43.66	11.54
SLOAPCD	17.58	27.69	15.01	4.67
Fishing Vessel ^b	0.05	0.56	0.02	0.02
Recreational Boats	1.07	0.21	0.07	0.05
All Other Emissions Sources in Air District	16.47	26.92	14.92	4.59
SBCAPCD	29.44	83.37	15.37	5.84
Fishing Vessel ^b	0.08	0.88	0.04	0.04
Recreational Boats	0.41	0.07	0.02	0.02
All Other Emissions Sources in Air District	28.96	82.42	15.31	5.79
VCAPCD	33.93	47.20	16.55	6.02
Fishing Vessel ^b	0.06	0.76	0.03	0.03
Recreational Boats	2.28	0.42	0.13	0.10
All Other Emissions Sources in Air District	31.58	46.02	16.38	5.89
SCAQMD	482.61	570.16	173.62	73.45
Fishing Vessel ^b	0.33	3.84	0.17	0.15
Recreational Boats	32.30	6.08	1.95	1.47
All Other Emissions Sources in Air District	449.98	560.25	171.50	71.83
SDAPCD	126.45	113.94	72.72	20.28
Fishing Vessel ^b	0.14	1.64	0.07	0.07
Recreational Boats	11.72	2.22	0.71	0.54
All Other Emissions Sources in Air District	114.59	110.09	71.95	19.68
Total for All Affected Districts	739.03	916.54	337.10	121.95
Fishing Vessels ^b	0.78	9.12	0.39	0.36
Recreational Boats	49.72	9.37	3.00	2.26
All Other Emissions Sources in Air District	688.53	898.05	333.72	119.32

^a Not limited to lobster fishing.^b Includes charter and commercial fishing vessels

MBUAPCD = Monterey Bay Unified Air Pollution Control District

SLOAPCD = San Luis Obispo County Air Pollution Control District

SBCAPCD = Santa Barbara County Air Pollution Control District

VCAPCD = Ventura County Air Pollution Control District

SCAQMD = South Coast Air Quality Management District

SDAPCD = San Diego County Air Pollution Control District

LTS = Less than significant

BMP = Best Management Practices

Source: ARB 2013b

As shown in Table 3-2, criteria pollutants generated by charter and commercial fishing vessels make up a small percentage (less than 2 percent) of a district's annual criteria pollutant emissions. Emissions from recreational boats, however, can make up to 9 percent of total annual criteria pollutant emissions. However, it is unknown what proportion of recreational boats is used for lobster fishing, specifically.

3.3.2 Regulatory Framework

Air quality within the project area is regulated by such agencies such as the U.S. Environmental Protection Agency (USEPA), and ARB at the federal and state levels, respectively, and by local air districts. Air districts attain and maintain air quality conditions in their respective air basins and jurisdictions through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. Many district clean air strategies include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The air districts also inspect stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the federal Clean Air Act (CAA), the federal Clean Air Act Amendments of 1990 (CAAA), and the California Clean Air Act of 1988 (CCAA).

FEDERAL

At the federal level, USEPA implements the national air quality programs. USEPA's air quality mandates are drawn primarily from the CAA, enacted in 1970. The most recent major amendments were made by Congress in 1990. The CAA, last amended in 1990, requires USEPA to establish the National Ambient Air Quality Standards (NAAQS) (40 CFR part 50). USEPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead (ARB 2013). The primary standards protect public health and the secondary standards protect public welfare. The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal CAAA added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. USEPA reviews all state SIPs to determine whether they conform to the mandates of the CAA and its amendments and whether implementing them will achieve air quality goals. If USEPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the nonattainment area. If the state fails to submit an approvable SIP or to implement the plan within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basins.

STATE

Under the CCAA, passed in 1988, areas not in compliance with the state standards must submit plans to reduce emissions and achieve attainment. These Clean Air Plans (CAPs) are updated periodically and reflect the progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. An Air District's record of progress in implementing previous measures must also be reviewed as part of a CAP. CAPs serve to:

- ▲ update past strategies in accordance with the requirements of the CCAA to implement "all feasible measures" to reduce any emissions triggering a non-attainment status in an air basin or air district;
- ▲ consider the impacts of control measures on any pollutants for which the area is under non-attainment in a single, integrated plan;
- ▲ review progress in improving air quality in recent years; and
- ▲ establish emission control measures to be adopted or implemented in the near future timeframe.

Commercial Harbor Craft Regulation

On November 15, 2007, ARB approved the Commercial Harbor Craft Regulation to reduce emissions from diesel engines on commercial harbor craft vessels that operate in "Regulated California Waters" (13 CCR Section 2299.5 and 17 CCR Section 93118.5). California regulated waters include all internal waters,

estuarine waters, ports, and coastal waters within 24 nautical miles of the California coast. The regulation is expected to substantially reduce diesel PM and NO_x emissions from harbor craft engines by requiring USEPA marine engine standards for all repowered engines and requiring meters to be installed on all commercial fishing vessel engines (both propulsion and auxiliary). Additionally, all vessel owners or operators must maintain records for each vessel engine. The emission reductions associated with this regulation are expected to reduce premature mortality, cancer risk, and other adverse impacts caused by exposure to these pollutants. This regulation also reduces diesel PM and NO_x emissions that contribute to statewide exceedances of ambient air quality standards (ARB 2008).

LOCAL

As shown in Table 3-1, all affected counties are in nonattainment of CAAQS standards for ozone and PM_{2.5}, with only Los Angeles, Orange, and San Diego Counties in nonattainment for the state PM₁₀ standard. Thus, all associated air districts are required to have a plan in place that demonstrates each district's method of reducing emissions to meet exceeded standards.

THRESHOLDS OF SIGNIFICANCE

For the purpose of this analysis, the following thresholds of significance in Table 3-3, taken from the respective air district guidelines, are used to determine if an impact on air quality would be significant. The plan would result in a significant air quality impact if it would cause exceedances of the following thresholds for operational impacts listed in Table 3-3. Thresholds for construction impacts are not included because the proposed FMP and regulatory amendments would not result in any construction or ground disturbance activities.

Table 3-3 Thresholds of Significances for Each Affected Air District for Operational Impacts Only				
Air District	NO_x	ROG	PM₁₀	PM_{2.5}
MBUAPCD	137 lbs/day ^a	137 lbs/day ^b	NA	82 lbs/day ^c
SLOAPCD	25 lbs/day or 25 tons/year for ROG and NO _x combined		25 lbs/day or 25 tons/year (dust only)	1.25 lbs/day (DPM)
SBCAPCD	25 lbs/day or 25 tons/year for ROG and NO _x combined from motor vehicle trips only		Daily trigger for offsets set in the APCD New Source Review	
VCAPCD	25 lbs/day ^d OR 5 lbs/day ^e	25 lbs/day ^d OR 5 lbs/day ^e	LTS with BMPs	LTS with BMPs
SCAQMD	55 lbs/day	55 lbs/day ^b	150 lbs/day	55 lbs/day
SDAPCD ^f	250 lb/day or 40 tons/year	75 lb/day or 13.7 tons/year	100 lbs/day or 15 tons/year	55 lbs/day or 10 tons/year

a. direct plus indirect
 b. Threshold for volatile organic compounds (VOC), a subset of ROG.
 c. Only applies to onsite emissions and plan-related exceedances along unpaved roads
 d. Applied to areas in the County outside the Ojai Planning Area
 e. Applies to the Ojai Planning Area. The Ojai Planning Area includes a portion of the County's coastal areas.
 f. SDAPCD has not adopted CEQA thresholds of significance. These thresholds reflect published screening level thresholds for air quality impact analyses for new sources.

Notes: NA = Not Available
 DPM = Diesel-generated particulate matter
 MBUAPCD = Monterey Bay Unified Air Pollution Control District
 SLOAPCD = San Luis Obispo County Air Pollution Control District
 SBCAPCD = Santa Barbara County Air Pollution Control District
 VCAPCD = Ventura County Air Pollution Control District
 SCAQMD = South Coast Air Quality Management District
 SDAPCD = San Diego County Air Pollution Control District
 LTS = Less than significant
 BMP = Best Management Practices

Source: MBUAPCD 2008, SLOAPCD 2009, SBCAPCD 2015, VCAPCD 2003, SCAQMD 2015, SDAPCD 2007

3.3.3 Discussion

a) Conflict with or obstruct implementation of applicable air quality plans?

Less than Significant. The purpose of any air quality plan is to reduce criteria and toxic air pollutants in a particular region. These plans can be established by jurisdictional agencies such as air districts or through a general plan document. Typical air quality plans in given air districts address the feasibility and actions that air districts should take to meet or maintain state and federal clean air standards. As shown in Table 3-1, all air districts affected by the FMP and regulatory amendments are at some level of non-attainment with respect to state and national standards, except for the PM₁₀ NAAQS. Air quality plans within general plan document are usually written as goals, actions, and policies that prohibit or limit land use development actions that would worsen air quality. Any project or plan that would result in short-term or long-term increases in air pollutants would be at risk of conflicting with or obstructing applicable air quality plans. Whether or not an actual conflict would occur depends on the specific limitations presented in the air quality plans and would vary by region.

The implementation of the proposed FMP and regulatory amendments would result in establishing a management framework for the fishery; however, it would not directly conflict with or obstruct the implementation of any applicable air quality plans. Theoretically, an increase boating trips or longer travel distances could worsen air quality through increased annual and daily fuel usage and combustion. However, the actual effect of the FMP on total boat trips or trip lengths would not increase overall fishing activity. As shown discussed in Section 2.6 of the Project Description and shown in Table 2-3 discussed in Section 2.6, “Reasonably Foreseeable Compliance Responses,” implementation of the proposed FMP and regulatory amendments has the potential to seasonally affect the location and concentration of vessel activities.

With respect to air quality impacts, these compliance responses could result in spatial and temporal redistribution of overall fishing vessel activity and associated fuel exhaust emissions. While compliance responses with the proposed regulatory amendments listed in Section 2.6 could generally reduce vessel activity, seasonal district closures could result in increased concentrations of vessel activity in open fishing areas, which could lead to higher short-term, localized increases in the concentrations of air pollutants in varying locations, affecting local conditions, but not overall conditions. Additionally, the FMP would not change the total number of annual fishing permits that would allow for increases in overall fishing vessel activity over existing conditions. The effect the FMP has on the movement, concentration, and location of active fishing vessels would be similar to existing conditions, with the only difference being the motivation behind the vessel destinations and schedules (e.g., regulatory vs. market incentives). Also, the FMP and proposed regulatory amendments would not cause an increase in overall fishing vessel activity (i.e., annual ship ton-miles) over existing conditions. In addition, all commercial fishing vessels are required to comply with the State’s Commercial Harbor Craft Regulation that regulates emissions from maritime vessels. Thus, subject to this regulation, although the FMP could potentially increase localized concentrations of lobster fishing vessel activity in certain areas, such concentrations would not result in an overall increase in vessel activity. The implementation of the FMP would, therefore, not result in increased emissions of air pollutants or contaminants and, thus, would not conflict with or obstruct implementation of any applicable air quality plans. This impact would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant. As discussed above in Section 3.3.3, “a”, the implementation of the FMP would not result in increased emissions of air pollutants or contaminants over existing conditions and; thus, would not be anticipated to exceed the air quality district thresholds of significance, listed in Table 3-3, for air districts within the project area. Therefore, the FMP would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. This impact would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the plan region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant. As discussed above in Section 3.3.3, “a”, the implementation of the FMP and proposed regulatory amendments would not result in an overall increase of emissions of air pollutants or contaminants over existing conditions. Thus, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the plan region is in non-attainment under an applicable federal or state ambient air quality standard. This impact would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant. Most vessel activity and resultant emissions would occur in the open ocean, far from sensitive receptors. Affected marinas and docking areas would likely not be in close proximity to sensitive receptors such as hospitals, childcare centers, schools, and elderly care facilities. Although some residences and waterside parks may be located close to docks, the FMP would not result in substantial increases in emissions over existing conditions, as discussed above in question “a” of this section. Thus, the FMP would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant. Fishing vessels and associated docking areas typically generate odors due to the transport of sea life. Most vessel activity and resultant potential odor generation would occur in the open ocean, far from sensitive receptors. Any potential increases in odors at fishing docks and other locations would be characteristic of existing odors at these locations. Additionally, the level of odors would be similar to existing seasonal patterns in fish catch that could occur at a dock. Fishing docks are also typically located away from high population concentrations, though some residences could be located near docks. Thus, the FMP would not significantly create additional objectionable odors affecting a substantial number of people. This impact would be less than significant.

3.4 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Environmental Setting

This discussion is based on the assessment of potential marine special-status species and habitats included in the Biological Resources Memorandum prepared by Applied Marine Sciences (AMS 2015, Appendix A).

Among the marine habitats evaluated, the assessment identified eelgrass beds as the only potential U.S. Army Corps of Engineers Clean Water Act Section 404 jurisdictional coastal wetland features that could occur within the project area.

The 2015 AMS memorandum identified a list of the potential for occurrence for a number of special-status avian, fish, marine invertebrate, marine mammal, marine reptile species, and plants; these species are identified in full in Appendix A. The identified species are protected or designated as special-status by the following: 1) protected under either the Federal Endangered Species Act or California Endangered Species Act, 2) afforded special protection under the Marine Mammal Protection Act, 3) managed under the

Magnuson-Stevens Act, or 4) otherwise considered species of special concern by National Oceanic and Atmospheric Administration, CDFW, or U.S. Fish and Wildlife Service. The general coastal waters of California located within the project area are used extensively by these species for foraging habitat, nursery areas, or as critical habitat.

In addition, a number of habitats considered to be important to the marine ecosystem including intertidal (rocky shoreline, sandy beaches, estuaries and lagoons, seagrass beds), subtidal regions (soft and hard substrates), and key ecosystems, such as kelp forests and eelgrass beds, are included in the overview of the AMS memorandum and assessment (AMS 2015). The intertidal habitats occur in the area where only recreational fishing could typically take place, while the subtidal regions are where both commercial and recreational fishing activities are more likely to occur (i.e., in deeper waters). All of these provide habitat for ecological competitor species, predator and prey species, and potential habitat for the California spiny lobster.

MARINE PROTECTED AREAS

In 1999, the California legislature passed the MLPA. The MLPA is designed to protect the state's marine life and habitats, marine ecosystems, and marine natural heritage through the establishment of a statewide network of MPAs. MPA locations have been selected specifically so that they, in combination and as distributed along the coastline, can protect the diversity and abundance of California's marine life, habitats, and ecosystems (AMS 2015). Within the project area, there are 78 MPAs and their existence is a key consideration in the proposed Spiny Lobster FMP. Of these 78 MPAs, only seven allow any commercial or recreational fishing of California spiny lobsters. A complete list of MPAs located within the project area is shown in Table 1 of 2015 AMS memorandum (in Appendix A).

METHODOLOGY

Potential impacts on biological resources resulting from implementation of the project (FMP and regulatory amendments) were determined by evaluating a range of reasonably foreseeable compliance action responses as described in Section 2.6, Table 2-3. As discussed in that section, the FMP management tool response actions and their resulting impacts range from examples such as the potential increase or decrease in the season length, recreational bag limit, protection of certain sized lobsters because of size limits, effects of a sex-selective fishery, establishing a Total Allowable Catch and district closures and a wide set of other foreseeable compliance response actions and resulting impacts. These compliance responses were evaluated for potential direct and indirect impacts to the biological resources and habitat characteristics in and around the project area to identify potential impacts to common and sensitive habitats. The potential for the range of compliance response actions to affect common and special-status species, through habitat modification or direct mortality, was also evaluated. Impacts are generally characterized as temporary (seasonal) or permanent.

3.4.2 Discussion

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

Less than Significant. As described in Section 3.4.1, "Environmental Setting," there are a number of special-status or otherwise protected species that occur in and around the marine environment of the project area. Fishing practices, both commercial and recreational, can have effects on surrounding non-target organisms and habitats through several mechanisms, as discussed in the AMS report (Appendix A). This includes direct mechanisms of impact to habitat on the seafloor and subtidal areas within the various substrates therein from

direct application of commercial traps and recreational hoop nets. Indirect effects, such as bycatch (described in Section 2.4.3 and Appendix A), defined for the purposes of this document as unintended capture of non-target species (e.g., species besides the California spiny lobster), could also occur through various fishing practices. This could include potential entanglement marine species and birds. Although the potential for entanglement exists, the project would ultimately reduce the number of lobster traps being deployed through the proposed trap limit and the existing restricted access program. It is also designed to reduce the number of lost or abandoned traps. These actions would reduce the potential risk of entanglement with lobster gear compared to the levels currently being experienced by the fishery (AMS 2015).

The commercial spiny lobster fishery is a limited entry fishery (i.e., limited number of commercial fishing permits that are issued each season). The provisions in the FMP and proposed regulatory amendments do not change this factor, nor do they allow for more fishing and or use of equipment that could cause either direct or indirect mechanisms of impact. The Harvest Control Rule, “toolbox” (the suite of conservation and management measures), and other adaptive management framework described in Chapter 2, “Project Description,” were developed to maintain and, in some cases, enhance the sustainability of the California spiny lobster fishery, while taking into consideration the surrounding ecosystem. Several of the FMP tools and proposed regulatory amendments described in Section 2.5, “Characteristics of the FMP and Regulations,” and Section 2.6, “Reasonably Foreseeable Compliance Responses,” would result in fewer traps in the water over time, which would decrease the potential for habitat effects, amount of bycatch, and number of marine mammal interactions, yielding a beneficial effect on the overall marine ecosystem. Although the proposed regulatory amendment to extend the period for trap servicing would not measurably increase or decrease the potential for entanglements, as described in Section 2.4.3, “Bycatch,” the California spiny lobster fishery is classified as a Category III fishery by the National Marine Fisheries Service and is considered to “have a remote likelihood of, or no known incidental mortality and serious injury of marine mammals.” Although the proposal to extend the period for trap servicing could affect this aspect of bycatch, it would not substantially change the frequency of bycatch from existing conditions. Therefore, this impact would be less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less than Significant. As described above in Section 3.4.2, “a,” the FMP and regulatory amendments have been developed by CDFW in accordance to the goals and objectives of the MLMA. To this end, the project minimizes potential effects to sensitive natural communities and habitats identified through state regulations, most of which are administered by CDFW. Although the existing practices within the fishery currently have minor effects on the marine environment, the FMP and regulatory amendments would yield primarily beneficial effects to the marine environmental and ecosystem compared to existing conditions through its management toolbox, adaptive management approach, and proposed regulatory changes. Therefore, this impact is less than significant.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant. As described above in Section 3.4.1, “Environmental Setting,” and in Appendix A, some eelgrass beds and other similar transitional habitats within tidally influenced areas, that have the potential to be Clean Water Act Section 404 jurisdictional coastal wetland areas, are present within the project area. Current recreational fishing practices may include the placement of hoop nets in these transitional habitats (AMS 2015). Under the FMP management tools and proposed regulatory changes, this recreational fishing activity would not change substantially or increase in overall amount. Currently, hoop netting typically does not result in removal, fill, or other substantial effects to these transition habitat areas. All other applicable guidelines regarding bycatch and maintenance would be observed with implementation

of the FMP and regulatory amendments; no additional effects to these habitats would result. This impact would be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant. Under existing fishing practices, potential bycatch in hoop nets and commercial traps could have minor effects on movement of native resident or migratory fish and invertebrates by interfering with movement. However, this would be a less-than-significant effect, because the majority of bycatch is released alive and is not a substantial issue with the current fisheries. Under the harvest control rule toolbox conservations and management measures and proposed regulatory changes, the risk of bycatch and marine wildlife gear interactions, including entanglement of migratory whales, would not increase and would potentially decrease as a result of fewer commercial traps and improved management practices for both fisheries, such as the provision to recover abandoned traps. As described above in Section 3.4.2, “a,” “b,” and “c,” substantial impacts to habitats and substrates would not occur from implementation of the FMP and regulatory amendments and, thus, no substantial interference with movement or effect to native fish and wildlife nursery sites would occur. As the FMP takes into account fecundity and reproductive success of the California spiny lobster, a native species, nursery sites within the project area for this endemic species could see beneficial effects from implementation of one or more of the regulatory options in the harvest control toolbox, such as a sex-selective fishery and/or District closures. This impact would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. There are no adopted Habitat Conservation Plans or Natural Community Conservation Plans within the project area. The guiding regulation regarding the conservation and management of marine living resources off California in the project area is the MLMA. As such, the Spiny Lobster FMP and proposed regulatory changes have been developed in accordance with the protocols and objectives of the MLMA and do not conflict with any of its provisions. Specifically, as described in Section 2.2, “Project Background,” the MLMA calls for “conservation, sustainable use, and restoration of California’s marine living resources” (FGC Section 7050[b]). This includes the conservation of healthy and diverse marine ecosystems and marine living resource, including the development of FMPs. In addition, the primary goal of the FMP and regulatory amendments is to maintain a sustainable fishery, in accordance with the MLMA. In addition, the FMP and regulatory amendments have been developed to complement the provisions of the MLPA, for the protection of the marine ecosystem. Because the FMP and regulatory amendments have been developed as a result of and in accordance with the MLMA, there would be no conflict with these or other local policies or ordinances for protecting biological resources; nor would there be conflict with the provisions of any approved habitat conservation plan. Therefore, there would be no impact.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.5.1 Environmental Setting

Cultural resources include prehistoric and historic archaeological sites, districts, and objects; historic structures, buildings, districts, and objects; and locations of important historic events, or sites of traditional/cultural importance. Cultural resources are primarily found on land, but submerged resources such as shipwrecks and prehistoric and historic sites and artifacts are known to occur in the coastal waters of California. The Bureau of Ocean Energy Management (BOEM) formerly the Minerals Management Service (MMS) conducted baseline archaeological studies that cover the entire Pacific Region, including the Archaeological Resource Study from Morro Bay to the U.S.-Mexico border, which encompassed the project area (MMS 2001, cited in CDFW 2002). The baseline study for southern California documented 1,681 known prehistoric archaeological sites between Morro Bay and the Mexico border. A total of 4,443 prehistoric archaeological sites were documented along the Pacific coast, and it is likely that there are thousands of additional undocumented sites (MMS 2001, cited in CDFW 2002).

The California State Lands Commission has compiled a database of shipwrecks off the coast of California. The information can be viewed at <http://shipwrecks.slc.ca.gov> and is incorporated by reference. The baseline study for southern California identified a total of 916 shipwrecks between Morro Bay and the U.S.-Mexico border (MMS 2001 cited in CDFW 2002).

Archaeological evidence from the Channel Islands indicates that prehistoric populations may have settled in the area and traversed coastal areas by water as early as 13,000 years ago (MMS 2001 cited in CDFW 2002). Although sea levels were much lower than today, the Channel Islands still were separated from the mainland by a minimum of 5 miles. The presence of archaeological sites dating to the late Pleistocene/Early Holocene era, approximately 12,000 to 8,000 years Before Present, suggests that maritime travel occurred between the coast of California and the islands, and that aboriginal populations may have exploited littoral and nearshore resources (MMS 2001, cited in CDFW 2002).

The first European exploration of the southern and central California coast occurred in 1542 from vessels under the command of Juan Rodriguez Cabrillo. During the exploration, Cabrillo died and, according to some sources, is buried on one of the offshore Channel Islands (MMS 2001 cited in CDFW 2002). For the next 267 years, until permanent Spanish colonization started in 1769, the area was largely ignored, except for an occasional voyage of exploration and discovery. Vessels of commerce, the Manila Galleons, sailed down the California coast en route to Acapulco, Mexico from Asia (MMS 2001 cited in CDFW 2002).

During the American period (1846 to present), shipping along the California coast increased. Before completion of the Southern Pacific Railroad, coastal communities, most of which lacked natural harbors, constructed piers as a means of accessing maritime trade for shipment of agricultural products. A thriving lumber trade between ports in the Pacific Northwest and the coastal communities developed and continued into the 1920s. In the 20th century, as coastal trade decreased, it was replaced by trans-Pacific trade, commercial fishing, military, petroleum exploration and development, and leisure as sources of widespread maritime activity. The California coast contains the remains of the various vessels that met calamity while engaged in maritime activities. Shipwrecks tend to be concentrated around sites where maritime traffic was concentrated (CDFW 2002).

3.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Less than Significant. Historical resources include standing buildings (e.g., houses, barns, outbuildings, cabins), intact structures (e.g., dams, bridges, piers), and submerged resources related to historic maritime activities. Although historic piers, docks, or marinas could occur within the project area, the FMP and regulatory amendments would not result in the use of facilities that are not already used for the lobster fishery. In addition, the project would not result in an increase in the overall use of existing facilities beyond current conditions. Furthermore, areas of known shipwrecks are typically avoided, because of the high potential for gear damage or losses. While the possibility of fishing gear encountering a shipwreck or other historic resource cannot be eliminated, it would be essentially the same as current conditions, because the proposed FMP and regulatory amendments would not cause an increase in the overall amount of fishing activity. Therefore, this impact would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant. As described in Section 3.5.1, there are recorded archaeological resources within the tidal and submerged water within the project area. However, the FMP and regulatory amendments would not increase the overall amount of fishing activity that could disturb archaeological resources, nor would it change the locations where fishing activities currently occur that could adversely affect the significance of any known archaeological resources within the project area. In addition, regulatory amendments, such as setting a commercial trap limit, would reduce the potential to affect submerged archaeological resources over time by limiting the number of traps making contact with the sea floor, where archaeological resources have the potential to occur. Therefore, this impact would be less than significant.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. The FMP and regulatory amendments would not result in an increase in activities that would directly or indirectly destroy paleontological or geologic features. As stated in the response for question “b” above, some regulatory amendments may decrease the potential for the California spiny lobster fisheries to affect the sea floor, which is where paleontological and geologic features have the potential to occur. Therefore, there would be no impact.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. No known sites of human remains or burials have been identified within the project area. In addition, the FMP and regulatory amendments would not result in excavation or other activities that have the potential to directly or indirectly disturb any known human remains. Therefore, there would be no impact.

3.6 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Environmental Setting

The Cenozoic geologic history (past 67 million years) of the Pacific coastal margin has been dominated by the interaction of oceanic and continental tectonic plates. Along the southern coast of California, north-northwest movement of the Pacific Plate relative to the North American Plate has resulted in the formation of the San Andreas and subsidiary fault systems (CDFW 2002).

The project area is in a seismically-active area, and numerous faults, several of which are potentially active, transverse the area (California Geological Survey 2010). A “potentially active fault” is defined as a fault that has shown evidence of surface displacement within the past 1.6 million years (i.e., Quaternary Period, which includes the Holocene and Pleistocene epochs), but with no evidence of activity in the last 11,000 years. Portions of the project area are also encompassed in several Alquist-Priolo Earthquake Fault Zones mapped by the California Geological Survey. Seismically active areas along the coast and marine environment, including the project area, are also susceptible to tsunamis. Potential impacts related to tsunamis are discussed below in Section 3.9, “Hydrology and Water Quality.”

The geology of the project area relates to the seafloor, which comprises the shore, continental shelf, continental slope and rise, and deep-sea bottom. Because of the variability of the coastline and offshore topography, the distance that the shelf extends from shore varies from approximately 1 nautical mile to 25 nautical miles. The continental slope extends from approximately 200 meters (m) in depth to an average depth of a few thousand meters. The continental slope can be further divided into upper, middle, and lower slope areas. The upper slope areas are from 200-500 m depth, middle slope between 500-1,200 m depth, and the lower slope between 1,200 and approximately 3,200 m depth (CDFW 2002).

The sea floor has representations of all major types of sediment: sand, mud, silt, hard rock outcrops including pinnacles, cobbles and gravel, and clays. Low-relief rocky ocean outcrops (2 to 3 meters relief) provide unique habitat for a variety of fish and invertebrates (CDFW 2002).

3.6.2 Discussion

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)**

Less than Significant. Portions of the project area are within Alquist-Priolo Earthquake Fault Zones, and several potentially active faults are located within the area. However, the project area is within a marine environment, and implementation of the FMP and regulatory amendments would not include construction of any structures that would directly expose people or structures to rupture of an earthquake fault. It is not anticipated that there would be a direct effect to fishermen regarding substantial adverse effects from rupture of a known earthquake fault from any changes to management of the fisheries from the project. Therefore, this impact would be less than significant.

- ii) **Strong seismic ground shaking?**

Less than Significant. As discussed above in this section, under “a(i)” although the project area is in an area with numerous faults, the FMP and regulatory amendments only pertain to the marine environment and would not directly expose or increase existing exposure of people or structures to seismic ground shaking that could occur on land. The potential for the FMP and regulatory amendments to expose people to tsunamis is discussed in Section 3.9, “Hydrology and Water Quality.” This impact would be less than significant.

- iii) **Seismic-related ground failure, including liquefaction?**

Less than Significant. As discussed above in this section, under question “a(i)” although the project area is in an area with numerous faults, the FMP and regulatory amendments only pertain to the marine environment and would not directly expose people or structures to seismic-related ground failure or liquefaction that could occur on land nor increase existing exposure to seismic-related ground failure, including liquefaction. This impact would be less than significant.

- iv) **Landslides?**

Less than Significant. As discussed above in this section, under question “a(i)” the FMP and regulatory amendments only pertain to the marine environment and would not directly expose people or structures to

landslides that could occur on land or increase existing exposure. Although underwater landslides have the potential to occur, the FMP and regulatory amendments would not increase the number of fishing vessels that would be exposed to underwater landslides. This impact would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact. The project area is within a marine environment, and soil erosion and loss of topsoil are land-based occurrences. Therefore, the FMP and regulatory amendments would have no impact on soil erosion or loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact. The project area is within a marine environment, and unstable soils is a land-based occurrence. Therefore, the FMP and regulatory amendments would have no impact on unstable soils.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

No Impact. The project area is within a marine environment, and expansive soil is a land-based occurrence. Therefore, the FMP and regulatory amendments would have no impact on expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project area is within a marine environment, and soils incapable of supporting septic tanks are land-based occurrences. In addition, no septic tanks are proposed as part of the FMP or regulatory amendments. Therefore, the FMP and regulatory amendments would have no impact on soils incapable of supporting septic tanks.

3.7 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.7.1 Environmental Setting

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. GHGs are responsible for "trapping" solar radiation in the earth's atmosphere, a phenomenon known as the greenhouse effect. Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Recent scientific research indicates that elevated concentration of GHG in the atmosphere and global warming trends are attributed to anthropogenic activities. It is extremely unlikely that global climate change of the past 50 years can be explained without the contribution from human activities (Intergovernmental Panel on Climate Change [IPCC] 2007:86). By adoption of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and Senate Bill (SB) 97, the State of California has acknowledged that the effects of GHG emissions cause adverse environmental impacts. AB 32 mandates that emissions of GHGs must be capped at 1990 levels by the year 2020 (Health and Safety Code section 38530).

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of one single project, such as this, would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. According to ARB's 2000-2013 GHG Inventory, intrastate water-borne activity accounted for 1.67 million metric tons of CO₂ equivalents, or less than half a percent of the statewide GHG emissions in 2013 (ARB 2015).

Legislation and executive orders on the subject of climate change in California have established a statewide context and a process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs, even relatively small (on a global basis) additions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore, significant.

Therefore, the global climate change analysis presented in this section assesses the change in GHG emissions associated with compliance response activities discussed in Section 2.6 that would occur under implementation of the proposed Spiny Lobster FMP.

The affected fishing areas managed by the FMP are under several air district jurisdictions, as discussed under Section 3.3.2 above. Many, but not all of these air districts, have recommended thresholds of significance for GHG-emissions from projects and other activities. Available thresholds are generally based on the emissions reduction targets for the year 2020 mandated by AB 32 and address emissions of CO₂e,

which is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Within the plan project area, only SCAQMD and SBCAPCD have recommended GHG thresholds (10,000 metric tons per carbon dioxide equivalent [MT CO₂e] per year in both districts). However, their thresholds are only applicable to stationary sources, such as industrial facilities. Outside of the project area, the Bay Area Air Quality Management District (BAAQMD) developed a GHG emissions threshold of 1,100 metric tons per year (MT/year) of CO₂e for land use development projects. Although the proposed project does not consist of land use development, the threshold of 1,100 MT/year of CO₂e is used in this analysis for comparative purposes. This approach is considered to be conservative (i.e., avoiding the risk of understating an impact), because the standard of 1,100 MT/year of CO₂e is more stringent than applying SCAQMD's and SBCAPCD's stationary source threshold of 10,000 MT/year of CO₂e (BAAQMD 2012, SCAQMD 2015, SBCAPCD 2015).

3.7.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant. Although the FMP could result in the seasonal shifting of fishing vessel activity either spatially or temporally through potential seasonal District closures, it would not cumulatively increase overall annual fishing vessel activity and nor would it substantially affect associated fuel combustion above the current baseline. The FMP does not change the current permit limit for the commercial fishery. Under existing conditions, commercial fishing activity varies based on the market demand and resource availability for California spiny lobster. Historical changes in total lobster take have shown a propensity to change with market demand, price and resource availability and to a lesser degree on ecological conditions and regulatory changes, as discussed in the Spiny Lobster FMP (CDFW 2014: Table 2-3, Figure 2-4, and Figure 2-6). The factors that affect commercial lobster fishing activity would affect recreational fishing activity levels in the same way. Thus, this impact would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant. As discussed above in Section 3.7.2, "a", the project would not significantly result in increased GHG emissions from fishing vessel activity. Thus, the FMP would not conflict with any plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

3.8 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.8.1 Environmental Setting

Materials and waste may be considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), react violently, or explode or generate vapors when mixed with water (reactivity). The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment (California Health and Safety Code Chapter 6.95, Section 25501[o]). Federal and state laws require that soils and groundwater having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels

must be handled and disposed as hazardous waste during excavation, transportation, and disposal. The use of hazardous materials and disposal of hazardous wastes are subject to numerous laws and regulations at all levels of government.

The project area is within the marine environment and past and present uses include commercial and recreational boating, mineral resource extraction (oil and gas), and fishing. Past and present land uses on the islands within the project area include military use, residential, commercial, and industrial uses as well as recreational uses. There are also a number of sewage outfalls along the coast that drain into the project area.

Data on historic and documented releases of hazardous materials in the surrounding area were obtained through internet searches including review of the State Water Resources Control Board (SWRCB) GeoTracker database, the USEPA Envirofacts/Enviromapper website, and the state Cortese list via the California Department of Toxic Substance Control (DTSC) EnviroStor database. According to the EnviroStor database, one federal superfund site, Montrose Chemical in the Palos Verdes Shelf, is within the project area. This site encompasses a deposit of contaminated seafloor sediment that sits on the continental shelf and slope off the coast of the Palos Verdes Peninsula, in Los Angeles County, at water depths ranging roughly from 40 to 200 m or greater. Sediment, ocean water, fish, and other ecological receptors at this location are contaminated because of discharged wastes from the Montrose Chemical Corporation and other industries. The site is actively being remediated and USEPA is currently conducting fish studies, sediment sampling, and water column sampling (DTSC 2015). No underground storage tanks, including leaking underground storage tanks, have been identified within the project area (SWRCB 2015) and no additional hazards were identified within the project area by the Enviromapper website (USEPA 2015).

One public airport, Catalina Airport, and two private airports/airstrips, Santa Cruz Island Airport and Christy Airstrip, are located on the islands within the project area. Several major airports are also located along the coast adjacent to the project area including Santa Barbara Airport, Los Angeles International Airport, and San Diego International Airport. One school, Avalon High School, is located within the project area on Santa Catalina Island.

3.8.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant. Although commercial and recreational fishing for lobsters do not generate any hazardous wastes, commercial fishermen, sport hoop netters, and sport divers diving from boats would use chemicals such as antifreeze, paint, and oil during the use and maintenance of their vessels. However, the FMP and regulatory amendments would not increase the overall number of commercial or recreational vessels on the water, or the amount of overall time commercial or recreational vessels would be operating. The regulatory amendments would also not increase the type or amount of chemicals used in the lobster fishery and fishing vessels would be required to comply with federal and state regulations related to discharge of hazardous materials into water bodies. Therefore, this impact would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than Significant. Fuel used to operate commercial and recreational vessels could be potentially leaked into the environment in the event that a vessel was damaged. However, the FMP and regulatory amendments would not increase the potential for accidents related to commercial or recreational vessels. Several of the regulatory amendments would improve safety, which could reduce the potential for accidents

and subsequent damage to vessels that could leak hazardous wastes into the environment. Therefore, this impact would be less than significant and potentially beneficial.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant. One school, Avalon High School on Santa Catalina Island, is located within the project area. However, as discussed in this section under “a” and “b, above, the FMP and regulatory amendments would not increase the risk exposure to the occupants of the school or emissions associated with hazardous materials. Therefore, this impact would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant. As discussed above in Section 3.8.1, the Palos Verdes Shelf, which contains an active Superfund site, is within the project area. However, the contaminated sediment bed at Palos Verdes Shelf is too deep for direct human contact. In addition, CDFW has restricted fishing activities within several portions of the Palos Verdes Shelf through the enforcement of the commercial catch ban for white croaker (FGC Section 7715(a) and (b) and CCR Title 14, Section 104). In 2013, under the MLPA, CDFW designated two MPAs, the Abalone Cove State Marine Conservation Area and the Point Vicente No-Take State Marine Conservation Area that are also partially within the footprint of the Palos Verdes Shelf. CDFW’s MPAs are intended to protect natural habitats and marine life by protecting or limiting removal of wildlife from within their boundaries (USEPA 2014). Because fishing is restricted within some portions of the Superfund site and the site is actively being remediated (including fishing studies being conducted by USEPA to ensure that fish being taken from this area are considered safe), this site would not pose a threat to commercial or recreational lobster fishing. In addition, the FMP and regulatory amendments would not increase the amount of lobster fishing activity in this area. Therefore, this impact would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less than Significant. As discussed above in Section 3.8.1, one public and two private airports are located within the project area, and several large airports are adjacent to the project area. Therefore, the project area is within the flight path of several airports. However commercial and recreational fishing is currently occurring within the project area, and the FMP and regulatory amendments would not cause an overall increase in fishing in the project area. In addition, there would be no changes to the air traffic patterns over the project area and no increase in the exposure of people to a safety hazard. This impact would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Less than Significant. There are two private airstrips within the project area. However, as discussed above under “e” above, the FMP and regulatory amendments would not cause an overall increase in fishing in the project area and would not result in any changes to the air traffic patterns that would expose people to a safety hazard. This impact would be less than significant.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant. The FMP and regulatory amendments would not cause an overall increase in fishing that is currently occurring within the project area. In addition, the FMP and regulatory amendments would not cause an overall increase in the magnitude of fishing vessels in the project area at a given time that would; the project would not modify or interfere with any existing emergency response plan or emergency evacuation plan. Therefore, this impact would be less than significant.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The project area is within the marine environment and is not subject to wildfires. In addition, the FMP and regulatory amendments would not result in changes that would increase the potential for igniting fires onboard of fishing vessels. Therefore, there would be no impact.

3.9 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or offsite erosion or siltation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or offsite flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Result in inundation by seiche, tsunamis, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.9.1 Environmental Setting

Existing activities and artificial structures, such as wastewater outfalls, piers and jetties, maintenance dredging, and beach nourishment, which affect coastal water quality occur throughout the project area. Below is a list of the laws, regulations, and policies designed to protect water quality within the project area:

Federal Law, Regulations, and Policies:

- ▲ Federal Water Pollution Control Act of 1972 (Clean Water Act) (33 U.S.C. 1251 et seq.)
- ▲ Rivers and Harbors Act of 1899
- ▲ Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1464)
- ▲ National Marine Sanctuaries Act
- ▲ Estuary (Estuarine) Protection Act of 1968 (PL 90-454, as amended; 16 U.S.C. 1221 et seq.)
- ▲ National Park Act of August 19, 1916 (Organic Act), (16 U.S.C. 1, et seq.)
- ▲ Marine Protection, Research and Sanctuaries Act (33 U.S.C. 1401 et seq.)
- ▲ National Wildlife Refuge System Administration Act of 1966 and National Wildlife Refuge System Improvement Act of 1997
- ▲ Oil Pollution Act of 1990 (33 U.S.C. 2701-2761)
- ▲ Executive Order 11990 – Protection of Wetlands

State Law, Regulations, and Policies:

- ▲ Public Trust Doctrine
- ▲ Porter-Cologne Water Quality Control Act (Porter-Cologne)
- ▲ SWRCB Regulations for CWA Section 316(b)
- ▲ California Coastal Act (PRC Sections 30000, et seq.)
- ▲ Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990

Statewide Management Plans and Executive Orders:

- ▲ Ocean Plan
- ▲ Water Quality Control Plan for Control of Temperature in Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)
- ▲ Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling
- ▲ Water Quality Control Plan for Enclosed Bays and Estuaries

A wide range of pollution sources, both land- and water-based, affect water quality in the project area. Treated wastewater discharges associated with urbanized areas can contain both domestic and industrial wastes. Storm runoff from urbanized and non-urbanized areas can contain a variety of pollutants, with agricultural watersheds often contributing loads of pesticides and nutrients to nearshore waters. Land use varies considerably from region to region; Los Angeles County has received the poorest water quality reports for the state (URS 2010).

Five primary factors affect offshore water quality issues within the project area: 1) point source wastewater (regulated industrial and municipal discharges); 2) non-point source discharges (e.g., stormwater discharges); 3) harmful algal blooms; 4) contaminated sediment; and 5) oil spills. These issues are described in more detail below and in Appendix A (AMS 2015).

Point and Non-point Source Pollution: There are specific locations (point sources) where industrial pollution enters coastal waters; discharges from these locations are generally regulated by state or federal agencies, as listed above. The origins of these point sources include municipal wastewater treatment and disposal systems and industrial sites, such as desalination plants, power plants, aquaculture sites, and research marine laboratories. The project area does not contain any known sources of point source pollution.

Non-point Source Pollution: Non-point source pollution is the leading cause of degraded water bodies across the country. Non-point pollution sources include urban runoff, resource extraction (offshore energy extraction, sand mining, drilling and pumping of petroleum products onshore), boats (recreational vessels, commercial vessels and cruise ships), and agriculture. Potential non-point source pollution in the project area include urban runoff, resource extraction, and boats.

Algal Blooms: Certain species of phytoplankton and cyanobacteria pose threats to marine water quality through rapid reproduction or release of toxins. Harmful algal blooms occur naturally in surface waters under conditions of elevated water temperature, high nutrient levels, and reduced water flow and circulation.

Contaminated Sediments: A number of areas along the California coast have contaminated sediments, and have been designated as Superfund sites by the federal government (National Institutes of Health 2015).

Oil and Hazardous Material Spills: California has been the site of numerous accidental oil spills due to heavy oil and hazardous material tanker traffic, marine shipping, the presence of oil platforms located off the Southern California coast, and crude oil and refined produce pipelines running from platforms to onshore sites as well as along the coast.

3.9.2 Discussion

a) Violate any water quality standards or waste discharge requirements?

Less than Significant. A number of contributing factors affect the water quality in the open and intertidal marine environment as described above in Section 3.9.1, “Environmental Setting.” Under current fishing practices, there is little to no contribution to the degradation of water quality. There is normally no discharge of pollutants into the environment, except small, accidental releases during routine maintenance of fishing vessels or when equipment is abandoned in the water or nearby areas. Under normal circumstances, there exists the potential for minor disturbances of the sea floor and related seasonal resuspension of sediments exist from deployment of fishing traps from both commercial and, to a lesser extent, recreational hoop nets. This resuspension could result in localized effects, but given the scope and location of the fished areas, the volumes and redistribution of sediment would minimal, (i.e., not be greater than the size of the traps and other equipment), and would settle quickly. The project, would not increase the number of commercial traps and recreational hoop nets currently in use. As discussed in Section 2.6, “Reasonably Foreseeable Compliance Responses,” the project may reduce the number of traps used overall in the fishery, thereby, resulting in a beneficial effect reducing potential issues related to accidental discharge associated with fishing operation, equipment abandonment, and resuspension of sediment that would result in the violation of any water quality standard or waste discharge requirement; thus, potentially improving water quality and avoiding violation of any applicable standards. Therefore, this impact would be less than significant.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

No Impact. The project is the implementation of a comprehensive management framework and associated regulatory amendments for the California spiny lobster fishery pursuant to the MLMA. The project would only affect fishing activities within the marine environment and would not affect terrestrial resources related to groundwater recharge resources of any existing or planned land uses for which permits have been granted. Furthermore, no construction of any new facilities constructed with impervious surfaces that could substantially deplete groundwater supplies or interfere substantially with groundwater affect terrestrial recharge are is proposed as part of this project; and no increase in the need for or use of groundwater supplies would occur as part of implementation of the project. Therefore, there would be no impact on groundwater levels or demand.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or offsite erosion or siltation?**

No Impact. The project is the implementation of a comprehensive management framework and associated regulatory amendments for the California spiny lobster fishery pursuant to the MLMA. The FMP and regulatory amendments would only affect fishing activities within the marine environment. No land use is proposed as part of this project that modify existing drainage patterns of any affect built structures, facilities, or hydrologic features, either directly or indirectly such that drainage patterns could be modified. Because drainage would not be modified, in such a manner that erosion or siltation would occur, whether on-site within, off-site from, or adjacent to the project area, would not be affected. Therefore, there would be no impact.

- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or offsite flooding?**

No Impact. As discussed above in this section under “c”, the project would only affect fishing activities within the marine environment. No changes to land use are proposed as part of this project that would affect structures, alter existing drainage patterns or other hydrologic features that could affect existing patterns of surface runoff or result in on- or off-site flooding from surface runoff. Only recreational and commercial lobster fishing would be affected by the project and, thus, there would be no effects to on- or off-site flooding. Therefore, there would be no impact.

- e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Less than Significant. The FMP and regulatory amendments would only affect fishing activities within the marine environment. No land use change is proposed as part of the project, so there would be no contribution to runoff water that could exceed the capacity of existing or planned stormwater drainage systems. The FMP and regulatory amendments would not result in changes to facilities, impervious surfaces, or other structures or stormwater drainage systems such that runoff volumes, flows, or quality of polluted runoff into stormwater drainage systems would be affected. During rain events, small amounts of rainwater could be discharged directly from existing fishing vessels into the marine environment; however, this would not be an additional source of polluted runoff, compared to current conditions. The FMP and regulatory

amendments would not change overall runoff amounts, flow, or quality. Therefore, this impact would be less than significant.

f) Otherwise substantially degrade water quality?

Less than Significant. As described in the section above under “a,” water conditions in the project area would be maintained or improved as a result of implementation of the FMP and regulatory amendments, including those related to accidental discharge of pollutants, equipment abandonment, and resuspension of sediment. This impact would be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. As described in Section 1.2, “Project Location,” the project area encompasses the California spiny lobster range in open marine waters. No housing would be created as part of the FMP or regulatory amendments; therefore, none would be placed within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map. There would be no impact.

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact. As described in Section 1.2, “Project Location,” the project area encompasses the California spiny lobster range in open marine waters. No structures would be built or placed as a result of the FMP or regulatory amendments; therefore, there would be no effect to the 100-year flood hazard area that would impede or redirect or flood flows. There would be no impact.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The FMP and regulatory amendments would modify fishing activities of lobster fishermen individual or groups of fishing vessels in the marine environment. No levees or dams are present within the project area. Therefore, there would be no impact.

j) Result in inundation by seiche, tsunami, or mudflow?

No Impact. Seiches and mudflows are hazards generated primarily in terrestrial environments that could affect structures and people on land nearby to inland bodies of water and other inland hydrologic features. The FMP and regulatory amendments would only affect fishing activities within the marine environment; and as such, are not subject to either seiches or mudflows. Although rare, the potential exists for tsunamis to occur in the project area, which could affect existing fishing practices if vessels out at sea during such events were caught in its path. However, the FMP and regulatory amendments would not cause an increase in the overall number of fishing vessels in the project area that could be impacted by tsunami activity beyond baseline conditions because vessel numbers and geographic distribution would only shift on an infrequent basis and for short periods of time and the overall number of vessels would not increase. Therefore, there would be no impact.

3.10 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.10.1 Environmental Setting

The project area is located in open marine waters of the state, and is not subject to any general plans, zoning designations, or land use plans that govern terrestrial development and land uses. However, the project area is adjacent to the coastal zone, and development within this area is guided by local coastal programs developed by local governments in partnership with the California Coastal Commission in accordance with the California Coastal Act. In addition, other regulatory plans that govern activities within the project area include the MLPA and associated MPAs as discussed in Sections 2.2 and 3.4.1 of this IS/Proposed ND and the proposed Spiny Lobster FMP that is the subject of this Initial Study.

The project area is within a marine environment whose maritime uses include commercial fishing vessel traffic and recreational fishing vessel uses. Land uses on the islands within the project area include low-intensity agriculture, recreation, research, and military use. There are also some residential and commercial land uses within the islands (County of Santa Barbara 2014). Adjacent land uses include residential and commercial development along the coastline and recreational and commercial facilities including marinas and boat launching facilities.

3.10.2 Discussion

a) Physically divide an established community?

No Impact. There are coastal communities adjacent to the project area and on Santa Catalina Island within the project area; however, because the FMP and regulatory amendments would only result in changes to seasonal fishing activities within the marine environment, no communities would be divided, either directly or indirectly, as a result of the changes to activities within the California spiny lobster fisheries from implementation of the FMP and regulatory amendments. Therefore, there would be no impact.

- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

Less than Significant. The FMP and regulatory amendments would not conflict with the MLPA or regulations governing MPAs (14 CCR Sections 632(b) and 2014). In addition, the FMP and regulatory amendments would not conflict with any existing local coastal program, because these regulatory changes would not affect development activities subject to a local coastal program. Therefore, this impact would be less than significant.

- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?**

No Impact. The project area is not subject to a habitat conservation plan or natural community conservation plan. In addition, the proposed project is implementation of the proposed Spiny Lobster FMP and regulatory amendments, which are the subjects of this Initial Study. The Spiny Lobster FMP is intended to sustainably manage the California spiny lobster resource and seeks to improve the long-term sustainability of the fisheries. Therefore, there would be no impact.

3.11 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.11.1 Environmental Setting

Mineral resources within the project area are limited to petroleum hydrocarbon resources, which include oil and gas deposits. The entire coast of California has the potential for the presence of oil and gas reservoirs, and there are currently active submerged lands leases producing petroleum hydrocarbons off the coast of southern California (CDFW 2002). In addition, there are several oil and gas fields within the project area (BOEM 2009).

3.11.2 Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. Although there are oil and gas extraction sites within the project area, implementation of the FMP and regulatory amendments would not affect the production or extraction of those resources. Currently lobster traps can be set along submerged pipelines and this would not change with implementation of the FMP and regulatory amendments. Thus, there; nor would there be no loss of any known mineral resources, or preclusion of future access to any mineral resources. Therefore, there would be no impact.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. Although there are oil and gas extraction sites within the project area, as discussed in this section under question “a” above, the FMP and regulatory amendments would not affect the production or extraction of these resources. Thus, there would be no loss of or preclusion of future access to any mineral resources. Therefore, there would be no impact.

3.12 NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.12.1 Environmental Setting

Existing noise conditions are governed by the presence of noise-sensitive receptors, the location and type of noise sources, and overall ambient noise levels. Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where a quiet setting is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additionally, land uses such as parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship, and transit lodging, and other places where low interior noise levels are essential are also considered noise-sensitive. Those noted noise-sensitive land uses are also considered vibration-sensitive land uses, in addition to commercial and industrial buildings, where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

It is widely accepted that humans are able to begin to detect sound level increases of 3 decibels (dB) in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness.

The proposed FMP and regulatory amendments would affect recreational and commercial lobster fishing activity in the open ocean and along coastal regions from Monterey County to San Diego County. Fishing activities would mostly occur offshore, distant from sensitive receptors. The project could also affect

activities at docks and marinas. Existing residential dwellings and other sensitive receptors are not likely be located close to marinas or docks; but some could be present, depending on location.

Noise ordinances vary by County and City jurisdictions. Generally, operational noise levels are limited more strictly during nighttime hours so as to limit sleep disturbance at sensitive receptors. As such, higher noise levels from operational noise sources are generally allowed during daytime hours.

3.12.2 Discussion

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Less than Significant. The FMP and regulatory amendments would not result in any construction activity that would generate noise disturbances. Additionally, the proposed FMP would not result in an increase in overall fishing vessel activity. In localized ocean areas, some concentration of fishing vessel operation could occur due to regulatory restrictions (e.g., District closures). However, sensitive receptors would not be present and there would be no substantial effect on the existing noise conditions from implementation of the project. Additionally, affected docking areas would likely not be in close proximity to sensitive receptors, such as hospitals, child care centers, schools, and elderly care facilities. Although some residences and water-side parks may be located close to docks, the FMP would not result in an increase in overall fishing activity and; therefore, would not increase noise levels compared to existing conditions. Therefore, this impact would be less than significant.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact. The FMP would not result in any construction or other activities that would generate groundborne vibration or groundborne noise levels. Therefore, there would be no impact from implementation of the proposed project.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. The proposed FMP and regulatory amendments would not result in any permanent, fixed noise sources at docks or on the water beyond current levels. The proposed FMP would only affect fishing vessel activity, which are transient, and vary by season and individual geographies/Districts. Thus, the proposed project would not result in any permanent increase in ambient noise levels in the project vicinity above existing levels. Therefore, there would be no impact as a result from implementation of the proposed project.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant. The proposed FMP and regulatory amendments would not result in any temporary construction activity that would result in temporary or periodic noise disturbances. The proposed FMP would not result in overall increases in fishing vessel activity; except in minor, localized situations from possible future implementation of one or more of the FMP HCR toolbox options (e.g., District closures). However, there would be no substantial effect on existing noise levels from implementation of the proposed project. Therefore, this impact would be less than significant.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

Less than Significant. Although offshore areas within the project area may be within 2 two miles of public or public use airports, especially airports located directly on a shoreline, the proposed project would not expose people residing or working in the project area to excessive noise levels. There are almost a dozen coastal airports within the project region including the Santa Barbara Airport, Santa Crus Island Airport, Los Angeles International Airport, San Diego Airport, three smaller airports on Santa Catalina and San Clemente islands, and a few naval air bases. The proposed FMP would not result in increases in fishing vessel activity, except in minor, localized situations related to possible future implementation of one or more of the FMP HCR toolbox options (e.g., District closures). However, there would be no substantial effect on the existing conditions noise levels from implementation of the proposed project. In addition, the project would also not locate sensitive receptors near the vicinity of a public or public use airport. Therefore, this impact would be less than significant.

- f) **For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

Less than Significant. Although offshore areas within the project area may be within 2 miles of private airstrip, especially airstrips located directly on a shoreline, the FMP would not result in increases in fishing vessel activity except in minor, localized situations related to possible future implementation of one or more of the FMP HCR toolbox options (e.g., District closures). However, there would be no substantial effect on existing conditions from implementation of the proposed project. In addition, the project would also not locate sensitive receptors near the vicinity of a private airstrip. Therefore, this impact would be less than significant.

3.13 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting

According to the U.S. Census Bureau, in 2014 the population of the six-county area that borders the project area totaled is estimated to be approximately 18 million (U.S. Census Bureau 2013). The 2014 population of the state in 2014 was of California is estimated at more than 38 million (U.S. Census Bureau 2013). Santa Catalina Island is the only significantly inhabited island within the project area, with a total population of 4,096 in 2010 (County of Los Angeles 2015).

3.13.2 Discussion

- a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Less than Significant. The FMP and regulatory amendments would not include construction of new housing or commercial businesses. Therefore, no direct population growth would result from implementation of the FMP or regulatory amendments. In addition, the proposed changes would not require or indirectly cause any new construction or any infrastructure modification, and no additional seasonal or permanent staff would be needed for operations and maintenance of the fishery.

The California spiny lobster fisheries have been occurring for many years, including the establishment of commercial fishing businesses to harvest lobsters, which has generated economic activity. The FMP and regulatory amendments could modify this economic activity in limited ways, but that activity would not be of a magnitude to stimulate the establishment of new businesses, population growth, or the construction of additional housing. In addition, no project characteristics would induce population growth or encourage or facilitate other activities that could substantially affect the environment, either individually or cumulatively, because the potential magnitude of economic change would be very small.

The commercial lobster fishery is a valuable fishery, with the total ex-vessel value of more than \$18 million in 2014 (CDFW 2014: Appendix VI). An economic study prepared for the 2011-2012 fishing season estimated the total recreational expenditure at approximately \$37 million (CDFW 2014: Appendix VI).

However, the FMP and regulatory amendments would not cause substantial changes in the profitability of the lobster fishery such that it would induce population growth. From an economic perspective, the project would sustain the fishery for both commercial and recreational use. Therefore, this impact would be less than significant.

b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

No Impact. The FMP and regulatory amendments would not remove any homes or require construction of replacement housing. Therefore, there would be no impact.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The FMP and regulatory amendments would not displace any people or require construction of replacement housing. Therefore, there would be no impact.

3.14 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Environmental Setting

The CDFW Southern District provides law enforcement related primarily to State fish and game laws in the project area. The California Division of Boating and Waterways (DBW) oversees all aspects of recreational boating in California including public access, safety and education, and consumer and environmental protection (DBW 2014). The U.S. Coast Guard also patrols all navigable waterways along the coast and coordinates regularly with all sheriff's departments. The U.S. Coast Guard Pacific Area covers maritime safety, security, and stewardship in the Pacific, including the project area (U.S. Coast Guard 2015).

There is one school, Avalon High School located on Santa Catalina Island, within the project area. The Channel Islands National Park is also within the project area (National Park Service 2015).

3.14.2 Discussion

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

Fire protection?

No Impact. The FMP and regulatory amendments would not involve the construction of any new government facilities or the alteration of any existing government facilities that would increase the demand for fire protection services. In addition, the project area is within the marine environment and the potential for fires would be limited to those on board commercial or recreational fishing vessels. The FMP and regulatory

amendment would not increase the overall number of vessels in the project area or the demand for fire services. Therefore, there would be no impact.

Police protection?

No Impact. As discussed above, the FMP and regulatory amendments would not involve the construction of any new government facilities or the alteration of any existing government facilities that would increase the demand for police protection services. The FMP and regulatory amendment would not increase the overall number of vessels in the project area or the demand for police or other law enforcement services. Therefore, there would be no impact.

Schools?

No Impact. As discussed above, the FMP and regulatory amendments would not involve the construction or alteration facilities that would increase the demand for schools. There is one school within the project area; however, implementation of the FMP and regulatory amendments would not affect that school. Therefore, there would be no impact.

Parks?

No Impact. As discussed above, the FMP and regulatory amendments would not involve the construction or alteration of any facilities that would increase the demand for parks. The Channel Island National Park is within the project area; however, the FMP and regulatory amendment would not increase the use of or have an effect on this park. Therefore, there would be no impact.

Other public facilities?

No Impact. As discussed above, the FMP and regulatory amendments would not involve the construction or alteration of any facilities that would increase the demand for other public facilities. In addition, there are only 196 commercial permits and the majority of recreational vessels are not docked at public marinas. District closures could cause shifts in the location or intensity of lobster fishing within the project area; however, these shifts would not be substantial enough to require construction of new marinas or other public facilities. Therefore, there would be no impact.

3.15 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.15.1 Environmental Setting

Recreational fishing for California spiny lobster occurs throughout the project area, except within areas closed to lobster fishing. Recreational fishermen capture California spiny lobster using hoop nets or by hand when diving (SCUBA or skin diving). Historically, diving has been more prevalent than hoop netting, although hoop netting has become the most common lobster fishing method over the past 10 years.

Other recreational uses within the project area include surfing, kayaking, beach-going, swimming, sailing, and shore and boat-based wildlife viewing. The Channel Islands National Park is also within the project area. The islands are accessible by park concessionaire boats and planes or private boat. Recreational opportunities on the islands include hiking, camping, snorkeling, kayaking, bird watching, whale watching, and photography (National Park Service 2015).

There are also a number of recreational facilities along the coast adjacent to the project area, including marinas, boat launching facilities, and beaches.

3.15.2 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant. The FMP and regulatory amendments would not increase the overall level of recreational lobster fishing or change other recreational opportunities within the project area. District closures, if needed in the future, could result in shifts in the recreational fishing intensity or location within the project area during one or more seasons. However, these changes would fluctuate based on biological factors from season to season and would not cause an overall change in the amount of lobster fishing. Shifts in recreational fishing could result in slight changes in location and effort to the degree that various marinas and boat launching facilities are used, if District closures were to cause a shift in the location of open fishing grounds. This change would be small and would fluctuate between seasons depending on the factors in the Harvest Control Rule matrix described in Chapter 2, "Project Description." The Channel Island National Park is located within the project area; however, there would be no effect on this park, because fishing activity would occur outside its boundaries. No neighborhood or other parks would be affected by the FMP or regulatory amendments, because all fishing activity is in the marine environment. Therefore, this impact would be less than significant.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less than Significant. As discussed above under “a,” of this section, the FMP and regulatory amendments would not substantially change the recreational opportunities or activities within the project area. In addition, the project does not propose an expansion of the California spiny lobster fishing area; fishing areas would remain within the current extent of the project area, as described in Section 1.2, “Project Location.” Therefore, no construction or expansion of recreational facilities including marinas and launching facilities would be required by any potential changes in fishing activity caused by the project and no new marinas or launching facilities would need to be constructed. This impact would be less than significant.

3.16 TRANSPORTATION/TRAFFIC

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation/Traffic. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Environmental Setting

Federal regulations concerning marine navigation are codified in 33 Code of Federal Regulations (CFR) Parts 1 through 399 and are implemented by the U.S. Coast Guard and the U.S. Army Corps of Engineers. Federal regulations for marine vessel shipping are codified in 46 CFR Parts 1 through 599 and are implemented by the U.S. Coast Guard, Maritime Administration, and Federal Maritime Commission (CDFW 2002).

Types of transportation in the nearshore area include: commercial ships (e.g., tankers, container ships, bulk carriers, military vessels), commercial fishing vessels, research vessels, and recreational boating. The major ports within the project area are Los Angeles, Long Beach, and the Port of San Diego (CDFW 2002).

3.16.2 Discussion

- a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Less than Significant. The proposed FMP and regulatory amendments would not conflict with any plans or policies related to circulation. Regulatory options linked to the HCR, such as potential future District closures, could result in shifts in the location and/or intensity of boating, which may result in a small effect on the distance traveled by individual fishermen to and from marinas to access fishing boats (both commercial and recreational, but would not increase overall travel. The regulatory amendments could also result in changes in the distance that fishermen travel to marinas and the distance that vessels travel if some Districts within the project area are closed (and if fishermen and the distance travelled by individual vessels from one District to another). However, all traffic would continue to occur within the same project area and to the same marinas and boat launching facilities that are currently used for lobster fishing. Commercial and recreational vessels would continue to operate in accordance with existing boating regulations governing circulation on waterways. Therefore, this impact would be less than significant.

- b) **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Impact. There are no congestion management programs that are applicable to the project area, as it occurs within the marine environment and is not subject to any congestion management program for roads or highways. In addition, the FMP and regulatory amendments would cause little to no change in the amount of congestion within the project area from commercial and recreational vessels and would not increase the number of permits that would result in additional vessels on the water. Therefore, implementation of the FMP and regulatory amendments would not conflict with any congestion management programs. There would be no impact.

- c) **Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No Impact. As discussed in Section 3.8.1, there are several private and public airports within and adjacent to the project area that contribute to air traffic over the project area. However, the FMP and regulatory amendments are entirely within the marine environment and implementation of the regulatory changes would not affect any air traffic patterns. Therefore, there would be no impact.

- d) **Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

No Impact. No new facilities would be constructed under the proposed FMP or regulatory amendments, and implementation of these changes would not involve any design feature related to any transportation of traffic-related infrastructure. Therefore, there would be no impact.

e) Result in inadequate emergency access?

Less than Significant. The proposed FMP and regulatory amendments would not change emergency access within the project area. In addition, as discussed in this section under questions “a” and “b” above, there would potentially be small increases or decreases in boat traffic to shift within the project area various Districts if District closures occur, resulting in reduced congestion in some areas and potentially a greater potential in others, but there would be no increases in the overall number of vessels that are permitted to fish that would result in vessel traffic congestion or other navigational hazards. However, as discussed above, this would be seasonal and there would be no substantial change overall. Therefore, this impact would be less than significant.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. There are no public transit, bicycle, or pedestrian facilities within the project area. Implementation of the FMP and regulatory amendments would not affect any of these facilities. Therefore, there would be no impact.

3.17 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	Utilities and Service Systems. Would the project:				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h)	Interfere with utilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.17.1 Environmental Setting

Many types of utilities exist in the nearshore area off the coast of California. They can generally be classified into three groups: offshore cables, offshore oil and gas pipelines, and service pipelines. Communication cables, both offshore and onshore, are regulated by the Federal Communications Commission and the California Public Utilities Commission. Offshore pipelines are under the regulatory jurisdiction of a number of federal and State agencies. In federal waters, the Federal Energy Regulatory Commission, Bureau of Ocean Energy Management, and the U.S. Department of Transportation are responsible for regulating various aspects of oil and gas pipelines. The California State Lands Commission; the Pipeline Safety Division of the Office of the State Fire Marshal; and the Department of Conservation's Division of Oil, Gas, and Geothermal Resources regulate pipelines within state waters. Service pipelines, such as sewage treatment plant outfalls, are regulated by the State Water Resources Control Board through their issuance of National Pollution Discharge Elimination System permits. The location of many submerged cables and sewage outfalls constructed before 1984 are identified on National Oceanic and Atmospheric Administration's nautical charts. However, the various locations of the U.S. Navy undersea communication cables are generally classified information and their locations are not revealed (CDFW 2002).

3.17.2 Discussion

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The project is the implementation of an FMP and associated regulatory amendments for the California spiny lobster fishery pursuant to the MLMA. No restrooms would be constructed as part of the proposed FMP or regulatory amendments, and no wastewater would be generated. Therefore, the FMP and regulatory amendments would not exceed wastewater treatment requirements of the applicable RWQCBs within the project area. In addition, the project would not require the construction of new or expanded wastewater treatment facilities that would exceed those wastewater treatment requirements. There would be no impact on wastewater treatment facilities.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Implementation of the proposed FMP and regulatory amendments would not include any facilities that would require water and would not increase the demand for water. In addition, as discussed under Section 3.17.2, “a” above, the FMP and regulatory amendments would result in no impact related to construction of new or expanded wastewater treatment facilities. Therefore, there would be no impact.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. No land use changes or development are proposed as part of the FMP or regulatory amendments that would generate stormwater that would require or result in the construction of new storm water drainage facilities or the expansion of existing facilities within the project area. Existing facilities would not be affected under the proposed FMP and regulatory amendments. No new facilities or expanded facilities are anticipated as a result of implementation of the FMP and regulatory amendments. Therefore, there would not be any required construction of stormwater drainage facilities and existing facilities would not generate any additional stormwater that would require expansion of an existing facility. Therefore, there would be no impact on stormwater drainage facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Implementation of the proposed FMP and regulatory amendments would not include any land uses or facilities that would require water and would or increase the demand for water. Therefore, there would be no impact related to water supply capacity.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project’s projected demand, in addition to the provider’s existing commitments?

No Impact. As discussed in Section 3.17.2, “a” FMP and regulatory amendments would not require the construction of new or expanded wastewater treatment facilities. Therefore, there would be no impact related to wastewater treatment capacity.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

No Impact. Although some solid waste is currently generated by the California spiny lobster fishery, implementation of the FMP and regulatory amendments would not result in an overall increase in the level of fishing activity, and therefore, in the amount of the solid waste than that currently generated by the fishery. In addition, it is anticipated that the proposed regulatory amendments related to servicing and collecting traps could result in an increase in trap recovery; consequently, reducing marine debris and a reduction of solid waste related to unrecovered traps. Therefore, there would be no impact on landfill capacity.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The proposed FMP and regulatory amendments would not result in a change in compliance with solid waste regulations. Therefore, there would be no impact.

h) Interfere with utilities?

Less than Significant. Although there are submerged utilities within the project area, the locations of these utilities are identified on navigational maps (except for classified utilities), and would be avoided. In addition, the FMP and regulatory amendments would not result in an overall increase in fishing activity or number of traps that would have contact with the sea floor. Therefore, the FMP and regulatory amendments would not cause an increase in interference with utilities. This impact would be less than significant.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	Mandatory Findings of Significance.				
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Authority: Public Resources Code Sections 21083, 21083.5.					
Reference: Government Code Sections 65088.4.					
Public Resources Code Sections 21080, 21083.5, 21095; <i>Eureka Citizens for Responsible Govt. v. City of Eureka</i> (2007) 147 Cal.App.4th 357; <i>Protect the Historic Amador Waterways v. Amador Water Agency</i> (2004) 116 Cal.App.4th at 1109; <i>San Franciscans Upholding the Downtown Plan v. City and County of San Francisco</i> (2002) 102 Cal.App.4th 656.					

3.18.1 Discussion

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

Less than Significant. As evaluated in this IS/Proposed ND, the proposed project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory. The proposed FMP and regulatory amendments would benefit the California spiny lobster fishery by adaptively managing it for sustainability and by avoiding any significant increase in adverse effects on the surrounding environment from fishing activity. Thus, this would be a less-than-significant impact.

- b) **Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

Less than Significant. The potential for adverse cumulative effects were considered in the response to each question in Sections 3.1 through 3.18 of this IS/Proposed ND. In addition to project-specific impacts, this evaluation considered the potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there is no substantial evidence that there are adverse cumulative effects associated with the proposed FMP and regulatory amendments that would have significant impacts or require mitigation. Pursuant to the MLMA, this project in combination with past, present, and probable future projects would contribute to the conservation of marine ecosystems and marine living resources, and would not contribute to adverse impacts to existing marine environmental conditions. Therefore, the proposed project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region. Cumulative impacts would be less than significant.

- c) **Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

No impact. The potential for adverse direct or indirect impacts to humans beings were considered in the evaluation of environmental impacts for this IS/Proposed ND. As a result of this evaluation, the project would not have environmental effects that would cause substantial adverse direct or indirect effects on human beings. No impact would occur.

This page intentionally left blank.

4 REFERENCES

ARB. See California Air Resources Board.

Applied Marine Sciences. 2015 (November). [to come]

BAAQMD. See Bay Area Air Quality Management District.

Bay Area Air Quality Management District 2010 (June). *Final CEQA Air Quality Guidelines*. June 2010.

Bureau of Ocean Energy Management. 2009 (January 1). *2011 National Assessment of Oil and Gas Resources Assessment of the Pacific Outer Continental Shelf Region*. Available: <http://www.boem.gov/Oil-and-Gas-Energy-Program/Resource-Evaluation/Resource-Assessment/RA-Pacific.aspx>. Accessed November 2015.

California Air Resources Board. 2008 (August). *Commercial and Charter Fishing: Complying with the Commercial Harbor Craft Regulation*. Factsheet. August 2008. Available: <http://www.arb.ca.gov/ports/marineveess/documents/fishingfactsheet.pdf>. Accessed November 19, 2015.

_____. 2013a. Area Designations Maps / State and National. Available: <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed October 23, 2015.

_____. 2013b. Almanac Emission Projection Data. (Published in 2013): 2012 Estimated Annual Average Emissions. Available: <http://www.arb.ca.gov/app/emsmv/2013/emssumcat.php>. Accessed October 28, 2015.

_____. 2015 (April). California Greenhouse Gas Inventory for 2000-2013 — by Sector and Activity. Available: <http://www.arb.ca.gov/cc/inventory/data/data.htm>. Accessed October 28, 2015. Last Updated April 24, 2015.

California Department of Boating and Waterways. 2014. About Us. Available: <http://www.dbw.ca.gov/AboutUs.aspx>. Accessed November 2015.

California Department of Fish and Wildlife. 2002 (August). *Nearshore Fishery Management Plan*. Available: <https://www.wildlife.ca.gov/Conservation/Marine/NFMP>. Accessed November 2015.

_____. 2015a (November 10). *Draft Spiny Lobster Fishery Management Plan: Preliminary Public Draft*. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=91448&inline>.

_____. 2015b. List of 2015 Registered Aquaculturists Created on 10/27/15. Available: <https://www.google.com/#q=List+of+2015+Registered+Aquaculturists>. November 2015.

California Department of Transportation. 2011 (September 7). California Scenic Highway Mapping System. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed October 2015.

California Department of Toxic Substances Control. 2015. Palos Verdes Shelf (19460003). Available: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=19460003. Accessed November 2015.

California Geologic Survey. 2010. 2010 Fault Activity Map of California. Available: <http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html>. Accessed November 2015.

- Carretta, J.V., E. Oleson, D.W. Weller, A.R. Lang, K.A. Forney, J. Baker, et al. 2014. U.S. Pacific Marine Mammal Stock Assessment, 2014. NOAA Technical Memorandum NMFS.
- County of Los Angeles. 2015 (October 6). *Los Angeles County General Plan*. Available: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf. Accessed November 2015.
- County of Santa Barbara. 2014 (May). *Coastal Land Use Plan*. Available: http://longrange.sbcountyplanning.org/programs/coastal_lup.php. Accessed November 2015.
- Diekert, F. K. 2012. Growth overfishing: The race to fish extends to the dimension of size. *Environmental and Resource Economics*, 52(4), 549-572.
- Flaaten, O. 2010. Fisheries economics and management. Norwegian College of Fishery Science, 16.
- Intergovernmental Panel on Climate Change. 2007 (February). *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Geneva, Switzerland.
- IPCC. See Intergovernmental Panel on Climate Change.
- MBUAPCD. See Monterey Bay Unified Air Pollution Control District
- Minerals Management Service. 2001. Draft EIR OCS Oil and Gas Leasing Program: 2002-2007 October 2001. Vol I & II cited in CDFW 2002.
- Monterey Bay Unified Air Pollution Control District. 2008 (February). *CEQA Air Quality Guidelines*. Adopted October 1995. Revised February 2008.
- Murawski, S., S. Wigley, M. Fogarty, P. Rago, and D. Mountain. 2000. Effort distribution and catch patterns adjacent to temperate MPAs. *ICES Journal of Marine Science* 62:1150-1167.
- National Institutes of Health. 2015. California Superfund Sites. Available: https://www.google.com/maps/d/viewer?mid=zwOdxNngPduA.kZk3BCSnMnmk&hl=en_US. Accessed November 15.
- National Marine Fisheries Service Marine Mammal Health and Stranding Response Program Database. Available: <http://www.nmfs.noaa.gov/pr/health/login.html>.
- National Park Service. 2015 (November 10). Channel Islands National Park. Available: <http://www.nps.gov/chis/planyourvisit/things2do.htm>. Accessed November 2015.
- Neilson, D.J. 2011. Assessment of the California Spiny Lobster (*Panulirus interruptus*). Final, post technical review, report submitted to and approved by the California Fish and Game Commission.
- NIH. See National Institutes of Health.
- San Diego County Air Pollution Control District. 2007 (March). *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements*. Department of Planning and Land Use. Department of Public Works. Approved March 19, 2007.
- San Luis Obispo County Air Pollution Control District. 2009 (December). *CEQA Air Quality Handbook: A Guide for Assessing the Air Quality Impacts for Projects Subject to CEQA Review*. San Luis Obispo, CA.

- Santa Barbara County Air Pollution Control District. 2015 (April). *Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District*. Adopted October 19, 1995. Revised April 30, 2015. Santa Barbara, CA.
- SBCAPCD. See Santa Barbara County Air Pollution Control District.
- SCAQMD. See South Coast Air Quality Management District.
- SDAPCD. See San Diego County Air Pollution Control District.
- SLOAPCD. See San Luis Obispo County Air Pollution Control District.
- South Coast Air Quality Management District. 2015 (March). *SCAQMD Air Quality Significance Thresholds*. Available: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>. Accessed October 28, 2015. Last Revised March 2015.
- State Water Resources Control Board. 2015. Geotracker Database. Available: <http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=santa+cruz+island%2C+ca>. Accessed November 2015.
- U.S. Census Bureau. 2013. Interactive Population Map. Available: <http://www.census.gov/2010census/popmap/>. Accessed November 2015.
- U.S. Coast Guard. 2015 (October 22). Pacific Area. Available: <http://www.uscg.mil/pacarea/>. Accessed November 2015.
- U.S. Environmental Protection Agency. 2014 (August 28). *First Five-Year Review Report for the Palos Verdes Shelf (Operable Unit 5 of the Montrose Chemical Corporation Superfund Site)*. Los Angeles County, CA.
- _____. 2015. *California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. Available: http://www.epa.gov/airquality/greenbook/data_download.html. Last Updated: January 30, 2015. Accessed October 23, 2015.
- _____. 2015. Enviromapper Website. Available: <http://www2.epa.gov/emefdata/em4ef.home>. Accessed November 2015.
- U.S. Geological Survey. 2014. Spring 2014 California Sea Otter Census Results. USGS Western Ecological Research Center. Santa Cruz, California. Available: <http://www.werc.usgs.gov/ProjectSubWebPage.aspx?SubWebPageID=24&ProjectID=91>.
- USEPA. See U.S. Environmental Protection Agency.
- VCAPCD. See Ventura County Air Pollution Control District
- Ventura County Air Pollution Control District. 2003 (October). *Ventura County Air Quality Assessment Guidelines*. First publication in April 1980. Technical Revision October 2003. Ventura, CA.
- Western Regional Climate Center. 2015. Climate of California. Available: <http://www.wrcc.dri.edu/narratives/california/>. Accessed November 9, 2015.
- WRCC. See Western Regional Climate Center

This page intentionally left blank.

5 LIST OF PREPARERS

California Department of Fish and Wildlife

Tom Mason Senior Environmental Scientist (Supervisory)
Julia Coates..... Environmental Scientist
Travis Buck..... Environmental Scientist
Marina Som..... Environmental Scientist
Carlos Mireles Environmental Scientist
Joseph Milton..... Staff Counsel

Ascent Environmental, Inc.

Curtis E. Alling, AICP Principal-in-Charge
Mike Eng Project Manager
Stephanie Rasmussen Assistant Project Manager
Brenda Hom Air Quality and Climate Change Specialist
Lisa Kashiwase GIS Specialist
Corey Alling..... Graphics
Gayety Lane Document Production

Applied Marine Sciences, Inc.

Jay Johnson..... Senior Oceanographer, Managing Principal
James Elliot..... Senior Marine Biologist

This page intentionally left blank.

Appendix A

Summary of Marine Biological Resources and Background Water Quality in the Proposed Spiny Lobster Fisheries Management Plan Project Area and Potential Environmental Effects of the FMP on Marine Biological Resources and Water Quality

Technical Memorandum

Summary of Marine Biological Resources and Background Water Quality in the Proposed California Spiny Lobster Fishery Management Plan (FMP) Project Area and Potential Environmental Effects of the Proposed FMP and Regulatory Changes on Marine Biological Resources and Water Quality

Prepared by: Jay A. Johnson, Sr. Oceanographer, Principal and James Elliott, Sr. Marine Biologist; Applied Marine Sciences

Date: November 13, 2015

Marine Environmental Setting

California spiny lobsters (*Panulirus interruptus*) are endemic to the west coast of North America, with adults and sub-adults primarily inhabiting the region between Monterey, California and Magdalena Bay, Baja California, Mexico (Wilson 1948, Schmidt 1921, CDFW 2011), in water depths ranging from the intertidal zone to 64 meters (m) (210 feet [ft.]). Although adults are occasionally observed in Monterey Bay, the water temperatures are typically too cold to support reproduction and these individuals are assumed to have located to the area as larvae during El Niño events (Cascorbi 2004). For the purposes of this assessment, the California Spiny Lobster Fishery Management Plan (FMP) Study Area (Study Area) is the coastal water of California between the U.S.-Mexico border and the north end of Monterey Bay between the lower intertidal zone to a depth of 64 m (210 ft.).

Information on existing marine biological communities and habitats within the Project Area, as well as special status species, was obtained from regional plans and reports, including the final California Environmental Quality Act (CEQA) Environmental Impact Reports (EIRs) for the South Coast Marine Protected Areas Project (URS 2010) and Central Coast Marine Protected Areas Project (Jones & Stokes 2006), and other biological literature.

Ecosystems & Habitats

The Study Area encompasses multiple and diverse habitats and biological communities that are not only critical to maintaining the state's marine biodiversity, but also in maintaining sustainable resources and preserving the state's natural heritage. Marine ecosystems occurring within the coastal zone are initially divided into either the pelagic zone (water column) or the demersal zone (at or near the seafloor). Predominant demersal habitats include rocky and sand/gravel intertidal zones, coastal marshes, tidal flats, estuaries, and nearshore subtidal areas including seagrass beds, kelp forests, sand/mud soft substrate, natural and artificial hard substrate, and submarine canyons,

A dynamic oceanographic context further increases the biological complexity of the Southern California Bight, with complicated current patterns, upwelling, retention zones, freshwater plumes, and the interaction of warm and cold biogeographic regimes all playing a role.

Open Water Habitat (Pelagic Zone)

The pelagic or open water column ecosystem (to a water depth of approximately 200 meters) is a key region for most of coastal California since it is within this region that the majority of primary

production occurs (Jones & Stokes 2006). Marine biodiversity in this ecosystem is strongly influenced by various oceanographic processes, such as currents, water masses, and temperature. Variation in factors such as water temperature, upwelling and currents determine areas of productivity where krill, squid, anchovy, seabirds, sea turtles and marine mammals congregate in the pelagic ecosystem. In addition, oceanographic processes and cross-shelf transport can significantly affect recruitment patterns of fish and invertebrates in intertidal and nearshore communities.

The importance of these processes and their predictability is guiding our increasing knowledge concerning persistent oceanographic features, such as upwelling areas, retention areas, and freshwater plumes as important influences on regional productivity, recruitment patterns, and the movement and distribution of many species (URS 2010).

In the Project Area, which includes the Southern California Bight¹ and Central California (as far north as Monterey Bay), the primary currents are the southward-flowing, cold water California Current and the subsurface northward-flowing, warmer water California Countercurrent (McLain and Thomas 1983). In the fall and winter, the flow of the California Current is reduced and the California Countercurrent becomes stronger. As a result, the California Countercurrent flows closer to the ocean surface and more inshore and is referred to as the Davidson Current. This convergence at Point Conception creates a major biogeographic boundary that many species do not cross. Additionally, winds, ocean temperatures and salinities, tides, coastal topography, and ocean bottom features affect ocean circulation patterns.

The Project Area is typically characterized by three “seasons” that are driven largely by oceanographic conditions. These seasons are the upwelling season, wind relaxation period, and winter storm period. Upwelling of cold, nutrient-rich waters occurs in early spring and summer and generally peaks in May and June; however, there is significant variability in upwelling between years and with latitude. Upwelling is also associated with coastal features, such as headlands, and bathymetric features such as the shelf-slope break and offshore banks.

The California Current is also characterized by highly variable oceanographic conditions. The El Niño-Southern Oscillation (ENSO) is a large-scale change in atmospheric pressure, trade winds, and sea surface temperatures (SST) of the tropical Pacific that occurs every few years and has significant effects on the California Current System. During ENSO events, there is a reduction in upwelling of cold nutrient rich waters, increased onshore and northward flow, increased SST, and increased northward advection of warm, subtropical waters. ENSO events generally result in a decline in zooplankton and reductions in productivity that can affect fish, seabird, and marine mammal populations (URS 2010; Jones & Stokes 2006). The effect of climate change on ENSO events is not known (Collins et al. 2010).

Seafloor Habitats (Demersal Zone)

For the purposes of this document, the seafloor habitats present within the Project Area are initially divided between intertidal and subtidal regions, and then further separated by substrate type (as hard or soft substrate) and key ecosystems, such as kelp forests and eelgrass beds.

Intertidal Region

The shoreline represents a transition zone between the marine and terrestrial environments, and includes many important ecosystems and communities. These include cobble and rocky shores,

¹ The Southern California Bight is the coastal region between the U.S.-Mexico border and Point Conception in Santa Barbara County, California.

sandy beaches, tidal flats, coastal marsh along the shores of estuaries and lagoons, and manmade structures such as piers, jetties, and seawalls. Although sandy beaches dominate the shoreline, rocky areas also are present within the Project Area, especially within the Channel Islands and along the Central California coast. Marsh and tidal flat habitats are less common in the Project Area, and are generally found within sheltered bays and estuaries.

Rocky Shorelines:

Rocky intertidal communities, from the splash zone to the lower intertidal zone, vary in composition and structure with tidal height and wave exposure and with underlying geology. Mussel beds (*Mytilus* spp.), algal beds (*Endocladia muricata*, *Hesperophycus californicus*, *Silvetia compressa*, crustose and erect coralline algae, and many other species), and surfgrass (*Phyllospadix* spp.) are distributed patchily along rocky shores and support high biodiversity as these flora create structure to which larval organisms can settle and juveniles can find protection from predators and harsh environmental conditions.

In addition, intertidal boulders, jutting reefs, and tidepools are home to many species of snails, algae, barnacles, mussels, anemones, crabs, sea stars, and fish. Boulder/Cobble areas, also referred to as heterogeneous gravel habitats, often provide a layer of protection for burrowing organisms such as clams, chitons, and crustaceans that live in the coarse sand and gravel below (Lees 2013). Also, the mostly rocky shores of the Channel Islands and sandy beaches near rocky points on the Central California (and less so in southern California) mainland coast host a number of rookery/haulout sites for pinnipeds, including harbor seals (*Phoca vitulina richardsi*), California sea lions (*Zalophus californianus californianus*), and Northern elephant seals (*Mirounga angustirostris*), as well as colony/roosting areas for seabirds, including pigeon guillemots (*Cepphus Columbia*), pelagic cormorants (*Phalacrocorax pelagicus*), Brant's cormorants (*Phalacrocorax penicillatus*), and Xantus's murrelets (*Synthliboramphus hypoleucus*) (URS 2010). Adult California spiny lobsters can occasionally be found in seagrass beds and rocky intertidal areas in the lower intertidal zones that remain submerged most of the year. Juveniles are reported to use rocky intertidal and seagrass beds as a nursery area (Engle 1979, URS 2010).

Sandy Beaches:

Sandy beach communities are structured in large part by grain size, slope of the beach, and wave energy. Most Project Area beaches are made up of fine-grained sand; however, a significant number of coarse-grained gravel beaches exist as well (URS 2010, Jones & Stokes 2006). Beaches are dynamic systems that change with wind and waves. Generally, sand is eroded from beaches in the winter and re-deposited in the summer, resulting in annual changes in beach slope and width. Seasonal fluctuations in sand abundance are affected by the creation of artificial hardened shorelines and of sand-retention structures such as groins. Sandy beaches also change over time, and these long-term changes and erosion rates can also have an affect on the land shoreward of the beach. A variety of invertebrates live in the sand and in wracks of decaying seaweed and other detritus on the sand surface, although accumulation of these materials is moderated in many locations due to beach grooming. Snails, bivalves (clams), insects, spiders, isopods, amphipods, and polychaetes (marine worms) are among the organisms that inhabit sandy beaches, and most serve as food sources for larger vertebrates, including the federally endangered western snowy plover. A variety of species including the western snowy plover, California least tern, and many pinnipeds, utilize sandy beaches for resting or rearing young. Sandy beaches play a central role in the lifecycle of some fish species, such as the California grunion (*Leuresthes tenuis*), which has a range extending from Magdalena Bay, Baja California, Mexico to the mouth of the San Francisco Bay (plus a small population in San Francisco Bay [Martin personal communication]). This small fish lays its eggs in the sand (approximately 50 to 75 mm below the surface) on beaches throughout its range with

most of the spawning occurring on Southern California sandy beaches (Allen et al. 2006; Fritzsche et al. 1985; Roberts et al. 2007; URS 2010).

Estuaries & Lagoons:

Estuaries form at the mouths of rivers and streams where freshwater and saltwater meet, and their habitats and associated biological communities vary based on salinity. This salinity may change seasonally and over longer timeframes depending upon freshwater inputs and creation or removal of barriers between the estuary and the open coast. Typically, two kinds of coastal estuaries occur: one type is permanently or semi-permanently open to the ocean and the second type is seasonally separated from the sea by sand bars. Both kinds of estuaries can be found within the Project Area and contain coastal marshes, tidal flats, and eelgrass beds.

Estuaries and lagoons are very productive coastal ecosystems and play a key role as nursery habitat for many coastal invertebrates and fish. Within the Southern California Bight portion of the Project Area, the estuaries tend to have low freshwater inputs and, therefore, generally lack freshwater and anadromous species, such as salmon and steelhead; although the latter and the Pacific lamprey are reported to occur in small annual runs (URS 2010). Key species that spend most of their lives in Southern and Central California estuaries include Pacific staghorn sculpin (*Leptocottus armatus*), bay blenny (*Hypsoblennius gentilis*), bay pipefish (*Syngnathus leptorhynchus*), arrow goby (*Clevelandia ios*), cheekspot goby (*Ilypnus gilberti*), shadow goby (*Quietula y-cauda*), as well as California killifish (*Fundulus parvipinnis*), spotted sand bass (*Paralabrax maculatofasciatus*), barred sand bass (*Paralabrax nebulifer*), several species of anchovy (*Anchoa delicatissima*, *A. compressa*), and the federally endangered tidewater goby (*Eucyclogobius newberryi*). Species that utilize estuaries seasonally, or for part of their life cycle, include topsmelt (*Atherinops affinis*), California halibut (*Paralichthys californicus*), yellowfin croaker (*Umbrina roncadore*), stingray (*Urolophus halleri*), northern anchovy (*Engraulis mordax*), sharks, and several species of perch and turbot (Allen et al. 2006).

Although many Project Area estuaries contain eelgrass beds, utilization of these specific habitats by juvenile California spiny lobster has been poorly studied. In a study of California spiny lobsters in San Diego Bay using trapping, dive surveys, and acoustic tagging, lobsters were found in eelgrass and rocky habitat located near the mouth of the bay (Hovel and Neilson 2011).

Seagrass Beds:

Seagrass habitats are ecosystems that support an abundant and biologically diverse assemblage of aquatic fauna. The most common type of seagrass in estuaries and sheltered coastal bays in California is eelgrass (*Zostera marina*). A second variety of eelgrass, *Zostera pacifica*, occurs along the open coast in Southern California. Eelgrass is a flowering plant that forms dense beds and its leaves and dense, matted root system help prevent erosion and maintain stability in nearshore areas by decreasing water flow, enhancing sediment accumulation, and providing habitat for recruitment of animal species. Eelgrass beds also provide refuge, foraging, breeding, or nursery areas for many species of invertebrates, fish, and birds. Eelgrass beds are known to be located in estuaries, bays, and along the nearshore mainland coast and the Channel Islands (URS 2010).

Although *Zostera* occurs in select open coast locations, the most common type of seagrass present along the open coast is surfgrass (*Phyllospadix* spp.), also a flowering plant, which forms beds that fringe rocky coastline areas from the zero-tide level to approximately 10 to 15 ft. below the zero-tide level. *Phyllospadix* is known to occur along the northern Channel Islands, at Point Conception, along the coast of San Diego County, and at multiple locations along the central coast including near

Morro Bay and Monterey Bay. Surfgrass serves as an important nursery habitat for a variety of fish and invertebrates, including the California spiny lobster (Engle 1979; URS 2010; Jones & Stokes 2006).

Subtidal Habitats

Soft Substrate:

Soft-substrate habitats are the predominant seafloor coastal habitat throughout the Project Area. These habitats and the biological communities inhabiting them vary depending on the sediment composition. Sediment composed primarily of silt and clay is typically high in organic carbon and detrital feeding polychaetes, gastropods, and other taxa dominate the infauna. Alternatively, sandy sediment that is typically devoid of organic carbon is populated by filter feeding and carnivorous ostracods, polychaetes, amphipods, and pelecypods. Soft-substrate habitats are also found in higher energy environments where wave and bottom current energy regularly work the sediments (URS 2010; Jones & Stokes 2006).

Soft-substrate habitats are typically less taxonomically diverse with lower biotic abundance than hard-substrate habitats. Likewise, the level of taxonomic diversity and abundance typically increase with depth and the shift from highly dynamic, wave-influenced shallow waters to lower energy and less physically disturbed silt-clay sediments found in deeper water depths. Also, in deeper soft-substrate habitats, the population density tends to decrease with depth, while the standing crop increases with depth; this makes for unique species assemblages at various water depths.

Hard Substrate:

Hard-substrate habitats (often referred to as rocky reefs or hard bottom habitat) occur less frequently in the coastal water of California than soft substrate habitats. Typical species that associate with hard substrate habitats differ greatly with depth, substrate composition, and height above the seafloor. Topographic relief changes with bottom composition, ranging from gravel, cobble, and small boulders or smooth exposed rocky outcropping, to small boulders of less than a half meter (1.6 ft.) in height, to larger outcropping boulders and features that extend one meter or more above the seafloor. Low relief and mixed hard substrate habitats provide needed hard substratum to which kelp (*Macrosystis* and *Nereocystis*) and other brown, red and green algae can attach in the nearshore photic zone² (typically <100 ft depth). In addition, many invertebrates such as temperate water corals, soft corals/sea fans, sponges, tunicates, bryozoans, molluscs, and multiple species of anemones require hard substratum for attachment. These sessile (i.e., attached to the substrate) organisms are accompanied by an assortment of crabs, shrimp, sea stars, brittle stars, and other mobile taxa.

In addition to sessile organisms, the structural complexity of hard substrate itself provides habitat and protection for mobile invertebrates and fish. Hard-bottom habitats in each depth zone are considered to be separate habitats due to differences in associated species. In addition, the ecological assemblages associated with rocky habitats can also be influenced by the type of rock (e.g. sedimentary versus granitic reefs) or size of substrata, such as cobble versus boulder. Hard substrate habitats that occur in each of these geologically different zones supports distinct ecological assemblages.

Finally, in addition to natural hard substrate habitat, artificial man made rock jetties, pier pilings, concrete and steel bulkheads and created artificial reef structures exist within the Project Area.

² The Photic Zone is the surface layer of the ocean that receives sunlight.

Many artificial reefs are designed to mimic rocky reef habitats and have been constructed from a variety of materials (URS 2010) or to provide recreational opportunities by repurposing decommissioned ships or structures (Lewis and McKee 1989).

Kelp Forests:

Biogenic habitats of particular importance to coastal California are kelp forests. Two different types of kelp forests occur in the state: giant kelp (*Macrocystis pyrifera*) and bull kelp (*Nereocystis luetkeana*). For the purposes of this document, these kelp forests are identified as separate habitats since each type of kelp forest host distinguishable assemblages of organisms. Except for a few occurrences at San Miguel Island, bull kelp does not occur in the Southern California Bight region; however, the related deep-water elk kelp (*Pelagophycus porra*) occurs at depths of 60–270 ft on rock and sand along the mainland (e.g., Point Loma) and at several of the Channel Islands (Santa Catalina, San Clemente, Santa Barbara, and Santa Cruz). Other kelps are typically smaller or low-lying, and often referred to as understory canopy kelps. These understory canopy kelps include palm kelps (*Eisenia arborea*, *Pterygophora californica*), boa kelp (*Egregia menziesii*), simple bladed kelps (*Laminaria* spp., *Saccharina* spp.) and sieve and ribbed kelps (*Agarum fimbriatum*, *Costaria costata*) (Foster and Schiel 1985; Lindberg and Lindstrom 2010).

Giant kelp forms dense canopy areas with extensive vertical structure that are utilized by many kinds of marine life. Generally, giant kelp forests form over rocky substrate located within a relatively narrow band between 5 m and 20 m water depth where the combination of available hard substrate and adequate light provide conditions for growth (Foster and Schiel 1985). Thus, kelp forests are somewhat limited within the Project Area. Areas of particular kelp abundance include Point Cabrillo, Stillwater Cove, Granite Creek, Point Conception, Gaviota, Coal Oil Point, Campus Point-Goleta, Point Dume, Palos Verdes Peninsula, La Jolla, Point Loma, and the vicinity of the offshore islands, most notably Santa Catalina, San Miguel, Santa Rosa, San Nicolas, and San Clemente islands.

Studies have shown that the persistence and extent of kelp forests are affected by climatic and oceanographic changes, abundances of grazers, and fishing and other anthropogenic influences. Grazers, especially sea urchins, can play a large role in localized distribution of kelp (Harrold and Reed 1985), particularly when unchecked by predators such as lobster.

Kelp forests are among the most productive marine habitats along the coast of California providing habitat, feeding grounds, and nursery areas for many species of fishes and invertebrates. Juveniles of many nearshore rockfish species occur in the mid-water or upper kelp canopy. Juveniles and adults of many nearshore rockfish species, as well as cabezon, greenlings, lingcod, and many other species, associate with bottom habitats in kelp forests. Giant kelp also provides nutrient subsidies to sandy beaches as wrack washed in with tides, forming the basis of the detritus food chain for beach invertebrates and shorebirds (Dugan et al. 2003; Dugan 2006; URS 2012; Jones & Stokes 2006)

Beginning in the 1950's, giant kelp forests that were once productive off Orange, San Diego, and Los Angeles counties began to deteriorate. Pollution from domestic and industrial wastes, increased water turbidity from urban runoff, increased sea urchin grazing possibly caused by a reduction in predators, storms, and low nutrients and high temperatures caused by El Niño conditions have all been identified as factors that have contributed to this decline (Foster and Schiel 2010). As a result, major kelp restoration programs have been implemented throughout the Southern California Bight region of the Project Area.

Marine Protected Areas:

In 1999, the California legislature passed the Marine Life Protection Act that is designed to protect the state's marine natural heritage through the establishment of a statewide network of marine protected areas (MPAs). MPA locations were selected specifically so that they, in combination and spacing along the coastline, can protect the diversity and abundance of California's marine life, habitats, and ecosystems (CDFW 2015). Within the Project Area, there are 76 MPAs and 2 special closures and their existence is a key consideration in the proposed California Spiny Lobster FMP (Table 1). Of these 76 MPAs, only 7 allow any commercial or recreational harvesting of California Spiny Lobsters.

Table 1: California Marine Protected Areas Located Within the California Lobster FMP Project Area.

California Marine Protected Area	Lobster Take Allowed
Mainland Central California MPAs	
<i>Monterey County</i>	
Elkhorn Slough State Marine Reserve	
Elkhorn Slough State Marine Conservation Area	
Moro Cojo Slough State Marine Reserve	
Soquel Canyon State Marine Conservation Area	
Portuguese Ledge State Marine Conservation Area	
Edward F. Ricketts State Marine Conservation Area	
Lovers Point-Julia Platt State Marine Reserve	
Pacific Grove Marine Gardens State Marine Conservation Area	
Asilomar State Marine Reserve	
Carmel Pinnacles State Marine Reserve	
Carmel Bay State Marine Conservation Area	
Point Lobos State Marine Reserve	
Point Lobos State Marine Conservation Area	
Point Sur State Marine Reserve	
Point Sur State Marine Conservation Area	
Big Creek State Marine Reserve	
Big Creek State Marine Conservation Area	
<i>San Luis Obispo County</i>	
Piedras Blancas State Marine Reserve	
Piedras Blancas State Marine Conservation Area	
Cambria State Marine Conservation Area and State Marine Park	R
White Rock (Cambria) State Marine Conservation Area	
Morro Bay State Marine Recreational Management Area	
Morro Bay State Marine Reserve	
Point Buchon State Marine Reserve	
Point Buchon State Marine Conservation Area	
<i>Santa Barbara County</i>	
Vandenberg State Marine Reserve	
Point Conception State Marine Reserve	
Kashtayit State Marine Conservation Area	R
Naples State Marine Conservation Area	
Campus Point State Marine Conservation Area	

California Marine Protected Area	Lobster Take Allowed
Goleta Slough State Marine Conservation Area	
Los Angeles County	
Point Dume State Marine Conservation Area	
Point Dume State Marine Reserve	
Point Vicente State Marine Conservation Area	
Abalone Cove State Marine Conservation Area	
Orange County	
Bolsa Bay State Marine Conservation Area	
Bolsa Chica Basin State Marine Conservation Area	
Upper Newport Bay State Marine Conservation Area	
Crystal Cove State Marine Conservation Area	C, R
Laguna Beach State Marine Reserve	
Laguna Beach State Marine Conservation Area	
Dana Point State Marine Conservation Area	C, R
San Diego County	
Batiquitos Lagoon State Marine Conservation Area	
Swami's State Marine Conservation Area	
San Elijo Lagoon State Marine Conservation Area	
San Dieguito Lagoon State Marine Conservation Area	
San Diego-Scripps Coastal State Marine Conservation Area	
Matlahuayl State Marine Reserve	
South La Jolla State Marine Reserve	
South La Jolla State Marine Conservation Area	
Famosa Slough State Marine Conservation Area	
Cabrillo State Marine Reserve	
Tijuana River Mouth State Marine Conservation Area	
Island MPAs	
Richardson Rock State and Federal Marine Reserve (San Miguel Island)	
San Miguel Island Special Closure	
Harris Point State and Federal Marine Reserve (San Miguel Island)	
Judith Rock State Marine Reserve (San Miguel Island)	
Carrington Point State Marine Reserve (Santa Rosa Island)	
Skunk Point State Marine Reserve (Santa Rosa Island)	
South Point State and Federal Marine Reserve (Santa Rosa Island)	
Painted Cave State Marine Conservation Area (Santa Cruz Island)	R
Gull Island State and Federal Marine Reserve (Santa Cruz Island)	
Scorpion State and Federal Marine Reserve (Santa Cruz Island)	
Anacapa Island Special Closure	
Anacapa Island State and Federal Marine Reserve	
Anacapa Island State and Federal Marine Conservation Area	C, R
Footprint State and Federal Marine Reserve (Anacapa Channel)	
Begg Rock State Marine Reserve (San Nicolas Island Quad)	
Santa Barbara Island State and Federal Marine Reserve	
Arrow Point to Lion Head Point State Marine Conservation Area (Catalina Island)	
Blue Cavern Onshore State Marine Conservation Area (Catalina Island) Formerly known as Blue Cavern State Marine Conservation Area	
Blue Cavern Offshore State Marine Conservation Area (Catalina Island) Formerly known as Bird Rock State Marine Conservation Area	
Long Point State Marine Reserve (Catalina Island)	
Casino Point State Marine Conservation Area (Catalina Island)	

California Marine Protected Area	Lobster Take Allowed
Lover's Cove State Marine Conservation Area (Catalina Island)	
Farnsworth Onshore State Marine Conservation Area (Catalina Island)	
Farnsworth Offshore State Marine Conservation Area (Catalina Island)	
Cat Harbor State Marine Conservation Area (Catalina Island)	C, R
Source: CDFW 2015 https://www.wildlife.ca.gov/Conservation/Marine/MPAs/Network/Southern-California and https://www.wildlife.ca.gov/Conservation/Marine/MPAs/Network/Central-California C = Commercial lobster fishing allowed, R = Recreational lobster fishing allowed	

Key Marine Taxa

California Spiny Lobster

The California spiny lobster (Randall 1840) is a large marine crustacean that is fished commercially and recreationally since the 1880s (Craig et al. 2011; Shaw 1986) as a preferred food source. They are found from Monterey Bay, California, to Bahia Magdalena, Baja California, Mexico; and a small population is also found in northwestern waters of the Gulf of California (Shaw 1986) in rocky areas where they shelter beneath rocks and in crevasses during the day from low intertidal to 210 ft water depths. The majority of lobster population is found south of Point Conception, California (Barsky 2001). However, they have been reported to occur as far north as San Luis Obispo, California (Jensen 2014). They are omnivorous, feeding on the bottom at night by scavenging along the sea floor as well as feeding on a wide range of prey. As juveniles, their most common foods are molluscs, algae, sponges, hydroids, polychaetes, crustaceans, and sea urchins (Shaw 1986) while mature lobster consume red and purple sea urchins (*Strongylocentrotus franciscanus* and *purpuratus*) (Tegner and Levin 1983), molluscs such as mussels (*Mytilus californianus*) (Robles et al. 1990), and scavenge dead animals and detritus (Craig et al. 2011).

The ecological role of the California spiny lobster as predators of sea urchins in the nearshore benthic community is extremely important (Tegner and Dayton 2000, Lafferty 2004). Unchecked populations of these sea urchins are known to devastate giant kelp forests; thus, removing an important source of food and shelter for southern California marine biota and creating urchin barrens.

Lobsters mate from November through May (Barsky 2001) and spawn primarily from May through July (Shaw 1986). The age at sexual maturity is estimated to occur between 5 and 9 years for females and between 3 and 6 years for males. It has been found that approximately 50 percent of females are mature at a carapace length (CL) of 66 millimeters (mm) (2.6 inches [in.]), and 90 percent at 69 mm (2.7 in.) CL, and carry between 50,000 and 800,000 eggs (Shaw 1986).

The number of eggs carried by a female is size dependent as larger females produce more eggs. For example, Barsky (2001) reported, "...females sampled at San Clemente Island carried between 120,000 (2.6 inches CL) to 680,000 (3.6 inches CL) eggs." Fertilized eggs hatch into tiny larvae (phyllosomas) that drift with the currents as far offshore as 350 miles and as deep as 400 ft while feeding on other planktonic animals while undergoing 12 molts (Barsky et al. 2003). The larvae transform into a juvenile stage (puerulus), which swims inshore, settles to the bottom, and begins to grow if suitable habitat is found, usually in surfgrass, mussel beds, or shallow water crevices (Barsky 2001; Barsky et al. 2003). While the numbers of eggs and initially spawned larvae are large

per individual female, the proportion surviving to settle in acceptable habitat is small. The loss of phyllosomas and pueruli is considerable due to high predation in the planktonic stage, currents that may sweep the larvae out of the geographical range acceptable for survival (Johnson 1960a), and low probability of the pueruli landing in an area of appropriate habitat.

California Department of Fish and Wildlife commercial and recreational harvesting measures currently implemented to ensure that an adequate proportion of the lobster population is composed of mature individuals that are capable of providing an adequate number of eggs for spawning include:

- Establishing a minimum size limit for lobster that can be taken in both the commercial and recreational fisheries (3.25 inches [in] CL). This allows spawning before an individual reaches legal size (sexual maturity is reached at approximately 2.5 in. CL [5 or 6 years] while the legal size is reached in 7 to 11 years) (Barsky et al. 2003).
- Requiring that lobster traps have escape ports allowing sublegal sized lobsters to escape.
- Establishing commercial and recreational lobster fishing seasons that run from early October to mid-March, thus reducing the possibility that any egg-carrying females are taken before they spawn.
- All lobster traps must have a destruct device to ensure that lost traps do not continue to fish indefinitely, continuing to trap lobster and other species (Barsky et al. 2003).
- Although the opening size is not specified, commercial lobster traps exclude the largest lobsters as the opening is sized to ensure capture of legal sized lobsters that meet market preferences (Neilson 2011).
- The number of Commercial Lobster Operator Permits is capped, creating a limited-entry fishery. Currently, there is no restriction on the total number of traps by individual permit or total number of traps fished.
- Recreational lobster fishing by divers is limited to collection by hand; no spearing or use of tools permitted.
- Recreational fishermen must have a valid sportfishing license with an ocean enhancement stamp and must also purchase a lobster report card and record information for each fishing event.
- Non-diving recreational fishermen may take lobster using 2-10 baited hoop nets, depending on the location of use, as long as the nets meet specifications by CDFW.
- Recreational lobster take is limited to seven lobsters per day and an individual may not possess more than seven total (in person, in vehicle, or at home, even if frozen) with an exception (fee applied) for multi-day fishing excursions.
- Most Marine Protected Areas (MPAs) prohibit the take of lobster.

While adult lobsters live in subtidal areas of rocky habitat, juveniles spend their first two years in surfgrass located in the lower intertidal and shallow-subtidal habitats (Barsky 2001). It is thought that adult lobsters migrate annually from offshore (deeper than 15 m [50 ft.]) to inshore as water warms following winter. Females generally move in shallower (water depths less than 9 m [30 ft.]) when carrying eggs in May and June. Many lobsters may move offshore in late October and November, possibly for protection from winter storms. Recent results of a predictive model based on lobster density data collected by divers and benthic habitat mapping inside and outside of the South La Jolla State Marine Reserve in southern California predicted that lobster densities “exhibited strong depth dependence” with higher densities in shallower areas (water depth

shallower than approximately -12 m [-40 ft.]) with acceptable bottom habitat even though nearby deeper areas (between -14 m [-40 ft.] and -18 m [-60 ft.]) also had rocky habitat (Hovel et al. 2015).

Lobsters are commercially and recreationally harvested along the California coastline primarily from Point Conception to the U.S.-Mexico border except their take is not allowed in most Marine Protected Areas (MPAs) and in some fishing districts. There are seven MPAs where recreational lobster fishing is allowed and four where commercial lobster fishing is allowed (Table 1).

While there is anecdotal information (Spearboard.com 2015) of lobster take at the northern limit of the California spiny lobster range in Monterey Bay, California, the majority of both commercial and recreational fishing occurs south of Point Conception and at the Channel Islands, where allowed. The Santa Barbara area was the northernmost area with commercial take of California spiny lobster for the 2013-2014 season (October 2013 through mid-March 2014) (CDFW 2014). The Santa Barbara area, which includes ports in Santa Barbara and Ventura counties, had the highest reported landings of lobster for the 2013-2014 season with a total of 289,587 pounds (lbs). The San Diego area, which includes ports in San Diego County, reported the second highest landings with 266,617 lbs. Finally, the Los Angeles area, which includes ports in Los Angeles and Orange counties, reported the third highest landings with 255,023 lbs. The total reported landings for California during this period was 811,227 lbs.

Neilson (2011) analyzed the commercial catch through 2010 and found two trends starting in 1976. From 1976 until 1999, total weight taken per year was variable with an upward trend to approximately 300 tonnes (~661,000 lbs). From the 2000-2001 to the 2009-2010 seasons, commercial landings were above that level. Neilson stated that “these two trends are not associated with changes in effort, size of the fishing grounds (essentially the coastal and offshore island regions of the entire bight), or changes in gear” and occurred after any regulation changes that might have affected the catch. Catch averaged over 11 years by geographic area within the California lobster fishery showed that the three areas: Santa Barbara (composite of landings at ports in Santa Barbara and Ventura counties), Los Angeles (composite of landings at ports in Los Angeles and Orange counties), and San Diego (composite of landings at ports in San Diego county) had similar proportions of the total catch (36, 31, and 33 percent, respectively) with percentages remaining fairly consistent through the time period; thus, no localized drop or increase was indicated. He also reported that DFG Block 860 in the San Diego area accounted for the majority of the San Diego County commercial catch, was 20 percent of the total southern California commercial take, and had a high recreational take. Block 860 is located from just south of Point La Jolla to the approximate center of the Silver Strand peninsula and includes the entrance and north area of San Diego Bay. As of 2012, nested within this block are three MPAs: South La Jolla State Marine Reserve, South La Jolla State Marine Conservation Area, and Cabrillo State Marine Reserve.

Commercial landing data from lobster fishing season 2010-2011 through 2013-2014 (Table 2) show that levels of catch continued to exceed the pre-2000 levels reported by Neilson (2011).

Comparison of numbers of traps pulled in 2010 compared to 2012 did show an increase in fishing effort (939,485 pulled in 2010 and 1,131,700 in 2012) with similar catch per unit effort (CPUE) (Hovel et al. 2015). This level of fishing effort is a continuation of an increase that started in 2006 (Neilson 2011), but has not resulted in a consistently increasing take of lobster. In fact, the season with the largest commercial landing weight in recent seasons is 2004-2005 before the latest increase in fishing effort (Table 2).

The recreational fishery has changed between 1992 and 2007 with the use of hoop nets; both traditional and rigid hoop nets becoming the preferred gear to take lobster and supplanting the take of lobster by hand (by either skin or Scuba diving) (Neilson 2011; Neilson and Buck 2008). Prior to 2008, recreational lobster catch was not documented except for an intensive one-season sampling in 2007 (Neilson and Buck 2008). Since the 2008-2009 lobster season, recreational fishermen were required to possess a lobster report card and record catch information. Thus, only recently has there been information available to evaluate the amount of recreational catch and provide comparison to the commercial catch. Each fisherman has their own card with a line to record information for each fishing trip, including date, location, type of gear, and the number of lobster taken with that gear. If the location or gear type is changed, that information must be recorded on a new line on the card.

Table 2: Commercial Landing (lbs) of California Spiny Lobster in California for Lobster Fishing Seasons 2000-2001 through 2013-2014 (CDFW)

Year	Landing Weight (lbs)	Year	Landing Weight (lbs)
2000-2001	702,207	2007-2008	674,049
2001-2002	681,670	2008-2009	728,186
2002-2003	717,832	2009-2010	752,673
2003-2004	681,647	2010-2011	695,361
2004-2005	919,809	2011-2012	749,628
2005-2006	698,478	2012-2013	867,514
2006-2007	881,025	2013-2014	811,227

The number of recreational fishing trips for lobster during the 2014-2015 lobster season was reported by CDFW to be estimated at 111,552, based on returned lobster report cards. Lobster caught per trip was 1.9 in the 2014-2015 season. The average number of lobsters kept per trip has remained stable at approximately 2 lobsters kept per trip for each of the eight years that lobster report card data are available. Further, an estimated 344,472 lbs. were reported as taken by recreational fishing during the 2014-2015 lobster season, which accounts for approximately 26 percent of the total weight of lobsters landed by the commercial and recreational fisheries combined for the 2014-2015 lobster season (Buck 2015). Top catch locations for the recreational fishery include Catalina Island, San Diego Bay, Long Beach/Middle Breakwater, and Santa Monica Bay (Buck 2014).

Neilson (2011) analyzed the various data collected by CDFW to assess the lobster stock by looking for changes in trends and results of modeling. Neilson found that the lobster population appears stable based on the results, although total catch by the fishing sector may be close to the maximum take. Weight of lobster taken per year was consistent for the time period 1998 to 2008. This was

despite an increase in the number of traps fished, although the CPUE remained within a standard deviation of the average CPUE for that decade. Based on logbook data, high catch rates occurred during the first few weeks of each fishing season followed by a substantial decrease in catch that continues for the remainder of the season with occasional increases or decreases. Consistently, the majority of the season's catch (80 percent) occurred in approximately the first half of the season. Average weight per lobster taken varied between 1.3 to 1.6 lbs. in that decade, and 8 of the 10 years had weights of 1.3 or 1.4 lbs. per lobster. This size equates to a first or second year legal size and is a preferred market size. The percentage of total catch that were sublegal sized lobster (shorts) across the Southern California Bight was 70 percent. Over the 10 years, the proportion of shorts remained relatively constant implying that the sublegal size population is stable.

The CDFW's conclusion that the lobster fishery is stable was based on the analyses of a ten-year period of commercial lobster fishing data. At the time of their analyses, adequate recreational fishing data was not available to use in the assessment (Neilson 2011). From the data available at the time and assumptions made on fishing level for unreturned report cards, recreational fishing was estimated to have harvested 44 percent of the reported commercial catch for the assessment period. Recreational fishing did not experience the drop in CPUE after the first few weeks of each season that the commercial fishery experienced. This may be due to recreational fishermen accessing different areas such as piers, jetties, and bays. How this might affect the overall lobster population was not addressed.

Special Status Species

Within the Project Area, many special status species are known to inhabit or utilize the coastal waters. These special status species include those taxa afforded special protection under the Federal Endangered Species Act (FESA), the California Endangered Species Act (CESA), the Federal Marine Mammal Protection Act (MMPA), or the Federal Magnuson-Stevens Fishery Conservation and Management Act. In addition to those species afforded legislative protection, both the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and the CDFW have identified certain species as a "species of concern". This is because either agency has some concerns regarding the species status or because of potential threats to that species or there is insufficient information is available to indicate a need to list the species under FESA or CESA.

Table 3 contains all FESA, CESA and MMPA special status species known or suspected to occur within the Project Area as well as any species identified by NOAA-NMFS or CDFW as species of concern. Table 4 lists all fish and invertebrate species managed under one of three Fishery Management Plans developed by the Pacific Fisheries Management Council.

Table 3: Special-Status Marine Species That May Occur Within the Waters of the Project Area

Common Name Scientific Name	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
Bird Species ¹					
Western snowy plover (coastal population) (<i>Charadrius alexandrinus nivosus</i>)	T/-	SSC	Nest adjacent to or near tidal waters along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries; twenty breeding sites are known in California from Del Norte to San Diego County; coastal beaches above the normal high tide limit in sparsely-vegetated flat, open areas with sandy or saline substrates.	P	Year-round ²
California least tern (<i>Sterna antillarum browni</i>)	FE/-	CE, CFP	Nests on sandy upper ocean beaches along the San Francisco Bay and the Southern California coast from southern San Luis Obispo County south to San Diego County; forages on adjacent estuaries or the open ocean. ²	P	Reduced presence in Project Area fall through spring. Fall southward migration for overwintering. Little is known about the actual migration routes south of the California border. ³
California brown pelican (<i>Pelecanus occidentalis californicus</i>)	-	CFP	Present along the entire coastline, but does not breed north of Monterey County; extremely rare inland; littoral ocean zones just outside surf line; nests on offshore islands. ⁴	P	Year-round
California black rail <i>Laterallus jamaicensis coturniculus</i>	-	CT, CFP	The most numerous coastal group inhabits tidal marshes mainly in the northern San Francisco Bay area, with smaller occurrences at sites from Bodega Bay to northwest Baja California. The second, intermediate-sized Central Valley group occurs at interior wetlands of Butte, Nevada, Placer, San Joaquin, and Yuba counties. ⁵	P	Year-round
Ridgeway rail (previously California Clapper Rail)	FE/-	CE, CFP	Coastal wetlands and brackish areas around San Francisco, Monterey, and Morro bays. ⁶	P	Year-round

Common Name <i>Scientific Name</i>	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
<i>Rallus obsoletus</i>					
Light-footed clapper rail <i>Rallus longirostris levipes</i>	FE/-	CE, CFP	Distributed throughout coastal salt marsh habitat from Santa Barbara County, California to San Quintín Bay, Baja California, Mexico. ²	P	Year-round
Marbled murrelet <i>Brachyramphus marmoratus</i>	FT/-	CE	From Oregon to northern Monterey Bay in central California. Birds winter throughout the breeding range and also occur in small numbers off southern California. ⁷	P	Year-round
Scripps's murrelet <i>Synthliboramphus scrippsi</i>	-	CT	During the breeding season, the entire Scripps's murrelet population is concentrated within a fairly small region off the coasts of southern California and Mexico. However, birds disperse after breeding, sometimes as far north as British Columbia. Over eighty percent of the U.S. breeding population of Scripps's murrelets occurs on the Channel Islands. ⁸	P	Move onshore to breed, generally in February or March, with the breeding season lasting up to six months. Present in study area during the rest of the year. ⁹
Guadalupe murrelet <i>Synthliboramphus hypoleucus</i>	-	CT	Commonly breeds on the Channel Islands. Visits the southern California offshore waters on rare occasions. ⁸		Year-round
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	-	SSC	Winters along the entire California coast and inland over the Coast Ranges into the Central Valley from Tehama County to Fresno County; a permanent resident along the coast from Monterey County to San Diego County; rocky coastlines, beaches, inland ponds, and lakes; needs open water for foraging; nests in riparian forests or on protected islands	P	Year-round
<i>Fish Species¹</i>					
Sacramento River winter-run ESU Chinook salmon	FE/-	CE	Ocean waters, Sacramento and San Joaquin Rivers; migrates from ocean through San Francisco Bay–Delta	P	Adults

Common Name <i>Scientific Name</i>	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
<i>Oncorhynchus tshawytscha</i>			to freshwater spawning grounds		
Central Valley spring-run ESU Chinook salmon <i>O. tshawytscha</i>	FT/-	CT	Ocean waters, Sacramento and San Joaquin Rivers; migrates from ocean through San Francisco Bay–Delta to freshwater spawning grounds	P	Adults
Central Valley fall-run/late fall-run Chinook salmon <i>O. tshawytscha.</i>	FSC/-	-	Ocean waters, Sacramento and San Joaquin Rivers; migrates from Ocean through San Francisco Bay–Delta to freshwater spawning grounds, including the Napa River	P	Adults
Central California coast ESU Coho salmon <i>Oncorhynchus kisutch</i>	FE/-	CE	Ocean waters, Sacramento and San Joaquin Rivers; migrates from ocean through San Francisco Bay–Delta to freshwater spawning grounds	P	Adults
Steelhead - southern California DPS <i>Oncorhynchus mykiss</i>	FE/-	-	Migrates from ocean to coastal rivers and streams from San Mateo Creek in north San Diego County to the Smith River near the Oregon border. ²	P	Adults
Steelhead - south central California coast DPS <i>O. mykiss</i>	FT/-	-	Ocean waters, streams and rivers ranging from Watsonville south to San Luis Obispo. ¹²	P	Adults
Central California coast DPS steelhead trout <i>O. mykiss</i>	FT/-	CSC	Ocean waters, Sacramento and San Joaquin Rivers; Migrates from ocean through San Francisco Bay-Delta to freshwater spawning grounds	P	Adults
California Central Valley DPS steelhead trout <i>O. mykiss</i>	FT/-	-	Ocean waters, Sacramento and San Joaquin Rivers; Migrates from ocean through San Francisco Bay-Delta to freshwater spawning grounds	P	Adults
Green Sturgeon (Northern DPS) <i>Acipenser medirostris</i>	-	CSC	Spawn in the Klamath River in northern California. As adults, Northern DPS green sturgeon migrate seasonally	P	Year-round

Common Name <i>Scientific Name</i>	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
			along the West Coast, congregating in bays and estuaries in California during the summer and fall months. ¹⁴		
Green Sturgeon (Southern DPS) <i>A. medirostris</i>	FT/-	CSC	Marine and estuarine environments and Sacramento River	P	Year-round
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/-	CSC	Coastal lagoons, estuaries, and marshes in coastal California from the Smith River (Del Norte County) to Aqua Hedionda Lagoon (San Diego County). ²	NP	NA
<i>Invertebrate Species¹</i>					
White abalone <i>Haliotis sorenseni</i>	FE/-	-	Range from Point Conception to central Baja California, Mexico, usually at depths greater than 75 feet. Often associated with deep living kelp beds. ²	C	Year-round ¹⁵
Black abalone <i>Haliotis cracherodii</i>	FE/-	-	Inhabits rocky intertidal areas (to depths of 20 feet in Southern California) from Oregon to southern Baja California, often within the high-energy surf zone. Presence on San Clemente Island and recruitment observed on San Nicolas and Santa Cruz Islands. ²	C	Year-round ¹⁶
<i>Marine Mammal Species^{1,17}</i>					
Pacific harbor seal <i>Phoca vitulina</i>	-/FP	-	Coastal waters, and throughout the San Francisco Bay-Delta	C	Year-round
California sea lion <i>Zalophus californianus</i>	-/FP	-	Coastal waters, and throughout the San Francisco Bay-Delta	C	Year-round
Northern Elephant Seal <i>Mirounga angustirostris</i>	-/FP	-	Northern elephant seals are the largest phocid, or "true" seal, in the Northern Hemisphere. They are found in the eastern and central North Pacific Ocean. They range as far north as Alaska and as far south as Mexico, with	C	Primarily April to August with occasional occurrences in October and November. Not known to be present beyond the western segment of Central

Common Name Scientific Name	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
			established Central California breeding colonies on the Farallon Islands, at Año Nuevo State Park, and near San Simeon, California. ³ In recent years, young-of-the-year individuals have been observed hauling out on the sandy beach at Crissy field.		Bay.
Guadalupe fur seal <i>Arctocephalus townsendi</i>	FT/FP	CT, CFP	Primarily Baja California, Mexico, but occasionally found on San Miguel and San Nicolas islands; rocky insular shorelines and sheltered coves	C	Present August through April. Breeding occurs solely on Isla Guadalupe, Mexico from May to July. ²
Harbor porpoise <i>Phocoena phocoena</i>	-/FP	-	An inshore species inhabiting shallow, coastal waters and occasional large rivers, including San Francisco Bay-Delta	P	Year-round
Dall's porpoise <i>Phocoenoides dalli</i>	-/FP	-	Present along entire coast of California, primarily inhabiting offshore, deepwater habitat. ¹⁸	P	Year-round
Bottlenose Dolphin <i>Tursiops truncatus</i>	-/FP	—	Found along the California coastline, bottlenose dolphins segregate into coastal or oceanic ecotypes with the coastal ecotype inhabiting waters within 1-Kilometer of shore normally between Baja, California and Point Conception	C	Potentially year-round
Common dolphins <i>Delphinus</i> spp.	-/FP	-	Present along entire coast of California, mainly offshore in areas with high seafloor relief. ¹⁹	P	Year-round
Risso's dolphin <i>Grampus griseus</i>	-/FP	-	Present along entire coast of California, inhabiting deep oceanic and continental slope waters 400-1,000 m deep. ²⁰	P	Year-round
Pacific white-sided dolphin <i>Lagenorhynchus obliquidens</i>	-/FP	-	Pacific white-sided dolphins are found in temperate waters of the North Pacific (along entire coast of California). They inhabit waters from the continental shelf to the deep open ocean. ²¹	P	Year-round
Northern right whale dolphin	-/FP	-	Present along entire coast of California. North-south	C	Year-round

Common Name Scientific Name	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
<i>Lissodelphis borealis</i>			movements have been documented based on water temperature changes, with the movements south during the colder winter and autumn months, and north during the warmer spring and summer months. ²²		
Southern Sea Otter <i>Enhydra lutris</i>	FT/FP	CFP	Nearshore coastal environments between Santa Barbara and Half Moon Bay. Although historic inhabitants of San Francisco Bay prior to being hunted to near extinction, only occasional sightings of otters within the Bay occur. ²	C	Potentially year-round
Gray whale – Eastern North Pacific DPS <i>Eschrichtius robustus</i>	FDL/FP	-	Coastal Waters.	C	December to April, during migration from Alaska to Baja California, occasionally enter San Francisco Bay-Delta, transient
Humpback whale <i>Megaptera novaeangliae</i>	FE/FD	-	Coastal Waters	C	April to December, during migration, occasionally enter the San Francisco Bay-Delta, transient
Short-finned pilot whale <i>Globicephala macrorhynchus</i>	-/FP	-	Found primarily in deep waters throughout tropical and subtropical areas of the world; a small population (less than 300) has been documented off the California coast. This population was larger prior to the 1982-83 El Nino. ²³	P	Year-round, in small numbers.
Sei whale <i>Balaenoptera borealis</i>	FE/FP	-	Occur in subtropical, temperate, and subpolar waters around the world. They prefer temperate waters in the mid-latitudes, along the continental shelf and slope. ²⁴	P	Year-round
North Pacific right whale <i>Eubalaena japonica</i>	FE/FP	-	North Pacific right whales inhabit the Pacific Ocean, particularly between 20° and 60° latitude. ²⁵	P	Year-round
Fin whale <i>Balaenoptera physalus</i>	FE/FP	-	Found along entire coast of California. Fin whales are migratory, moving seasonally into and out of high-latitude feeding areas, but the overall migration pattern	C	Potentially year-round.

Common Name <i>Scientific Name</i>	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
			is complex, and specific routes have not been documented. ²⁶		
Blue whale <i>Balaenoptera musculus</i>	FE/FP	-	Blue whale populations migrate towards the poles, into cooler waters, in the summer to feed. They migrate back towards the equator, into warmer waters, in the winter to breed. ²⁷	C	In spring and fall during migration to and to and from poles.
Common Minke whale <i>Balaenoptera acutorostrata</i>	-/FP	-	Widespread distribution in the Northern Hemisphere, and are found throughout the northern Atlantic and Pacific Oceans. Their range extends from the ice edge in the Arctic during the summer to close to the equator during winter. Animals in the inland waters of California/Oregon/Washington are considered "residents" because they establish home ranges. ²⁸	C	Year-round
Orca (Killer) whale <i>Orcinus orca</i>	FE/FP	-	Occur along entire coast of California. Some resident and some transient populations. ²⁹	C	Distributed south to central California in winter.
Cuvier's beaked whale <i>Ziphius cavirostris</i>	-/FP	-	Can be found in most oceans and seas worldwide. Migration patterns are not known. ^{30,31}	P	Year-round
Bryde's whale <i>Balaenoptera edeni</i>	-/FP	-	Very small population documented off coast of California. Primarily occurs in tropical and warm temperate waters. ³²	P	Potentially year-round
Sperm whale <i>Physeter macrocephalus</i>	FE/FP	-	Ranges from the ice-edge of both hemispheres to the equator but concentrates in so-called "grounds" which coincide with areas of high marine productivity. In California, sperm whales can be seen in waters off the continental slope from November to April. ³³	P	Year-round
Marine Reptile Species¹					
Green sea turtle <i>Chelonia mydas</i>	T/-	-	Not common within state waters of Southern California, although they are regularly sighted	C	Potentially year-round

Common Name Scientific Name	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			
			in the warm water effluent channels of power generating stations (San Gabriel River). ²		
Loggerhead sea turtle – North Pacific DPS <i>Caretta caretta</i>	E/-	-	In the eastern Pacific, loggerheads have been reported as far north as Alaska, and as far south as Chile. In the U.S., occasional sightings are reported from the coasts of Washington and Oregon, but most records are of juveniles off the coast of California. ³⁴	C	Potentially year-round
Olive ridley sea turtle <i>Lepidochelys olivacea</i>	T/-	-	In the Eastern Pacific, they occur from Southern California to Northern Chile. ³⁵	C	Transient presence during migration between feeding and breeding grounds.
Leatherback sea turtle <i>Dermochelys coriacea</i>	E/-	-	Western Pacific leatherbacks engage in one of the greatest migrations of any air-breathing aquatic marine vertebrate, swimming from tropical nesting beaches in the western Pacific (primarily Papua Barat, Indonesia, Papua New Guinea, and the Solomon Islands) to foraging grounds in the neritic eastern North Pacific. ³⁶	C	Present during foraging periods, likely in low numbers due to population decline.
Species of Special Concern					
Surfgrass <i>Phyllospadix spp.</i>	FSC ³⁷	-	<i>Phyllospadix scouleri</i> and <i>P. torreyi</i> occur in the Pacific from Southeast Alaska to the tip of Baja California and Mexico. ³⁸	C	Year-round
Eelgrass <i>Zostera marina</i>	FSC ³⁹	CSC	<i>Zostera marina</i> is widespread and circumglobal in northern latitudes, found throughout the north Atlantic and north Pacific and in the Mediterranean and Black Seas. <i>Zostera marina</i> extends into the Arctic in Alaska, Canada, Greenland, and northern Europe and to the tropics in Baja California, Mexico. ⁴⁰	C	Year-round
Purple hydrocoral <i>Stylaster californicus</i> [<i>Allopora californica</i>]	-	CSC ⁴¹	Inhabit subtidal depths (up to 315 feet) from Vancouver Island (Canada) to central Baja California (Mexico). Current-swept rocky reefs and pinnacles. ²	C	Year-round

Common Name <i>Scientific Name</i>	Listing Status		General Habitat	Potential for Species Occurrence Within Project Area	Time Period Present in Project Area Waters
	Federal FESA/ MMPA	State CESA			

SOURCE CODES

FESA = Federal Endangered Species Act

MMPA = Marine Mammal Protection Act

Federal (U.S. Fish and Wildlife Service [USFWS]):

FDL = Delisted

FE = Listed as Endangered (in danger of extinction) by the federal government

FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the federal government

FP = Proposed for Listing as Endangered or Threatened

FC = Candidate to become a proposed species

FSC = Federal Species of Concern. The USFWS no longer lists Species of Concern but recommends that species considered to be at potential risk by a number of organizations and agencies be addressed during project environmental review. *NMFS still lists Species of Concern.

CESA = California Endangered Species Act

State (California Department of Fish and Game [CDFG]):

CE = Listed as Endangered by the State of California

CT = Listed as Threatened by the State of California

CR = Listed as Rare by the State of California (plants only)

CSC = California Species of Special Concern

Potential for Species Occurrence within Project Area:

C = Confirmed

P = Potentially may occur

NP = Not present

NA = Not applicable

Federal (National Oceanographic and Atmospheric Administration [NOAA] National Marine Fisheries Service (NMFS) MMPA):

FD = Depleted Population

FP = Federally Protected

Sources: ¹CNDDDB (2015), ²URS (2010), ³USFWS (2006), ⁴Smithsonian Marine Station at Fort Pierce (2015), ⁵ICF (2012), ⁶CDFG (1999), ⁷USFWS (2015), ⁸NPS (2015), ⁹Harvey et al. (2012), ¹⁰O'Farrell et al. (2012), ¹¹California Trout (2015a), ¹²NMFS (2010), ¹³California Trout (2015b), ¹⁴NOAA (2015a), ¹⁵CBD (2015a), ¹⁶CBD (2015b), ¹⁷Smultea, MA and TA Jefferson (2014), ¹⁸CMS (2015a), ¹⁹CMS (2015b), ²⁰CMS (2015c), ²¹NMFS (2015a), ²²NMFS (2015b), ²³NMFS (2015c), ²⁴NMFS (2015d), ²⁵NMFS (2015e), ²⁶NMFS (2015f), ²⁷WWF (2015), ²⁸NMFS (2015g), ²⁹NMFS (2015h), ³⁰NMFS (2015i), ³¹NMFS (2014), ³²NMFS (2015j), ³³NOAA (2015b), ³⁴NMFS (2015k), ³⁵NMFS (2015l), ³⁶NMFS (2015m), ³⁷UCSC (2015), ³⁸IUCN (2015a), ³⁹CDFG (2008), ⁴⁰IUCN (2015b), ⁴¹CDFG (2015)

Table4: Federally Managed Fish and Invertebrate Species Under the Magnuson-Stevens Act Present in the California Spiny Lobster FMP Project Area

Coastal Pelagic Species¹		
<i>General Habitat: Schools migrate in coastal waters; found in the water column anywhere from the surface to 1,000 meters deep²</i>		
Northern anchovy (<i>Engraulis mordax</i>)	Pacific (chub) mackerel (<i>Scomber japonicus</i>)	Market squid (<i>Doryteuthis opalescens</i>)
Pacific sardine (<i>Sardinops sagax</i>)	Jack mackerel (<i>Trachurus symmetricus</i>)	Krill (<i>euphausiids</i>)
Pacific Coast Groundfish Species³		
<i>General Habitat: Groundfish species have strong affinities to a particular location or substrate type. Estuaries, sea grass beds, canopy kelp, rocky reefs, and other “areas of interest” (e.g., seamounts, offshore banks, canyons) are designated Habitat Areas of Particular Concern (HAPCs) for groundfish managed species³</i>		
Arrowtooth flounder	Flathead sole	Rex sole
Aurora rockfish	Freckled rockfish	Rock sole
Bank rockfish	Gopher rockfish	Rosethorn rockfish
Big skate	Grass rockfish	Rosy rockfish
Black rockfish	Greenblotched rockfish	Rougheye rockfish
Black-and-yellow rockfish	Greenspotted rockfish	Sablefish
Blackgill rockfish	Greenstriped rockfish	Sand sole
Blue rockfish	Harlequin rockfish	Sharpchin rockfish
Bocaccio	Honeycomb rockfish	Shortbelly rockfish
Bronzespotted rockfish	Kelp greenling	Shortraker rockfish
Brown rockfish	Kelp rockfish	Shortspine thornyhead
Butter sole	Leopard shark	Silvergray rockfish
Cabazon	Lingcod	Soupfin shark
Calico rockfish	Longnose skate	Speckled rockfish
California scorpionfish	Longspine thornyhead	Spiny dogfish
California skate	Mexican rockfish	Splitnose rockfish
Canary rockfish	Olive rockfish	Spotted ratfish
Chameleon rockfish	Pacific cod	Squarespot rockfish
Chilipepper rockfish	Pacific grenadier	Starry flounder
China rockfish	Pacific hake (Pacific whiting)	Starry rockfish
Copper rockfish	Pacific ocean perch	Stripetail rockfish
Cowcod	Pacific sanddab	Swordspine rockfish
Curlfin sole	Petrals sole	Tiger rockfish
Darkblotched rockfish	Pink rockfish	Treefish

Dover sole	Pinkrose rockfish	Vermilion rockfish
Dusky rockfish	Pygmy rockfish	Widow rockfish
Dwarf-red rockfish	Quillback rockfish	Yelloweye rockfish
English sole	Redbanded rockfish	Yellowmouth rockfish
Finescale codling	Redstripe rockfish	Yellowtail rockfish
Flag rockfish		

Highly Migratory Species^{4,5}

General Habitat: Travel long distance in epipelagic and mesopelagic oceanic waters⁴

Common thresher shark (<i>Alopias vulpinus</i>)	Albacore tuna (<i>Thunnus alalunga</i>)	Skipjack tuna (<i>Katsuwonus pelamis</i>)
Pelagic thresher shark (<i>Alopias pelagicus</i>)	Bigeye tuna (<i>Thunnus obesus</i>)	Striped marlin (<i>Tetrapturus audax</i>)
Bigeye thresher shark (<i>Alopias superciliosus</i>)	Northern bluefin tuna (<i>Thunnus thynnus</i>)	Broadbill swordfish (<i>Xiphias gladius</i>)
Shortfin mako shark (<i>Isurus oxyrinchus</i>)	Yellowfin tuna (<i>Thunnus albacares</i>)	Dorado/mahi mahi (<i>Coryphaena hippurus</i>)
Blue shark (<i>Prionace glauca</i>)		

¹Pacific Fishery Management Council (2011a)

²http://www.westcoast.fisheries.noaa.gov/fisheries/pelagic/coastal_pelagic_species_lfhist_bio.html

³Pacific Fishery Management Council (2014)

⁴Pacific Fishery Management Council (2011b)

⁵URS (2010)

Water Quality

Coastal water quality throughout the Project Area is affected by onshore and offshore activities and artificial structures. These activities and structures include wastewater and industrial outfalls, piers and jetties, ports, marinas, and harbors, maintenance dredging, and beach nourishment. The laws, regulations, and policies designed to protect water quality within the Project Area include:

Federal Law, Regulations, and Policies:

- Federal Water Pollution Control Act of 1972 (Clean Water Act) (33 U.S.C. 1251 et seq.)
- Rivers and Harbors Act of 1899
- Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1464)
- Magnuson-Stevens Fishery Conservation and Management Act
- National Marine Sanctuaries Act
- Estuary (Estuarine) Protection Act of 1968 (PL 90-454, as amended; 16 U.S.C. 1221 et seq.)
- National Park Act of August 19, 1916 (Organic Act), 16 U.S.C. 1, et seq.)
- Marine Protection, Research and Sanctuaries Act (33 U.S.C. 1401 et seq.)
- National Wildlife Refuge System Administration Act of 1966 and National Wildlife Refuge System Improvement Act of 1997
- Oil Pollution Act of 1990 (33 U.S.C. 2701-2761)

- Executive Order 11990 – Protection of Wetlands
- Endangered Species Act (ESA) of 1973

State Law, Regulations, and Policies:

- Public Trust Doctrine
- Porter-Cologne Water Quality Control Act (Porter-Cologne)
- State Water Resources Control Board SWRCB Regulations for CWA Section 316(b)
- California Coastal Act (California Public Resources Code Sections 30000, et seq.)
- Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990
- Public Resources Code, Division 6, Sections 6001, et seq. (California State Lands Commission Tide and Submerged Lands)

Statewide Management Plans and Executive Orders:

- Ocean Plan
- Water Quality Control Plan for Control of Temperature in Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)
- Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling
- Water Quality Control Plan for Enclosed Bays and Estuaries

A wide range of pollution sources, both land- and water-based, affect water quality in the Project Area. Treated wastewater discharges associated with urbanized areas can contain both domestic and industrial wastes. Storm runoff from urbanized and non-urbanized areas can contain a variety of pollutants, with agricultural watersheds often contributing loads of pesticides and nutrients to nearshore waters. Land use varies considerably from region to region, with Los Angeles County receiving the poorest water quality reports for the state (URS 2010).

There are five primary factors affecting the offshore water quality within the Project Area. These factors are: 1) point source wastewater (regulated industrial and municipal discharges), 2) non-point source discharges (e.g., stormwater discharges), 3) harmful algal blooms, 4) contaminated sediment, and 5) oil spills. These issues are described in more detail below.

Point Source Pollution: There are specific locations (point sources) where industrial pollution enters coastal waters. Discharges from these locations are generally regulated by state or federal agencies, as listed above. The origins of these point sources include municipal wastewater treatment and disposal systems and industrial sites, such as desalination plants, power plants, aquaculture sites, and research marine laboratories.

Non-point Source Pollution: Non-point source pollution is the leading cause of degraded water bodies across the country. Non-point pollution sources include urban runoff, resource extraction (offshore energy extraction, sand mining, drilling and pumping of petroleum products onshore), boats (recreational vessels, commercial vessels and cruise ships), and agriculture.

Algal Blooms: Certain species of phytoplankton and cyanobacteria pose threats to marine water quality through rapid reproduction or release of toxins. Harmful algal blooms occur naturally in surface waters under conditions of elevated water temperature, high nutrient levels, and reduced water flow and circulation.

Contaminated Sediments: There are many areas along the California coast that have contaminated sediments and some have been designated as superfund sites by the federal government (NIH 2015).

Oil and Hazardous Material Spills: California has been the site of numerous accidental oil spills due to heavy oil and hazardous material tanker traffic, marine shipping, the presence of oil platforms located off the Southern California coast, and crude oil and refined produce pipelines running from platforms to onshore sites as well as along the coast.

Depending on the specific location along the coast within the California Spiny Lobster FMP Project Area, any one or all of these factors can be of concern to the general water quality of the area.

Potential Environmental Effects of the Proposed California Spiny Lobster FMP on Marine Biological Resources and Water Quality

Marine Biological Resources

Potential Effects on Special Status Species

As presented in the Marine Resources discussion above, there are many special status species found within the California Spiny Lobster FMP Project Area. These include fish, mammals, invertebrates, birds, reptiles, and plants. Some of these species are protected under either the FESA or CESA, afforded special protection under the MMPA, managed under the Magnuson-Stevens Act, or otherwise considered species of special concern by NOAA-NMFS, CDFW, or USFWS. The coastal waters of California located within the Project Area are used extensively by these species for foraging habitat, nursery areas, or as critical habitat.

Appendix A provides a list of FMP management tools and regulatory amendments with examples of reasonably foreseeable compliance responses that could be associated with the proposed regulatory changes. Appendix A is not meant to be an exhaustive list of compliance responses that have the potential to occur through implementation of the FMP and regulatory amendments. It is important to note that CDFW is directed to use the best readily available science to meet the ecosystem and fishery objectives of the MLMA when developing any future applications of the FMP management tools in Appendix A. The implementation of the management actions and provisions contained within the proposed California Spiny Lobster FMP (CDFW 2014) and presented in Appendix A, are not expected to result in any increase in effects to these species, either directly or indirectly, such as an increase in bycatch of any of these species or as a result of habitat modification. Two key components of the California Spiny Lobster FMP are the continued limitation on the number of commercial fishermen allowed to participate (i.e., limited-entry) in the fishery and the proposed change in the trap limit, which is expected to reduce the number of traps over time. These provisions in combination with the other immediately implementable or potentially implementable fishery management actions triggered by the fisheries stock reference points identified in the FMP (Appendix A), are all anticipated to result in an overall reduction in potential effects to marine biological resources in general, including special status species.

Additionally, proposed changes in the trap servicing interval from 4 days to 7 days (CDFW 2014, Appendix A) is also not expected to result in any detectable effects on marine resources since the total time the traps are in use does not change. The season start and end dates remain in force and traps are allowed to be in-water “fishing” the entire time, as long as they are serviced every 7 days.

One potential issue identified for marine mammals, especially larger whales, is the potential for entanglement with lobster trap gear. During the period from 2000 to 2012, the number of commercial fishing gear (all types of fishing gear for various fisheries) entanglements by large marine mammals, mostly whales, offshore California, Oregon and Washington has averaged about 11 per year. Within California coastal waters the number has averaged 8 entanglements per year (Caretta et al. 2014; NOAA Stranding Database 2015).

The actual number of entanglements is unknown since most reports are based on opportunistic sightings reported to the National Marine Fisheries Service and/or disentanglement response organizations. Both the gray whale (*Eschrichtius robustus*) and the humpback whale (*Megaptera novaeangliae*) appear to be the most frequently reported entangled whale species, although fin (*Balaenoptera physalus*), minke (*Balaenoptera acuto-rostrata*) and sperm whales (*Physeter macrocephalus*) whales have been observed entangled (Caretta et al. 2014; NOAA Stranding Database 2015).

Confirmed California whale entanglements appear to be caused by lobster/crab traps (38 percent), drift nets (30 percent), and unidentified gear (32 percent) (NOAA 2015d). For the years from 2008 to 2014, NOAA reported a total of 81 marine mammal entanglements offshore California, Oregon and Washington, with three being attributed to lobster fishing gear (Caretta et al. 2014, NOAA Stranding Database 2015). During the period of increased entanglement reports occurring in California between January 2014 and June 2015, there were 49 marine mammal entanglements recorded by NOAA, of which only 1 was attributed to lobster fishing equipment with the majority being attributed to unknown fishing equipment (59%) and the remainder to gillnets (6%), longline fishing gear (2%), and Dungeness crab (22%) and spot prawn traps (8%) (NOAA Stranding Database 2015).

At present, the populations of gray, Minke, fin, humpback, and sperm whales offshore California have increased substantially since being initially listed by the FESA in 1973. Specifically, an estimate of the gray whale population in the west coast is estimated to be about 19,000 individuals and at an optimum sustainable population size, as defined by the MMPA (NOAA 2015a). The west coast humpback whale population is estimated to be growing at a rate of approximately 8 percent per year between 1991 and 2008 (Shannon et al. 2015). The Minke whale population is considered stable NOAA 2015b). Population estimates and recovery rates for both the fin whale and the blue whale are unknown, although both have recovered significantly since the closure of whaling (NOAA 2015c; CBD 2015).

The potential for increased whale entanglements from lobster traps as a result of the fishery management measures and regulations included in the California Spiny Lobster FMP is unlikely (CDFW 2014). The management measures and regulatory actions outlined in the FMP will ultimately reduce the number of lobster traps being deployed through the proposed trap limit while the existing restricted access program, which limited the number of permits, creates an overall net effect of reducing the number of fishermen engaged in the commercial fishery over time. The project is also designed to decrease the number of lost or abandoned traps. These actions are expected to minimize the potential risk for entanglement with lobster trap gear over the levels currently being experienced by the fishery prior to the implementation of the proposed California Spiny Lobster FMP. If entanglements increase in the future, CDFW is responsible for monitoring and evaluating the effectiveness of conservation and management measures in place, assessing the causes of the entanglements and, where feasible, implementing measures that reduce entanglements.

Potential Effect on Riparian Habitat or Identified Sensitive Biological Habitats and Communities

The proposed California Spiny Lobster FMP will continue to operate as a limited-entry fishery and over time the number of commercial fishermen is expected to decrease though the attrition of non-transferable permits in the fishery (CDFW 2014; Appendix A). Additionally, the FMP proposes to limit the number of traps allowed to be used by a Commercial Lobster Permit operator, in any one season. This action is expected to reduce overall the total number of traps used in the fishery.

Although both commercial and recreational fishermen routinely target lobster in kelp forests and within or adjacent to hard substrate habitat, the provisions of the proposed California Spiny Lobster FMP (Appendix A) are expected to reduce the potential effect posed by both the recreational and commercial fishery in these sensitive habitat areas by reducing the total number of traps deployed in the commercial fishery. Additionally, the FMP identifies multiple reference points (CDFW 2014; Appendix A) for the managed fishery that if triggered could result in additional management and regulatory strategies being implemented. These include further changes to the commercial trap limit, changes to the recreational bag limit, implementing a total allowable catch, implementing district closures, changing the season length, changing the minimum legal size for harvested lobsters, establishing a maximum legal size, and implementing a sex selective fishery (i.e., male-only fishery or female-specific size restrictions) (CDFW 2014). Each of these actions would further reduce potential effects to sensitive natural marine communities present within the Project Area.

Potential Effects on Protected Wetlands

Although within the Project Area there exist eelgrass beds within coastal estuaries that are considered coastal wetlands under Section 404 of the Clean Water Act that might be used by juvenile California spiny lobsters, no commercial or recreational fishing is known to occur at these locations. Additionally, if some limited legal recreational fishing is occurring at these locations, the proposed modifications to the California Spiny Lobster FMP are not expected to result in any alteration or removal of these eelgrass beds.

Potential Effect on Fish or Wildlife Migratory Patterns, Corridors, or Nursery Sites

As discussed above in the Section entitled, Potential Effects on Special Status Species, entanglements between migrating marine mammals and commercial trap gear is a known occurrence. However, the resource management actions and accompanying regulations proposed in the California Spiny Lobster FMP (CDFW 2014; Appendix A) are not expected to result in any increase in potential entanglements. Collectively, these actions should minimize the potential risk for entanglement with lobster trap gear over the levels currently being experienced by the fishery.

Additionally, the resource management actions proposed in the California Spiny Lobster FMP are not anticipated to result in any increase in potential interference with fish or wildlife species movements or impede the use of any native wildlife nursery sites greater than currently exists and because of the gear reduction should reduce any current effects caused by the fishery.

Potential Effect on Locally Protected or Managed Biological Resources

The proposed fishery management actions included in the proposed California Spiny Lobster FMP by CDFW (2014) (Appendix A) are not expected to result in any changes to local policies, ordinances or conservation plans within the Project Area. Most notably, commercial and recreational fishing restriction or allowances in California's Marine Protected Areas, as established by the MLPA. The proposed California Spiny Lobster FMP takes into consideration the establishment of the state's marine protected areas as contributing to maintaining a healthy lobster population within state coastal waters.

Water Quality

The proposed California Spiny Lobster FMP and associated implementation regulations (CDFW 2014; Appendix A) are anticipated to have no detectable or substantive effect on the ocean water quality within the Project Area. The commercial and recreational fisheries, as currently managed, do not involve the discharge of pollutants to surface waters, the generation of runoff water, the use of ground water, result in inundation by seiche, tsunami, or mudflow, have any effect on onshore drainage patterns, housing, or flood hazard zones that expose people or structures to significant risk of loss, injury or flooding, or otherwise substantially degrade overall water quality.

Deployment of lobster traps in areas of potentially high-contaminated sediments could result in the resuspension or redistribution of those contaminants to immediately adjacent waters, but under normal circumstances, the deployment and recovery of lobster traps results in little disturbance of seafloor sediments (CDFW 2014). Additionally, the proposed FMP implementing regulations (CDFW 2014; Appendix A) are intended to decrease the overall level of effort for the commercial fishery by reducing the number of lobster traps deployed annually in the fishery. This action can be reasonably anticipated to reduce the overall disturbance of bottom sediments during initial trap deployment, servicing, and recovery at the end of the season.

Similarly, the limited-entry nature of the fishery, the slight increase in time between servicing traps from 4 to 7 days, and the reduction in the number of traps each licensed commercial fisherman can deploy can reasonably be anticipated to result in some reduction in boat trips by commercial fishermen and therein a reduction in the risk of boating accidents or other accidental events which could result in the release of hydrocarbons and other potential contaminants to coastal ocean waters in the Project Area.

Finally, the recreational California spiny lobster fishery, like the commercial fishery, is not expected to pose any effect on coastal ocean water quality greater than it already might pose, which is assessed to be no expected effect or overall impact.

References

- Allen, L., M. Horn, and D. Pondella (Eds.), 2006. Ecology of California Marine Fishes. University of California Press.
- ASCENT Environmental. 2015. Draft Negative Declaration for the Spiny Lobster Fishery management Plan and Proposed Regulatory Amendments. Prepared for the California Division of Fish and Wildlife. December 2015
- Barsky, Kristine C., Alex Vejar, and Connie Ryan. 2003 Section 4. California Spiny Lobster In Annual Status of the Fisheries Report . California Department of Fish and Game Annual Report
- Buck, Travis 2014 CDFW Completes 2013 Calendar Year and 2013-2014 Full Season Lobster Report Card Analyses CDFW Marine Management News <https://cdfwmarine.wordpress.com/2014/08/01/lobster-report-card-analyses/>
- Buck, Travis 2015 2014-2015 Recreational Spiny Lobster Effort and Catch Estimates Available CDFW Marine Management News <https://cdfwmarine.wordpress.com/2015/08/18/14-15-rec-lobster-estimates/#more-1365>

- Center for Biological Diversity (CBD). 2015. Endangered Species Act Works: Fin Whale.
http://www.biologicaldiversity.org/campaigns/esa_works/profile_pages/FinWhale.html.
Accessed by E. Floyd on 11/5/15.
- California Coastal Commission (CCC). 2015. Coastal Issues: Oil Spills.
<http://www.coastal.ca.gov/publiced/oilspills.html>. Accessed by E. Floyd on 11/9/15.
- California Department of Fish and Wildlife (CDFW). 2014. Draft Spiny Lobster Fishery Management Plan. Preliminary Public Draft. 11/20/14.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=91448&inline>
- Caretta, J.V., S.M. Wilkin, M.M. Muto, K. Wilkinson, and J. Rusin. 2014. Sources of Human-Related Injury and Mortality for U.S. Pacific West Coast Marine Mammal Stock Assessments 2008-2012. NOAA-TM-NMFS-SWFCS-533.
- CDFW 2015 Final Commercial Landings
<https://www.wildlife.ca.gov/Fishing/Commercial/Landings#26004609-2014>
- Collins, M., S. An, W. Cai, A. Anachaud, E. Guilyardi, F. Jin, M. Jochum, M. Lengaigne, S. Power, A. Timmermann, G. Vecchi, & A. Wittenberg 2010 The impact of global warming on the tropical Pacific Ocean and El Nino. *Nature Geoscience* 3, 391-397. doi:10.1038/ngeo868.
- Craig, N.; H. Fabares; T. Kukula and G. Shipley 2011 *Panulirus interruptus* (On-line), Animal Diversity Web. Accessed October 27, 2015 at
http://animaldiversity.org/accounts/Panulirus_interruptus/
- Dugan, J.E., D.M. Hubbard, M. McCrary, and M. Pierson. 2003. The response of macrofauna communities and shorebirds to macrophyte wrack subsidies on exposed sandy beaches of southern California. *Estuar. Coastl. Shelf Sci.* 58S: 133-148.
- Dugan, J. 2006 Utilization of Sandy Beaches by Shorebirds: Relationships to Population Characteristics of Macrofauna Prey Species and Beach Morphodynamics. MMS OCS Study 99-0069. Coastal Research Center, Marine Science Institute, University of California, Santa Barbara, California. MMS Cooperative Agreement Number 14-35-0001-30758. 41 pages.
- Engle, J. M. 1979 Ecology and growth of juvenile California spiny lobster, *Panulirus interruptus* (Randall) Doctoral dissertation, University of Southern California
- Foster, M.S. , and D.R. Schiel 1985. The ecology of giant kelp forests in California: a community profile. U.S. Fish Wildl. Serv. Biol. Rep. 85(7.2). 152 pp.
- Foster MS, Schiel DR (2010) Loss of predators and the collapse of southern California kelp forests (?): Alternatives, explanations and generalizations. *Journal of Experimental Marine Biology and Ecology* 393: 59-70
- Fritzsche, R.A. , R. H. Chamberlain, and R. A. Fisher. 1985. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest) -- California grunion. USFWS Biol. Rep. 82(11.28) U.S. Army Corps of Engineers, TR EL-82-4. 12 pp.
- Harrold C. and D. C. Reed (1985) Food availability, sea urchin grazing, and kelp forest community structure. *Ecology* 66: 1160-1169

- Hovel, Kevin A. and Douglas J. Neilson. 2011. Movement and population size of lobsters in San Diego Bay. Final Report assembled for the San Diego Unified Port District. 34p.
- Hovel, Kevin A., Douglas J. Neilson, and Ed Parnell. 2015. Final Report. Baseline characterization of California spiny lobster (*Panulirus interruptus*) in South Coast marine protected areas. A report to California Sea Grant and the California Ocean Science Trust
- Jensen, Gregory C. 2014. Crabs and Shrimps of the Pacific Coast, A Guide to Shallow-water Decapods from Southeastern Alaska to the Mexican Border. Mola Marine, Bremerton WA. ISBN 978-0-9898391-0-5.
- Johnson, M.W. 1960a The offshore drift of larvae of the California spiny lobster, *Panulirus interruptus*. California Cooperative Oceanic Fisheries Investigations Report 7:147-161.
- Jones & Stokes. 2006. Draft Environmental Impact Report, California Marine Life Protection Act Initiative, Central Coast Marine Protected Areas Project. State Clearing House #2006072060. Prepared for California Department of Fish and Game. Prepared by Jones & Stokes. November 2006.
- Lafferty, K.D. 2004. Fishing for lobsters indirectly increases epidemics in sea urchin. Ecological Applications 14:1566-1573. <http://escholarship.org/uc/item/10h0g3zd>
- Lees, D. C. 2013 Things I Bet You Don't Know About Gravel/Cobble Beaches Like San Onofre and Trestles! Presentation at 106th Annual Meeting Southern California Academy of Sciences by J. Elliott, May 3-4, 2013. Study Sponsored by Exxon Valdez Oil Spill Trustee Council
- Lewis, R. D. and K. K. McKee 1989 A Guide to the Artificial Reefs of Southern California. California Department of Fish and Game, Nearshore Sportfish Habitat Enhancement Program Publication
- Lindeberg, Mandy R. and Sandra C. Lindstrom. 201. Field Guide to Seaweeds of Alaska. Fairbanks, Alaska: Sea Grant College program, University of Alaska Fairbanks. 188 p.
- McLain, D. R. and D. H. Thomas. 1983. Fluctuations of the California Countercurrent. CalCOFI Rep., Vol. XXIV:165-181
- National Institutes of Health (NIH). 2015. California Superfund Sites. https://www.google.com/maps/d/viewer?mid=zwOdxNngPduA.kZk3BCSnMnmk&hl=en_US. Accessed by E. Floyd on 11/9/15.
- National Oceanic and Atmospheric Administration (NOAA). 2015a. Southwest Fisheries Science Center: Gray Whale Population Studies. <https://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=9036>. Accessed by E. Floyd on 11/5/15.
- National Oceanic and Atmospheric Administration (NOAA) Fisheries. 2015b. Minke Whale (*Balaenoptera acutorostrata*). <http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/minkewhale.htm>. Accessed by E. Floyd on 11/5/15.
- National Oceanic and Atmospheric Administration (NOAA) Fisheries. 2015c. Sperm Whale (*Physeter macrocephalus*): California/Oregon/Washington Stock. Marine Mammal Stock Assessment Report, revised 7/31/2015.

- National Oceanic and Atmospheric Administration (NOAA) Fisheries. 2015d. Whale Entanglements off California Fact Sheet.
http://farallones.noaa.gov/manage/pdf/sac/13_05/whale_entanglement_fact_sheet.pdf.
Accessed by E. Floyd on 11/4/15.
- Neilson, D.J. 2011 Assessment of the California Spiny Lobster (*Panulirus interruptus*). Final, post technical review, report submitted to and approved by the California Fish and Game Commission. 138p.
- Neilson, D. and T. Buck. 2008 Sport lobster intercept survey, Fall 2007. Project A7 - Fisheries-dependent data collection. San Diego, CA: California Ocean Protection Council and California Department of Fish and Game,
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID531434&inline5true>
- Roberts, D., R.N. Lea, K.M Martin. 2007. First record of the occurrence of the California Grunion, *Leuresthes tenuis*, in Tomales Bay, California: A northern extension of the species. California Fish and Game 93(2):107-110
- Robles, C., D. Sweetnam, and J. Eminike. 1990 Lobster predation on mussels: shore-level differences in prey vulnerability and predation preference. Ecology. 71:1564-1577.
- Shannon et al. (2015). Shannon, BC, S. Baker, J. Barlow, PJ Clapham, M Ford, D Gouveia, DK Mattila, RM Pace, III, PE Rosel, GK Silber, and PR Wade. 2015. Status Review of the Humpback Whale (Megaptera novaeangliae) Under the Endangered Species Act. NOAA Technical Memorandum NMFS, March 2015
- Shaw, William N. 1986 "Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest) – spiny lobster" (PDF). U. S. Fish and Wildlife Service Biological Reports (U.S. Army Corps of Engineers) 82 (11.47): TR EL-82-4. 10 pp
- Shester, G., and F. Micheli. 2011 Conservation challenges for small-scale fisheries: Bycatch and habitat impacts of traps and gillnets. Biological Conservation. 144(5): 1673-1681.
- Spearboard.com 2015 Monterey Bay Lobster?
<http://www.spearboard.com/showthread.php?t=96508>
- Tegner, M.J. and L.A. Levin. 1983. Spiny lobsters and sea urchins: analysis of a predator-prey interaction. Journal of Experimental Marine Biology and Ecology 73:125-150.
- Tegner, M.J., P.K. Dayton. 2000. Ecosystem effects of fishing in kelp forest communities. Ices Journal of Marine Science 57:579-589.
- URS. 2010. South Coast Marine Protected Areas Project, Final Environmental Impact Report. Prepared for the California Department of Fish and Game. Prepared by URS. December 2010.
http://www.dfg.ca.gov/mlpa/pdfs/finalimpact_sc/feir.pdf.
- Velazquez, A. 2003. Reproductive strategies of the spiny lobster, *Panulirus interruptus*, related to the marine environmental variability off central Baja California Mexico: management implications. Fisheries Research, 65(1-3): 123-135.

Appendix A: Table 2.3 from the Draft Negative Declaration for the Spiny Lobster Fishery Management Plan and Proposed Regulatory Amendments (Source: Ascent 2015)

Table 2-3 Proposed FMP Measures/Regulatory Amendments and Examples of Reasonably Foreseeable Compliance Responses	
FMP Management Tools	Examples of Compliance Responses
Changing the commercial trap limit	▲ Would place a limit on the total number of traps used in the fishery, which would be beneficial to benthic habitats and potentially reduce overall bycatch and marine mammal interactions.
Changing the recreational bag limit ¹	▲ Could lead to an increase or decrease in fishing effort and total catch, depending upon the bag limit being increased or decreased
Setting a Total Allowable Catch	▲ Could result in a change to total catch relative to current catch and more or less pressure on the lobster population and marine environment.
District Closures	▲ Could result in fishing effort shifts (i.e., increased pressure) from a closed District to remaining open areas and additional travel by some fishermen.
Changing the season length ¹	▲ Could result in either an increase or decrease in recreational and commercial fishing effort and total catch.
Changing minimum legal size	▲ Could increase recreational and commercial fishing effort because it would initially take longer for fishermen to catch legal sized lobsters. Initially it would result in overall reduction in catch for both the commercial and recreational fisheries until the lobster population caught up to the new size limit. If minimum size were decreased, it would likely not have as much an impact on effort, but this could lead to decreases in spawning output.
Establishing a maximum legal size	▲ Would protect larger lobsters, which could increase egg production and SPR.
Establishing a sex selective fishery (i.e., male-only fishery or female-specific size restriction) ¹	▲ Would reduce total catch in the fishery and could lead to increased recreational and commercial fishing effort, because it would take more time to reach a limit of legal lobsters of the appropriate sex.
Regulatory Amendments	Examples of Compliance Responses
Requiring traps to be serviced at least every 7 days (currently 4 days)	▲ Potentially less frequent servicing/tending to traps could result in increased bycatch, and increased gear loss, which could increase effects on benthic habitats and marine mammal gear interactions.
Adding a provision to allow permit holders to recover up to 6 lost traps belonging to other permit holders	▲ Would allow the recovery of lost traps by other permit holders, which could reduce ghost fishing effects, and possibly reduce marine mammal interactions and benefit benthic habitats.
Reporting of commercial trap loss	▲ Would provide CDFW with additional essential fishery information needed to inform management decisions and could benefit trap recovery efforts.
Defining abandoned traps. Traps considered abandoned if not retrieved 14 days after the season ends. Fifteen days after the commercial season ends lobster operator permit holders and CDFW	▲ Would aid lost fishing gear recovery projects by allowing the recovery of lost traps by other permit holders and CDFW designees. The recovery of lost traps would reduce ghost fishing, possibly reduce gear interactions with marine mammals and benefit benthic habitats.

Table 2-3 Proposed FMP Measures/Regulatory Amendments and Examples of Reasonably Foreseeable Compliance Responses

designees may recover an unlimited number of abandoned lobster traps	
Extending the period (from 6 to 9 days) for deploying and retrieving traps before and after the season	<ul style="list-style-type: none"> ▲ Would allow for safer trap deployment and retrieval which could result in less gear loss. May result in lobster traps and associated gear being in the ocean for up to 3 additional days pre and post season.
Clarifying SCUBA gear possession on commercial vessels	<ul style="list-style-type: none"> ▲ Could result in less gear loss, because it would allow fishermen to recover gear at the time of loss.
Improving fishery dependent data collection	<ul style="list-style-type: none"> ▲ Would support the long-term sustainable management of the lobster fishery. ▲ Could result in earlier detection of issues and a subsequent improvement in adaptive management response time to resolve these issues.
Setting the trap limit to 300 traps per permit with the ability to purchase a second permit for a maximum 600 traps	<ul style="list-style-type: none"> ▲ Would reduce the total number of traps in the water at one time and possibly reduce the chances for entanglement by marine species. ▲ Could reduce the total amount of fishing effort, because fishermen would be limited to 300 traps per permit. ▲ Could reduce vessel travel time for those that currently fish more than 300 traps. ▲ Could result in less abandoned traps, because it provides incentive for fishermen to recover their traps and equipment due to a limited number of trap tags issued each season.
Changing recreational season opener from 12:01 am to 6:00 a.m.	<ul style="list-style-type: none"> ▲ Could reduce harm caused to the marine environment and improve safety by removing the midnight season opener. This may reduce accidents, damage to the marine environment, and loss of equipment because fishing effort would be spread out over daylight hours and no longer all focused at midnight.
Potentially requiring hole-punching or fin-clipping of retained lobsters in the sport fishery	<ul style="list-style-type: none"> ▲ Could reduce the illegal sale of sport-caught lobster, which would benefit the lobster resource.
¹ Features that could increase recreational lobster activity.	