

**SECTION 6.0  
PHYSICAL RESOURCES**

**6.1 AIR QUALITY**

This chapter describes the impacts on air quality that would result from the proposed Integrated Preferred Alternative (IPA). It also discusses federal and state ambient air quality standards and existing air quality conditions in the south coast study region (SCSR), discusses potential sensitive receptors, and describes the overall regulatory framework for air quality management in the SCSR. A discussion of global climate change and the proposed Project's contribution to greenhouse gas emissions is provided in Section 6.2 of this Draft Environmental Impact Report (EIR).

**6.1.1 Regulatory Framework**

**6.1.1.1 Federal**

The Federal Clean Air Act (CAA), enacted in 1970 and amended twice thereafter (most recently in 1990), establishes the framework for air pollution control. The CAA directs the United States Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS). The NAAQS are divided into primary and secondary standards. The former are set to protect human health within an adequate margin of safety; and the latter to protect environmental values, such as plant and animal life.

The CAA requires states to submit a state implementation plan (SIP) for areas in nonattainment for NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate how the NAAQS will be achieved. Failing to submit a plan or secure approval could lead to denial of federal funding and permits. In cases where the SIP is submitted but fails to demonstrate achievement of the NAAQS, the EPA is directed to prepare a federal implementation plan. The applicable SIPs for the SCSR include the 2007 Santa Barbara County Clean Air Plan, the 2007 Ventura County Air Quality Management Plan, the 2007 South Coast Air Basin Air Quality Management Plan, the 2007 San Diego County Ozone Attainment Plan, and the 2004 Revision to the California State Implementation Plan for Carbon Monoxide.

**6.1.1.2 State**

The California Air Resources Board (CARB) and local air pollution control districts have responsibility for achieving the California ambient air quality standards (CAAQS), which are more stringent than the comparable NAAQS. The CAAQS are achieved through district-level air quality management plans that are incorporated into the SIP.

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

The California Clean Air Act (CCAA) requires local and regional districts that are not attaining one or more of the CAAQS for ozone (O<sub>3</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), or nitrogen dioxide (NO<sub>2</sub>) to expeditiously adopt plans specifically designed to attain these standards. Each plan must be designed to achieve an annual 5 percent reduction in district-wide emissions of each nonattainment pollutant or its precursors.

Recently enacted amendments to the CCAA impose additional requirements that are designed to ensure an improvement in air quality within the next 5 years. Local districts with moderate air pollution that did not achieve the “transitional nonattainment” status by December 31, 1997 must implement the more stringent measures applicable to districts with serious air pollution.

### **6.1.1.3 Local**

Four air quality management agencies have jurisdiction in the SCSR. These are the Santa Barbara County Air Pollution Control District (SBCAPCD), the Ventura County Air Pollution Control District (VCAPCD), the South Coast Air Quality Management District (SCAQMD), and the San Diego County Air Pollution Control District (SDAPCD). The EPA-established NAAQS are enforced by the CARB and these districts. The CARB and the districts are responsible for ensuring that the CAAQS are met. The districts are also responsible for implementing strategies for air quality improvement and recommending mitigation measures for new growth and development.

The primary mechanism through which the air districts regulate the emissions of air pollution involves the issuance of permits to stationary sources of air pollution in accordance with the rules and regulations adopted by each district. The districts also review and coordinate projects with other local government agencies to reduce emissions associated with transportation. Each district has review procedures to identify and promote emissions reductions through the application of mitigation measures placed as conditions on specific projects.

Commercial fishing vessels, which are the focus of this section, are not directly regulated by any of the individual districts. Like other mobile sources, the emissions from their engines are subject to limits adopted at the federal or state level. In the SCAQMD, a program established under Regulation XVI—and specifically Rule 1631 that applies to fishing boats and similar vessels—encourages owners to reduce their emissions by replacing or modifying engines or through other procedures. Although these marine vessel owners are not directly regulated by SCAQMD, they can register and, in theory, sell their reductions under the SCAQMD Regional Clean Air Incentives Market (RECLAIM) program. The RECLAIM program allows specific permitted industrial and power generator operators to buy and sell oxides of nitrogen (NO<sub>x</sub>) emissions or credits in a market. Over time, the SCAQMD

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

Governing Board reduces the allowable NO<sub>x</sub> emissions and the overall RECLAIM program is intended to achieve those reductions.

### **6.1.2 Environmental Setting**

Climate along the coastline of California varies with warmer temperatures, less rainfall, and less extensive cloud cover in the southern portions of the state. California is divided into 15 air basins to better manage air pollution. The SCSR includes three air basins: the South Central Coast Air Basin (SCCAB), South Coast Air Basin (SCAB), and San Diego Air Basin (SDAB).

The SCSR extends along five coastal California counties: Santa Barbara, Ventura, Los Angeles, Orange, and San Diego. Santa Barbara and Ventura Counties are located within the SCCAB, which consists of the entirety of San Luis Obispo, Santa Barbara, and Ventura Counties. Within the SCCAB, three air districts have jurisdiction over air quality issues. The San Luis Obispo County Air Pollution Control District (SLOAPCD) has jurisdiction over San Luis Obispo County (SLOAPCD is located north of and outside the SCSR). The SBCAPCD has jurisdiction over Santa Barbara County, and the VCAPCD has jurisdiction over Ventura County.

Los Angeles and Orange Counties are located in the SCAB, which consists of the southwestern portions of Los Angeles and San Bernardino Counties, the western portion of Riverside County, and the entirety of Orange County. Within the SCAB, the SCAQMD has jurisdiction over air quality issues.

San Diego County is located in the SDAB, which consists of the entirety of San Diego County. Within the SDAB, the SDAPCD has jurisdiction over air quality issues.

These air basins include the California Coastal Waters (CCW) and stationary sources (e.g., oil and gas operations) regulated by the applicable AQMD. In 1983 CARB defined a boundary for the CCWs, within which pollutants, as from marine vessels, emitted offshore will be transported onshore. Each district defines the CCW boundary within their jurisdiction. California Health and Safety Code Section 39037.1 defines a marine vessel to mean any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, except those used primarily for recreation; however, SBCAPCD, VCAPCD, SCAQMD and SDAPCD all exempt from permit the types of marine vessels discussed as part of this project.

#### **6.1.2.1 Sensitive Receptors**

For air quality analysis, sensitive land uses are defined as locations where people reside or where the presence of air pollutant emissions could adversely affect the use of the land. Typical sensitive receptors include residents, school children, hospital patients, and the elderly. There are no sensitive receptors identified within state waters within the SCSR.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

### 6.1.2.2 Existing Air Pollution Concentrations

Existing air quality conditions in the SCSR can be characterized in terms of the ambient air quality standards established by the federal and state governments for several different pollutants. Federal standards have been established for seven pollutants:

- Carbon monoxide
- Lead
- Nitrogen dioxide
- Ozone
- Respirable particulate matter less than 10 microns in diameter (PM<sub>10</sub>)
- Fine particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>)
- Sulfur dioxide

California State standards include the federal pollutants, plus four more:

- Sulfates
- Hydrogen sulfide
- Vinyl chloride (chloroethene)
- Visibility reducing particles

Table 6.1-1 identifies the specific state and federal standards for these pollutants. The pollutants of greatest concern to the proposed project are described below. Toxic air contaminants (TACs), though not regulated, are also discussed.

**6.1.2.2.1 Ozone.** Ozone is a respiratory irritant that increases susceptibility to respiratory infections. It is also an oxidant that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, called reactive organic gases (ROG) and NO<sub>x</sub>, react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer problem in the SCSR. Ozone is considered a regional pollutant because the photochemical reactions take time to occur and result in high ozone levels often occurring downwind of the emission source. The SCSR is a potential receptor of regional pollutants from inland areas. Therefore, ozone conditions in the area may result from a combination of locally generated and transported emissions.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-1  
AMBIENT AIR QUALITY STANDARDS APPLICABLE IN CALIFORNIA**

Pollutant	California Standards <sup>1</sup>			Federal Standards <sup>2</sup>		
	Averaging Time	Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,5</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> )	1 hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet photometry	—	Same as primary standard	Ultraviolet photometry
	8 hour	0.070 ppm (137 µg/m <sup>3</sup> )	Ultraviolet photometry	0.075 ppm (147 µg/m <sup>3</sup> )	Same as primary standard	Ultraviolet photometry
Respirable particulate matter (PM <sub>10</sub> )	24 hour	50 µg/m <sup>3</sup>	Gravimetric or beta attenuation	150 µg/m <sup>3</sup>	Same as primary standard	Inertial separation and gravimetric analysis
	Annual arithmetic mean	20 µg/m <sup>3</sup>	Gravimetric or beta attenuation	—	Same as primary standard	Inertial separation and gravimetric analysis
Fine particulate matter (PM <sub>2.5</sub> )	24 hour	No separate state standard	No separate state standard	35 µg/m <sup>3</sup>	Same as primary standard	Inertial separation and gravimetric analysis
	Annual arithmetic mean	12 µg/m <sup>3</sup>	Gravimetric or beta attenuation	15.0 µg/m <sup>3</sup>	Same as primary standard	Inertial separation and gravimetric analysis
Carbon monoxide (CO)	8 hour	9.0 ppm (10 mg/m <sup>3</sup> )	Non-dispersive infrared photometry (NDIR)	9 ppm (10 mg/m <sup>3</sup> )	None	NDIR
	1 hour	20 ppm (23 mg/m <sup>3</sup> )	NDIR	35 ppm (40 mg/m <sup>3</sup> )	None	NDIR
	8 hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )	NDIR	—	—	NDIR
Nitrogen dioxide (NO <sub>2</sub> )	Annual arithmetic mean	0.030 ppm (57 µg/m <sup>3</sup> )	Gas phase chemiluminescence	0.053 ppm (100 µg/m <sup>3</sup> )	Same as primary standard	Gas phase chemiluminescence
	1 hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas phase chemiluminescence	0.100 ppm <sup>8</sup>	None	Gas phase chemiluminescence
Sulfur dioxide (SO <sub>2</sub> )	Annual arithmetic mean	—	Ultraviolet fluorescence	0.030 ppm (80 µg/m <sup>3</sup> )	—	Spectrophotometry (pararosaniline method)

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-1 (CONTINUED)  
AMBIENT AIR QUALITY STANDARDS APPLICABLE IN CALIFORNIA**

Pollutant	Averaging Time	California Standards <sup>1</sup>			Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,5</sup>	Method <sup>7</sup>	
	24 hour	0.04 ppm (105 µg/m <sup>3</sup> )	Ultraviolet fluorescence	0.14 ppm (365 µg/m <sup>3</sup> )	—	Spectrophotometry (pararosaniline method)	
	3 hour	—	Ultraviolet fluorescence	—	0.5 ppm (13,00 µg/m <sup>3</sup> )	Spectrophotometry (pararosaniline method)	
	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet fluorescence	—	—	—	
Lead <sup>9</sup>	30 day average	1.5 µg/m <sup>3</sup>	Atomic absorption	—	—	—	
	Calendar quarter	—	Atomic absorption	1.5 µg/m <sup>3</sup>	Same as primary standard	High volume sampler and atomic absorption	
	Rolling 3-month average <sup>10</sup>	—	Atomic absorption	1.15 µg/m <sup>3</sup>	Same as primary standard	High volume sampler and atomic absorption	
Visibility reducing particles	8 hour	Extinction Coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: beta attenuation and transmittance through filter tape.		No federal standards	No federal standards	No federal standards	
Sulfates	24 hour	25 µg/m <sup>3</sup>	Ion chromatography	No federal standards	No federal standards	No federal standards	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet fluorescence	No federal standards	No federal standards	No federal standards	
Vinyl chloride <sup>9</sup>	24 hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas chromatography	No federal standards	No federal standards	No federal standards	

<sup>1</sup> California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

**TABLE 6.1-1 (CONTINUED)  
AMBIENT AIR QUALITY STANDARDS APPLICABLE IN CALIFORNIA**

- 2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For  $PM_{10}$ , the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For  $PM_{2.5}$ , the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4 Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
- 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- 8 To attain this standard, the 3-year average of the 98<sup>th</sup> percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
- 9 The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- 10 National lead standard, rolling 3-month average: final rule signed October 15, 2008.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

**6.1.2.2.2 Particulate Matter.** Particulate matter consists of many different substances, including dust and smoke, suspended in air in the form of particles (solids or liquid droplets) varying widely in size. PM<sub>10</sub> can damage human health and retard plant growth. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Particulate matter also reduces visibility and corrodes materials. Particulate matter emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic and construction equipment, and secondary aerosols formed by reactions in the atmosphere.

**6.1.2.2.3 Carbon Monoxide.** Carbon monoxide (CO) is a public health concern because it combines readily with hemoglobin and reduces the amount of oxygen transported in the bloodstream. CO can cause health problems such as fatigue, headache, confusion, dizziness, and even death. Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter, when periods of light winds combine with the formation of ground-level temperature inversions (typically from evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

**6.1.2.2.4 Toxic Air Contaminants.** Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or their acute or chronic health risks. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another.

There are no state or federal standards for TACs. However, for TACs that are known or suspected carcinogens, the CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor called a hazard index is used to evaluate risk.

In the early 1980s, the CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Tanner 1983) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly 1987) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The TAC of most concern with regard to the proposed project is diesel exhaust, which was identified by the CARB as a TAC in October 2000 (CARB 2000).

### **6.1.2.3 Monitoring Data**

The federal and state governments established ambient air quality standards for various pollutants. Existing air quality conditions in the SCSR can be characterized in terms of these standards (Table 6.1-1) and by monitoring data collected in the region. Monitoring data

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

concentrations are typically expressed in terms of parts per million (ppm) or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The following monitoring stations are nearest to the applicable study region:

- Santa Barbara – El Capitan Beach Monitoring Station
- Ventura – Emma Wood State Beach Monitoring Station
- Los Angeles – Los Angeles International Airport (LAX) Monitoring Station
- San Diego – Beardsley Monitoring Station

Air quality monitoring data from these monitoring stations is summarized in Table 6.1-2. This data represents air quality monitoring data for the last three years for which complete data is available (2007–2009). As shown in Table 6.1-2, air monitoring stations in the SCSR reported exceedances of ozone and  $\text{PM}_{10}$  thresholds in recent years. The attainment status of these air basins is discussed below.

### **6.1.2.4 Attainment Status**

If monitored pollutant concentrations meet state or federal standards over a designated period of time, the area is classified as in attainment for that pollutant. If monitored pollutant concentrations violate the standards, the area is considered in a nonattainment area for that pollutant. If data is insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. Generally, the CARB designates whether areas are in attainment of air quality standards by air basin or county.

**6.1.2.4.1 South Central Coast Air Basin.** The SBCAPCD is in attainment/unclassified for all federal standards. It is in nonattainment of California standards for 8 hour ozone and  $\text{PM}_{10}$ . The area is classified as attainment/unclassified for all other state standards (SBCAPCD 2010).

The VCAPCD is in nonattainment of the federal 8-hour ozone standard and is in nonattainment for state 1-hour ozone, 24-hour  $\text{PM}_{10}$ , annual average  $\text{PM}_{10}$ , and annual average  $\text{PM}_{2.5}$ . Nonattainment status is currently proposed for the state 8-hour ozone standard. The area is classified as attainment/unclassified for all other standards (VCAPCD 2010).

**6.1.2.4.2 South Coast Air Basin.** The SCAB is out of attainment for the federal and state standards identified in Table 6.1-3.

**6.1.2.4.3 San Diego Air Basin.** The SDAPCD is in nonattainment of the federal 8-hour ozone standard and is in nonattainment for state 1-hour ozone, 8-hour ozone,  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$  standards. The area is classified as attainment/unclassified for all other standards (SDAPCD 2010a).

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-2  
SANTA BARBARA, VENTURA, SOUTH COAST, AND SAN DIEGO AMBIENT AIR QUALITY MONITORING DATA**

Pollutant Standards	El Capitan Beach (42370) <sup>1</sup>		Emma Wood State Beach (56433) <sup>2</sup>		LAX (70111) <sup>3</sup>		Beardsley (80142) <sup>4</sup>					
	2006	2007	2008	2006	2007	2008	2006	2007	2008			
Ozone												
Max 1-hr concentration (pphm)	8.2	9.5	8.3	8.1	8.4	8.3	6	8.7	8.6	8	9	9
National max 8-hr concentration (pphm)	6.3	7.9	6.9	7	7.8	7.1	5.4	7.4	7.5	7	7	7
State max 8-hr concentration (pphm)	6.4	8.0	6.9	7	7.9	7.1						
Number of days standard exceeded												
NAAQS 1-hr (12 pphm)	0	0	0	0	0	0	0	0	0	0	0	0
CAAQS 1-hr (9 pphm)	0	1	0	0	0	0	0	0	0	0	0	0
NAAQS 8-hr (8.5 pphm)	0	1	0	0	1	0	0	0	0	0	0	0
NAAQS 8-hr (7.5 pphm) <sup>5</sup>												
CAAQS 8-hr (7.0 pphm)	0	1	0	0	1	1	0	1	1	0	0	1
Carbon monoxide (CO)												
Max 1-hr concentration (ppm)												
Max 8-hr concentration (ppm)												
Number of days standard exceeded												
NAAQS 1-hr (35 ppm)												
CAAQS 1-hr (20 ppm)												
NAAQS 8-hr (9 ppm)												
CAAQS 8-hr (9.0 ppm)												
Particulate matter (PM <sub>10</sub> )												
National max 24-hr concentration (µg/m <sup>3</sup> )	39	227.8	55.7				35	96	50	71	55	58
National second-highest 24-hr concentration (µg/m <sup>3</sup> )	35.8	72.4	49.9									
State max 24-hr concentration (µg/m <sup>3</sup> )	39.9	233.7	57.1									

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-2 (CONTINUED)  
SANTA BARBARA, VENTURA, SOUTH COAST, AND SAN DIEGO AMBIENT AIR QUALITY MONITORING DATA**

Pollutant Standards	El Capitan Beach (42370) <sup>1</sup>		Emma Wood State Beach (56433) <sup>2</sup>		LAX (70111) <sup>3</sup>		Beardsley (80142) <sup>4</sup>		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
State second-highest 24-hr concentration ( $\mu\text{g}/\text{m}^3$ )	36.2	72.4	50.4						
National annual average concentration ( $\mu\text{g}/\text{m}^3$ )	17.7	23	21.8			27.7	25.6	34	30
State annual average concentration ( $\mu\text{g}/\text{m}^3$ )	18.3	23.7	22.4						29
Number of days standard exceeded ( $\mu\text{g}/\text{m}^3$ )									
NAAQS 24-hr (150 $\mu\text{g}/\text{m}^3$ )	0	1	0			0	0	0	0
CAAQS 24-hr (50 $\mu\text{g}/\text{m}^3$ )	0	2	1			0	2	0	0
NAAQS annual average (50 $\mu\text{g}/\text{m}^3$ )									
CAAQS annual average (20 $\mu\text{g}/\text{m}^3$ )									
Particulate matter ( $\text{PM}_{2.5}$ )									
National max 24-hr concentration ( $\mu\text{g}/\text{m}^3$ )						--	--	63	52
National second-highest 24-hr concentration ( $\mu\text{g}/\text{m}^3$ )									42
State max 24-hr concentration ( $\mu\text{g}/\text{m}^3$ )									
State second-highest 24-hr concentration ( $\mu\text{g}/\text{m}^3$ )									
National annual average concentration ( $\mu\text{g}/\text{m}^3$ )								13	12
State annual average concentration ( $\mu\text{g}/\text{m}^3$ )									14
Number of days standard exceeded									
NAAQS 24-hr (35 $\mu\text{g}/\text{m}^3$ )									
NAAQS annual average (15 $\mu\text{g}/\text{m}^3$ )									
CAAQS annual average (12 $\mu\text{g}/\text{m}^3$ )									
Nitrogen dioxide ( $\text{NO}_2$ )									

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-2 (CONTINUED)  
SANTA BARBARA, VENTURA, SOUTH COAST, AND SAN DIEGO AMBIENT AIR QUALITY MONITORING DATA**

Pollutant Standards	El Capitan Beach (42370) <sup>1</sup>		Emma Wood State Beach (56433) <sup>2</sup>		LAX (70111) <sup>3</sup>		Beardsley (80142) <sup>4</sup>			
	2006	2007	2008	2006	2007	2008	2006	2007	2008	
Max 1-hr concentration (ppm)	0.035	0.053	0.042		0.10	0.08	0.09	0.094	0.098	0.091
Annual average concentration (ppm)	0.006	0.006	0.006			0.014	0.0143	0.021	0.018	0.019
Number of days standard exceeded										
CAAQS 1-hr (0.18 ppm)	0	0	0		0					
NAAQS annual average (0.053 ppm)										
CAAQS annual average (0.030 ppm)										
Sulfur dioxide (SO <sub>2</sub> )										
Max 1-hr concentration (pphm)					2	2	2	3.4	1.8	0.4
Max 3-hr concentration (pphm)								3.0	1.0	0.2
Max 24-hr concentration (pphm)	0.2	0.1	0.3		0.6	0.9	0.5	0.9	0.6	0.8
Annual average concentration (pphm)	0	0	0.1			0.28	0.14	0.4	0.3	0.3
Number of days standard exceeded										
CAAQS 1-hr (25 pphm)										
NAAQS 3-hr (50 pphm)										
NAAQS 24-hr (14 pphm)										
CAAQS 24-hr (4 pphm)										
NAAQS annual average (3 pphm)										

<sup>1,2</sup> CARB 2010a,b.

<sup>3</sup> SCAQMD 2010.

<sup>4</sup> SDAPCD 2010b.

<sup>5</sup> Federal 8-hr standard was revised to 7.5 pphm on March 12, 2008.

ppm = parts per million; pphm = parts per hundred million; g/m<sup>3</sup> = grams per meter cubed.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

**TABLE 6.1-3  
SOUTH COAST AIR BASIN**

<b>Pollutant</b>	<b>Federal Status<sup>1</sup></b>	<b>State Standard<sup>2</sup></b>
8-hr ozone	Severe 17 <sup>3</sup>	Nonattainment
PM <sub>10</sub>	Serious	Nonattainment
PM <sub>2.5</sub> 1997	Nonattainment	
PM <sub>2.5</sub> 2006	Nonattainment	Nonattainment
CO	Attainment	Nonattainment

<sup>1</sup> Federal Designations are available at: <http://www.epa.gov/oar/oaqps/greenbk/ancl2.html>.

<sup>2</sup> California State Designations are available at: <http://www.arb.ca.gov/degisg/changes.htm#reports>.

<sup>3</sup> Severe 17 means severe nonattainment with an attainment date of June 2021.

#### **6.1.2.5 Class I Areas**

Under the Federal Clean Air Act Amendments of 1977, Congress established a system for the prevention of significant deterioration to areas that were not classified as nonattainment. A classification system was implemented based on the allowable amounts of additional total suspended particulates and sulfur dioxide degradation that would be allowed for various areas. A Class I area has the greatest limitations; virtually any degradation is considered significant. The nearest California Class I area to the SCSR is the San Gabriel Wilderness Area.

#### **6.1.3 Impact Analysis**

##### **6.1.3.1 Methodology**

**6.1.3.1.1 Commercial Fishing Vessels and Commercial Passenger Fishing Vessels – All Areas.** One of the presumed effects of the Project as proposed is an increase in travel distance as some fishing vessels move to alternate areas in order to maintain their catch. An associated effect would be an increase in exhaust emissions from fishing vessel engines. The general method used in the analysis of this issue is to estimate these increased emissions based on an assumed increase in travel distance, and then compare the increases to thresholds used to define significant impacts by the affected air quality districts.

The challenge to modeling all project-induced commercial fishing vessel emission scenarios is it is not possible to predict all of the responses of individual fishermen to the proposed MPA network. Many factors influence the decision to go to sea on a given day, which impact the modeling emission scenarios. In some instances, appropriate fishing grounds may not occur immediately adjacent to the proposed MPA displacing a specific

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

vessel(s), affecting transit distances. It is also possible that some vessels may transit to alternate fishing grounds at comparable distances to their current situation. The air emission analysis conservatively assumed that a portion of commercial fishing activities within a given fishing block were displaced by a distance equal to the combined alongshore span of any and all proposed MPAs that would affect the fishing block. The portion of commercial fishing vessels displaced was assumed to be equal to the percentage of the total fishing block area proposed to be protected by the proposed regulatory changes. For consistency with the North-Central Coast EIR, it was also assumed that the commercial vessels traveled at a speed of 18 miles per hour. Therefore, additional travel time in hours caused by the creation of MPAs was estimated as twice the total alongshore span (yielding round-trip distance) of any and all MPAs located within a given fishing block, divided by 18 miles per hour. The additional travel time was multiplied by the air emission factors provided in Table 6.1-4 that correspond to the size of the affected vessel(s). Resulting air pollutant emission estimates for the proposed Project are summarized in Table 6.1-5. The detailed calculation methodology is provided in Appendix C.

**TABLE 6.1-4  
CATEGORY 1 HARBOR CRAFT EMISSION  
FACTORS WITH CONTROLLED NO<sub>x</sub>**

Minimum Power		Emission Factor (g/kWh)					Emission Factor (g/hph)				
kW	hp	NO <sub>x</sub>	CO	HC	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	HC	PM <sub>10</sub>	SO <sub>2</sub>
0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
37	50	11	2	0.27	0.9	0.63	5.42	1.49	0.20	0.67	0.47
75	100	10	1.7	0.27	0.4	0.63	5.42	1.27	0.20	0.30	0.47
130	175	10	1.5	0.27	0.4	0.63	5.42	1.12	0.20	0.30	0.47
225	300	10	1.5	0.27	0.3	0.63	5.42	1.12	0.20	0.22	0.47
450	600	10	1.5	0.27	0.3	0.63	5.42	1.12	0.20	0.22	0.47
560	750	10	1.5	0.27	0.3	0.63	5.42	1.12	0.20	0.22	0.47
1,000	1,341	13	2.5	0.27	0.3	0.63	5.42	1.86	0.20	0.22	0.47

Sources: ICF 2006 and SBCAPCD 2002.  
g/kWhr = grams per kilowatt-hour.  
g/hph = grams per horsepower per hour.

**6.1.3.1.2 Recreational Fishing.** Emissions contributions resulting from potential project-derived changes in recreational fishing activities are qualitatively considered in the impact analysis. Though a substantial number of non-commercial vessels is located within the SCSR, information on the locations of these vessels, the trips taken by these vessels, and the types of fuel and engines used by these boats is not feasible to obtain and any impact analysis would have to make a number of speculative assumptions in order to

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-5  
SCREENING LEVEL PROPOSED PROJECT ESTIMATED DAILY  
MAXIMUM AND ANNUAL TOTAL EMISSIONS FROM COMMERCIAL  
AND COMMERCIAL PASSENGER FISHING VESSELS BY AIR DISTRICT**

	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>HC</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>
<b>SBCAPCD</b>					
Daily max (lb/day)	7.1	0.9	0.3	0.3	0.6
Daily threshold (lb/day)	55		55		
Days threshold exceeded (#)	0	0	0	0	0
Annual total (ton/yr)	0.17	0.03	0.01	0.01	0.01
Annual threshold (ton/yr)	N/A	N/A	N/A	N/A	N/A
<b>VCAPCD</b>					
Daily max (lb/day)	0	0	0	0	0
Daily threshold (lb/day)	25	N/A	25	N/A	N/A
Days threshold exceeded (#)	0	0	0	0	0
Annual total (ton/yr)	0	0	0	0	0
Annual threshold (ton/yr)	N/A	N/A	N/A	N/A	N/A
<b>SCAQMD</b>					
Daily max (lb/day)	17.7	3.7	0.7	0.9	1.5
Daily threshold (lb/day)	55	550	55	551	150
Days threshold exceeded (#)	0	0	0	0	0
Annual total (ton/yr)	0.75	0.16	0.03	0.04	0.06
Annual threshold (ton/yr)	N/A	N/A	N/A	N/A	N/A
<b>SDAPCD</b>					
Daily max (lb/day)	10.9	2.3	0.4	0.6	0.9
Daily threshold (lb/day)	250	N/A	75	100	N/A
Days threshold exceeded (#)	0	0	0	0	0
Annual total (ton/yr)	0.44	0.09	0.02	0.02	0.04
Annual threshold (ton/yr)	N/A	N/A	N/A	N/A	N/A

Sources: SBCAPCD 2010, VCAPCD 2003, SCAQMD 2009, and SDAPCD 2010a.

<sup>1</sup> Threshold corresponds to the PM<sub>2.5</sub> threshold.

lb/day = pounds per day; ton/yr = tons per year.

produce an emission estimate of marginal value. However, in general, engines used by a substantial portion of these vessels are gasoline-burning engines that achieve cleaner-than-required emissions performance due to implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program. These vessels would have significantly less emissions per hour of operation than the diesel engines typically use by commercial

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

vessels. Even if the recreational fleet doubled the number of trips and hours of the commercial fleet, the emissions expected to be produced as a result of the proposed Project IPA would be less than existing significance thresholds.

Furthermore, recreational fishing activity within the SCSR is assumed to not be substantially different as a result of the proposed project or its alternatives. While some popular recreational fishing spots would inevitably be located within proposed no take or restricted take MPAs, a substantial number are not at locations identified in the California Recreational Fisheries Survey (CRFS) and landing data/report cards (Department 2009). Increases in criteria pollutant emissions may occur on certain peak days when fishing conditions are favorable to a larger number of recreational anglers. However, this analysis considers it likely that for the most part, recreational fishermen will adjust their travel to destinations equally accessible versus electing to travel longer distances and travel times for a comparable fishing experience, particularly when weighed against the cost associated with travelling to a farther destination.

### **6.1.3.2 Significance Criteria**

Based on the standards of significance from Appendix G of the State CEQA Guidelines, a project would result in a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- 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)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

In addition to the thresholds indicated above, which are applicable throughout the SCSR, the four air districts in the SCSR each have thresholds of significance for actions affecting the air basins within their respective jurisdictions. These thresholds are described below, and apply only to emissions proposed within the relevant air basin.

**6.1.3.2.1 Santa Barbara County Air Pollution Control District.** Emissions (from all project sources, both stationary and mobile) must be less than the daily trigger for offsets or Air Quality Impact Analysis set in the Santa Barbara County Air Pollution Control District's New Source Review Rule 1, for any pollutant, i.e., 55 pounds/day for ROC or

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

NO<sub>x</sub>; and 80 lbs/day for PM<sub>10</sub>. There is no daily operational threshold for CO; it is an attainment pollutant (SBCAPCD 2010).

**6.1.3.2.2 Ventura County Air Pollution Control District.** The emissions limit is 25 lbs/day of NO<sub>x</sub> or reactive organic compounds (VCAPCD 2003). Exceptions exist for the Ojai Planning Area and the City of Simi Valley, where the thresholds are 5 lbs/day and 13.7 tons/year, respectively, of reactive organic compounds or nitrogen oxides.

**6.1.3.2.3 South Coast Air Quality Management District.** Table 6.1-6 provides the SCAQMD air quality significance thresholds.

**TABLE 6.1-6  
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS**

<b>Pollutant</b>	<b>Construction<sup>1</sup></b>	<b>Operation<sup>2</sup></b>
NO <sub>x</sub>	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM <sub>10</sub>	150 lbs/day	150 lbs/day
PM <sub>2.5</sub>	55 lbs/day	55 lbs/day
SO <sub>x</sub>	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day

Source: SCAQMD 2009.

<sup>1</sup> Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

<sup>2</sup> For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

**6.1.3.2.4 San Diego County Air Pollution Control District.** The SCAPCD requires conformance to federal and state Ambient Air Quality Standards.

- The project will result in emissions that exceed 250 pounds per day of NO<sub>x</sub> or 75 pounds per day of VOCs.
- The project will result in emissions of carbon monoxide that when totaled with the ambient air concentrations will exceed a 1 hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm.
- The project will result in emissions of PM<sub>2.5</sub> that exceed 55 pounds per day.
- The project will result in emissions of PM<sub>10</sub> that exceed 100 pounds per day and increase the ambient PM<sub>10</sub> concentration by 5 micrograms per cubic meter (5.0 µg/m<sup>3</sup>) or greater at the maximum exposed individual.

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

### **6.1.3.3 Environmental Impacts**

The following sections discuss the significance criteria summarized in Section 6.1.3.2 and provide analysis of the proposed Project's potential to exceed these criteria.

#### **Criterion AIR-1: Conflict with or obstruct implementation of the applicable air quality plan**

A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan. Therefore, the proposed Project IPA needs to be evaluated to determine whether its MPAs would generate population and employment growth and, if so, whether that growth would exceed the growth rates included in the relevant air quality plans.

The proposed Project IPA would not result in an increase in population since it is not a growth-inducing project (for more information, please refer to Section 8.3 of this Draft EIR). Further, the proposed Project IPA would not result in a net increase in employment, as the proposed Project IPA would not propose activities that increase employment within the fishing industry. It is possible that displacement of fishing effort resulting from the proposed Project IPA, in conjunction with other existing fishery management regulations, may contribute to an existing declining trend in the number of fishing vessels. Based on this analysis, the proposed Project IPA would not conflict with or obstruct implementation of any of the applicable air quality plans. This impact would therefore be less than significant, and no mitigation is required.

#### **Criterion AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation**

Project-related air emissions would have a significant effect if they resulted in concentrations that create either a violation of an ambient air quality standard (as identified in Section 6.1.1) or contribute to an existing air quality violation. As described above, the air quality management districts have established significance thresholds to assess the impact on regional air quality. Emissions above these thresholds would be considered a significant impact. Analysis of air quality effects related to the proposed Project IPA are focused on long-term, operational effects, as there would be no construction-related effects associated with the proposed MPA network component.

The primary source of operational emissions associated with the proposed Project IPA would result from a change in marine vessel transit distances above the current practices due to displacement from MPAs. The effect of the proposed Project IPA would be to increase transit distances for commercial fishing vessels, resulting in a corresponding increase in combustion emissions. To determine if these increases would be significant,

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

they are compared with the established thresholds of significance used by each air quality management district. At the screening level of analysis presented in Table 6.1-5, the proposed Project IPA would not violate any of these established significance thresholds.

Anticipated emissions in all of the air districts would remain below the thresholds used by the districts to define significant impacts, and implementation of the proposed Project IPA would not be expected to contribute substantially to any air standard violations. This impact would be less than significant, and no mitigation is required. However, several existing programs are available that involve reductions in NO<sub>x</sub> emissions in fishing vessels, and these are formalized in the SCAQMD. Beyond compliance with federal and state emissions standards for engines, however, these programs are voluntary.

The RECLAIM program in the SCAQMD may provide additional incentive in the form of payments for emissions reductions, and the program should continue to be encouraged. While this program does not represent a mandatory mitigation measure, it would serve to further reduce this impact.

### **Criterion AIR-3: 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)**

The primary source of operational emissions associated with the proposed Project IPA would result from a change in marine vessel transit distances above the current practices due to displacement from MPAs. Tables 6.1-7 through 6.1-9 show the relative magnitude of estimated Project emissions compared to annual average emissions for each affected air district. In general, emissions caused by the implementation of the proposed Project IPA are estimated to account for less than 1/1,000,000<sup>th</sup> of total air district emissions. Based on this analysis, the proposed Project IPA would not cause a violation of any air quality standard or contribute considerably to an existing or projected air quality violation. This impact would therefore be less than significant, and no mitigation is required.

### **Criterion AIR-4: Expose sensitive receptors to substantial pollutant concentrations**

Certain residents, such as the very young, the elderly, and those suffering from certain illnesses or disabilities, are particularly sensitive to air pollution and are considered “sensitive receptors.” Examples of land uses where significant numbers of sensitive receptors are often found are schools, day care centers, parks, recreational areas, medical facilities, and rest homes and convalescent care facilities. Land use conflicts can arise when sensitive receptors are located next to major sources of air pollutant emissions.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.1-7  
ESTIMATED ANNUAL AVERAGE EMISSIONS  
COMPARED TO ESTIMATED PROJECT IPA EMISSIONS FOR THE  
SOUTH COAST AQMD (TONS PER DAY)**

<b>Stationary Sources</b>	<b>TOG</b>	<b>ROG</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Total stationary sources	210.54	109.16	48.46	56.72	16.17	36.14	24.32	15.58
Total area-wide sources	243.47	147.62	112.60	26.42	0.86	463.96	235.25	54.93
Total mobile sources	412.44	375.26	3,182.74	834.35	39.09	50.17	49.10	39.57
Grand total for South Coast AQMD	866.45	632.05	3,343.80	917.49	56.13	550.27	308.67	110.08
Estimated proposed Project IPA emissions for South Coast AQMD	NA	1.5E-5	8.7E-5	4.1E-4	3.6E-5	NA	2.1E-5	NA

Source: CARB 2008.

**TABLE 6.1-8  
ESTIMATED ANNUAL AVERAGE EMISSIONS  
COMPARED TO ESTIMATED PROJECT IPA EMISSIONS FOR THE  
SANTA BARBARA COUNTY APCD (TONS PER DAY)**

<b>Stationary Sources</b>	<b>TOG</b>	<b>ROG</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Total stationary sources	35.48	10.04	6.91	7.28	4.19	1.50	0.95	0.52
Total area-wide sources	24.09	10.59	31.97	2.11	0.02	36.30	20.72	7.24
Total mobile sources	19.28	17.63	136.58	80.59	29.38	5.80	5.60	5.21
Grand total for Santa Barbara County APCD	78.85	38.26	175.46	89.98	33.59	43.61	27.28	12.98
Estimated proposed Project IPA emissions for Santa Barbara County APCD	NA	1.5E-5	8.7E-5	4.1E-4	3.6E-5	NA	2.1E-5	NA

Source: CARB 2008.

No new major sources of pollution that would affect sensitive receptors are associated with the proposed Project. Additionally, the potential emission increases would occur offshore and not in close proximity to sensitive receptors. Therefore, the impact of the proposed Project IPA on sensitive receptors would be less than significant, and no mitigation would be required.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

**TABLE 6.1-9  
ESTIMATED ANNUAL AVERAGE EMISSIONS  
COMPARED TO ESTIMATED PROJECT IPA EMISSIONS FOR THE  
SAN DIEGO COUNTY APCD (TONS PER DAY)**

<b>Stationary Sources</b>	<b>TOG</b>	<b>ROG</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Total stationary sources	357.71	32.27	22.23	9.08	0.45	17.14	8.59	6.13
Total area-wide sources	58.25	35.76	28.07	2.73	0.22	184.85	94.52	16.10
Total mobile sources	97.14	88.60	773.86	167.75	4.08	11.68	11.42	9.32
Grand total for San Diego County APCD	513.10	156.64	824.16	179.56	4.75	213.68	114.53	31.55
Estimated project emissions for San Diego County APCD	NA	4.4E-5	2.5E-4	1.2E-3	1.0E-4	NA	6.0E-5	NA

Source: CARB 2008.

**Criterion AIR-5: Create objectionable odors affecting a substantial number of people**

The proposed Project is not anticipated to generate any objectionable odors affecting a substantial number of people. As discussed above, offshore vessel traffic patterns would not differ substantially from current patterns. Furthermore, offshore fishing vessels should not come into contact with a substantial number of people. Therefore, this impact would be less than significant, and no mitigation is required.



# SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

## 6.2 GLOBAL CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

This section describes the environmental setting for global climate change (GCC) and greenhouse gas (GHG) emissions as well as impacts on GCC and GHG emissions that would result from the project's integrated preferred alternative (proposed Project IPA). It also discusses the overall regulatory framework for GHG management in the south coast study region (SCSR).

### 6.2.1 Regulatory Framework

Regulations for GHG emissions exist at federal, state, and local levels. A brief synopsis of regulations derived from each of the aforementioned levels is provided below.

#### 6.2.1.1 Federal Regulations

Several programs and initiatives at the federal level are aimed at identifying and reducing GHG emissions. Of these, the most important relative to activities that may relate to the proposed Project IPA are requirements to prepare GHG inventories, and the pending development of regulations by the U.S. Environmental Protection Agency (EPA) to limit GHG emissions from motor vehicles.

**6.2.1.1.1 EPA Final Mandatory Reporting of Greenhouse Gases Rule.** In response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule (a copy of which is available at <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>). The EPA Administrator (Administrator) signed the final rule on September 22, 2009 with an effective date of December 29, 2009. On October 30, 2009, the final rule was published in the Federal Register under Docket ID No. EPA-HQ-OAR-2008-0508-2278. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions.

**6.2.1.1.2 EPA Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act.** On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497, the United States Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Supreme Court held that the Administrator must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of section 202(a) of the Clean Air Act.

On December 7, 2009, the Administrator made two findings regarding GHGs under Section 202(a) of the Clean Air Act:

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

While these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the EPA, including but not limited to GHG emissions standards for light-duty vehicles. The initial focus of regulation is likely to be light-duty vehicles, and it is not yet known what, if any, additional restrictions may be imposed on internal combustion engines powering harbor craft-category vessels such as fishing boats. The Proposed Endangerment and Cause or Contribute Findings for GHG under the Clean Air Act were signed on April 17, 2009. On April 24, 2009, the final findings were published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009-0171.

### **6.2.1.2 State Regulations**

**6.2.1.2.1 Executive Order S-3-05.** signed by the Governor of the state of California<sup>1</sup> and available online at <http://gov.ca.gov/executive-order/1861/> (June 1, 2005) established statewide GHG emission reduction targets, as well as a process to ensure the targets are met. The reduction targets are 2000 levels by 2010; 1990 levels by 2020; and 80 percent below 1990 levels by 2050.

**6.2.1.2.2 California Assembly Bill (AB) 32.** the Global Warming Solutions Act of 2006, codifies the California GHG emissions target by directing the California Air Resources Board (CARB) to reduce the state's global warming emissions to 1990 levels by 2020.

AB 32 defines GHGs as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrochlorofluorocarbons (HFCs), and perfluorocarbons (PFCs). Except for the High Global Warming Potential (GWP) Refrigerant Management Program, AB 32 does not address other GHGs such as chlorofluorocarbons (CFCs) and HCFCs. This is due to the fact that non-Kyoto Protocol GHGs are being phased out by the Montreal Protocol of 1987. Other high GWP gases are being separately regulated by CARB through restrictions on the manufacturer and on the users. For the purposes of this GHG assessment, CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O GHGs will be taken into account.

The California Attorney General's Office (AGO) takes a large role in advocating the goal and objectives of AB 32 and the subsequent implementation steps via commenting on CEQA

---

<sup>1</sup> <http://gov.ca.gov/executive-order/1861/> (June 1, 2005).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

documents or litigation with lead agencies. Moreover, the AGO issued fact sheets with various mitigation measures that local agencies may consider to offset or reduce global warming impacts relative to CEQA and general plan development.

**6.2.1.2.3 Senate Bill 97.** (Dutton-CEQA-Greenhouse gas emissions), signed by the governor on August 24, 2007, directed the Office of Planning and Research to develop feasible mitigation for GHG emissions guidelines by July 1, 2009. On April 13, 2009, after public workshop and peer review, the Governor's Office of Planning and Research sent proposed amendments for State CEQA Guidelines to the Secretary of Natural Resources for promulgation. On December 30, 2009, the Natural Resources Agency adopted the State CEQA Guidelines amendments addressing GHG emissions. The California Office of Administrative Law filed the amendments with the secretary of state for inclusion in the California Code of Regulations on February 16, 2010. The amendments became effective on March 18, 2010 and changed sections of the existing guidelines including: the determination of significance as well as thresholds, statements of overriding consideration, mitigation, cumulative impacts, and specific streamlining approaches.

**6.2.1.2.4 The State CEQA Guidelines.** amendments require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The amendments give discretion to the lead agency whether to:

1. Use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; and/or
2. Rely on a qualitative analysis or performance-based standards.

Further, the amendments identify three factors that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

**6.2.1.2.5 Executive Order S-01-07**, signed by the Governor of the state of California<sup>2</sup> on January 18, 2007, established the Low Carbon Fuel Standard requiring a reduction in the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

### **6.2.1.3 Local Regulations**

On December 5, 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency (<http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html>). The SCAQMD staff recommended consideration of the CARB 2008 interim GHG significance threshold, and applying the threshold to stationary source/industrial projects where the SCAQMD is the lead agency under CEQA.

### **6.2.2 Environmental Setting**

GHGs play a critical role in the earth's radiation budget by trapping infrared radiation emitted from the earth's surface that could have otherwise escaped to space. Prominent GHGs contributing to this process include water vapor, CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, O<sub>3</sub>, and certain HFCs. This phenomenon is known as the "greenhouse effect" and keeps the earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life. Increases in these gases lead to more absorption of radiation and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and to contribute to what is termed "global warming," a trend of unnatural warming of the earth's natural climate. Climate change is a global issue, and GHGs are global pollutants, unlike criteria air pollutants such as ozone precursors and toxic air contaminants (TACs), which are pollutants of regional and local concern.

Some GHGs such as CO<sub>2</sub> occur naturally, released by respiration from living organisms. CO<sub>2</sub> can also form from anthropogenic, or human-made, sources. Other GHGs are emitted solely from human activities, such as fluorinated gases. CO<sub>2</sub> is the most common of the six targeted GHGs. CO<sub>2</sub> is emitted anthropogenically by the combustion of fossil fuels; the rate of uptake of atmospheric CO<sub>2</sub> is inhibited when carbon sinks are depleted through deforestation. CH<sub>4</sub> is produced anthropogenically through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion. N<sub>2</sub>O is anthropogenically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning. HFCs are primarily used as refrigerants, consisting of gas molecules containing hydrogen, fluorine, and carbon atoms. PFCs consist of a class of gases containing

---

<sup>2</sup> <http://gov.ca.gov/executive-order/5172/> (January 18, 2007)

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

carbon and fluorine originally introduced as alternatives to ozone-depleting substances and typically emitted as byproducts of industrial and manufacturing processes. SF<sub>6</sub> is primarily used in electrical transmission and distribution systems. Though fluorinated gases are characterized by high global warming potentials, they exist in extremely small quantities in the sources of concern in the proposed Project IPA and their relative contribution to climate change is considered de minimis.

Recognition of the problem of GHGs and their contribution to global climate change, and the response to this problem, is occurring at all levels of government. The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical and socioeconomic information relevant for the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The EPA is developing regulations to limit CO<sub>2</sub> emissions from motor vehicles. The state of California has taken several actions, outlined in Section 6.2.2.2 below, to identify and reduce GHG emissions. Without taking actions to control GHG emissions on a global scale, a variety of adverse effects are predicted. These effects are summarized by the California Climate Change Center (2006) as follows:

- Increasing temperatures, with an increase of up to 100 additional days with temperatures above 90°F in Los Angeles and 95°F in Sacramento
- Worsening effects of air pollution as higher atmospheric temperatures increase the rate of chemical reactions that produce ozone
- Decreasing Sierra Nevada snowpack, and associated decreases in the amount and reliability of California's water supply
- Increasing frequency of wildfires
- Rising sea levels with increases ranging from 22 to 35 inches by the end of the century, resulting in an increase in coastal flooding, and shrinking beaches

### **6.2.2.1 United States Greenhouse Gas Emissions**

According to the EPA, United States GHG emissions in 2006 totaled 7,054.2 million metric tons (MMT) of carbon dioxide equivalent (CO<sub>2</sub>e) (EPA 2008). Overall, total U.S. emissions have risen by 14.7 percent from 1990 to 2006. The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, representing approximately 84.8 percent of total GHG emissions. The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil fuel combustion. CH<sub>4</sub> emissions, which have declined from 1990 levels, resulted primarily from enteric fermentation associated with domestic livestock, decomposition of wastes in landfills, and natural gas systems. Agricultural soil management and mobile source fossil fuel combustion were the major sources of N<sub>2</sub>O emissions. The emissions of substitutes for ozone-depleting substances and emissions of HFC-23 during the production of HCFC-22

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

were the primary contributors to aggregate HFC emissions. Electrical transmission and distribution systems accounted for most SF<sub>6</sub> emissions, while PFC emissions resulted from semiconductor manufacturing and as a byproduct of primary aluminum production (EPA 2008).

### **6.2.2.2 California Greenhouse Gas Emissions**

Worldwide, California is the twelfth- to sixteenth-largest emitter of CO<sub>2</sub> and is responsible for approximately 2 percent of the world's CO<sub>2</sub> emissions (California Energy Commission [CEC] 2006). Transportation is responsible for 41 percent of the state's GHG emissions, followed by the industrial sector (23 percent), electricity generation (20 percent), agriculture and forestry (8 percent), and other sources (8 percent) (CEC 2006). Emissions of CO<sub>2</sub> and N<sub>2</sub>O are byproducts of fossil fuel combustion, among other sources. CH<sub>4</sub> emissions result from off-gassing associated with agricultural practices and landfills, among other sources. CO<sub>2</sub> sinks, are natural or artificial reservoirs that accumulate and store some carbon-containing chemical compound for an indefinite period, include uptake by vegetation (e.g., kelp regeneration) and dissolution into the ocean. California GHG emissions in 2002 totaled approximately 491 MMT CO<sub>2</sub>e. As of 2008, California produced about 474 MMT CO<sub>2</sub>e net or about 8 percent of the total United States production which was reported to be 6,016.4 MMT CO<sub>2</sub>e net (CARB 2010, EPA 2010). The state has adopted goals to reduce emissions to 1990 levels, which were about 361 MMT CO<sub>2</sub>e.

### **6.2.3 Impact Analysis**

#### **6.2.3.1 Methodology**

As previously noted, GHG contaminant emissions tend to accumulate in the atmosphere because of their relatively long residence time. As a result, their impact is mostly independent of the point of emission. Therefore, GHG contaminant emissions are more appropriately evaluated on a regional, state, national, or global scale than on an individual project level. However, because the proposed Project IPA could potentially lead to changes that would increase GHG emissions, the potential emissions generated by the project have been evaluated. The methodology used to generate these estimates is the same as described for the air quality analysis in Section 6.1.

#### **6.2.3.2 Significance Criteria**

A project would result in a significant impact on air quality if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment; or,

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

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

Consistent with the criteria presented above, the State CEQA Guidelines do not specifically identify a numeric threshold of significance for GHG impacts. However, the Guidelines (Section 15064.4(b)(2)) direct the lead agency to consider whether a project's emissions exceed a standard of significance that the lead agency determines applies to the project.

On October 24, 2008, at the request of OPR, CARB released a Preliminary Draft Staff Proposal (CARB 2008) containing recommendations regarding the appropriate significance criteria to use when evaluating GHG emissions and global climate change impacts under CEQA. In that document, CARB proposed tiered significance criteria for two types of projects: 1) industrial; and 2) commercial/residential. For industrial projects that are not exempt from CEQA under existing statutory or categorical exemptions, GHG impacts are presumed to be less than significant if the project meets CARB performance standards for transportation and construction-related emissions and the project, with mitigation, will emit no more than approximately 7,000 metric tons of CO<sub>2</sub> equivalent per year (CO<sub>2</sub>e/yr) for operational emissions (excluding transportation) including the following sources:

- Combustion-related components/equipment
- Process losses
- Purchased electricity
- Water usage and wastewater discharge

In the absence of published thresholds specifically intended for preservation projects in the marine environment, the Department has conservatively opted to apply the industrial threshold values described above when evaluating the significance of the proposed Project's GHG emissions. Thus, any GHG emissions exceeding 7,000 metric tons of CO<sub>2</sub>e/yr would be considered to constitute a significant impact on the environment.

### **6.2.3.3 Environmental Impacts**

The following sections present the impacts of the proposed Project IPA with respect to the significance criteria presented above. Adaptive management is a part of the MLPA. The MLPA requires monitoring to determine whether its goals related to biological resources are being met. If the goals of the MPAs (see Section 2.4.1) and MLPA (see Section 3.2) are not being met, then either regulatory or management changes could occur to try and meet the goals.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

**Criterion GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment**

Table 6.2-1 provide projected GHG emissions associated with displaced commercial vessels for the proposed Project IPA. All of these results, even at the screening level of assumptions used in the analysis (see Section 6.1 of this Draft EIR for methods), are very far below the threshold of 7,000 MT per year. Therefore, impacts of the proposed Project IPA relative to GHG emissions would be less than significant.

**TABLE 6.2-1  
PROJECTED GREENHOUSE GAS EMISSIONS OF DISPLACED  
COMMERCIAL VESSELS FOR THE PROPOSED PROJECT**

District	Annual Total (MT/yr)			
	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub> e
SBCAPCD	9.7	2.5E-4	7.0E-4	9.8
VCAPCD	0	0	0	0
SCAQMD	47.1	1.2E-3	3.4E-3	47.6
SDAPCD	27.4	7.0E-4	2.0E-3	27.6
Total	84.2	2.1E-3	6.1E-3	85.0

**Criterion GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases**

The proposed Project IPA would designate protected areas in the marine environment, which would increase GHG emissions somewhat due to the increased travel distances required for fishing vessels to reach open fishing grounds. However, the magnitude of this increase in emissions would be slight, as illustrated in Table 6.2-1. No plans, policies, or thresholds have been adopted for the purpose of reducing GHG emissions in California's offshore areas. Thus, the Project's impacts relative to this criterion would be less than significant.

**6.2.3.4 Potential Global Climate Change Benefits of the Proposed IPA**

One of the desired outcomes of the proposed Project IPA is to protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems. An important ecosystem in the south coast is the giant kelp (*Macrocystis Pyrifera*) forest. The abundance of kelp varies seasonally over time and is affected by biotic and abiotic factors. Studies have shown that distribution and abundance of kelp beds are affected by climatic and oceanographic changes, abundances of grazers, fishing and other anthropogenic influences. Grazers, especially sea urchins, can play a large role in the abundance and distribution of kelp. Lobsters and California sheephead, which are commercially and recreationally harvested, play an important role in limiting urchin populations and, therefore

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

indirectly affect the abundance of kelp (Department 2009). Should the establishment of MPAs result in a rebound of urchin predator populations, it is expected that kelp forests will expand and become more robust within MPAs. Kelp sequesters CO<sub>2</sub> into biomass through photosynthesis and it has a very rapid growth rate (up to 2 feet/day) (Clendenning 1960) and has been show to sequester 6.8 grams of carbon per square meter of Kelp forest per day (Towle and Pearse 1971) or approximately 10 metric tones per acre per year.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

# SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

## 6.3 WATER QUALITY

This section of the Draft Environmental Impact Report (EIR) discusses the water quality effects of the proposed Integrated Preferred Alternative (IPA). Included in this section is: an overview of the federal and state policies and regulations that govern water quality, discussion of the existing water quality conditions in the south coast study region (SCSR), and an evaluation of the Project's effects on water quality.

### 6.3.1 Regulatory Framework

Numerous federal and state laws, regulations, and policies are designed to protect water quality. These laws, regulations, and policies are summarized below; federal requirements are described first, followed by state requirements. As described in the Initial Statement of Reasons (ISOR) (Department 2010), there are existing activities and artificial structures such as wastewater outfalls, piers and jetties, maintenance dredging, and beach nourishment that occur throughout the south coast study region (SCSR). These activities are regulated by other federal, state, and local agencies, whose jurisdiction cannot be pre-empted through designation of Marine Protected Areas (MPAs) under Marine Life Protection Act (MLPA) of 1999. Of the 35 MPAs in the proposed Project IPA regulation, 23 have been identified as having various existing activities regulated by other agencies. These activities are addressed within the proposed Project IPA regulations to explicitly allow these regulated activities to continue under current permits.

#### 6.3.1.1 Federal Law, Regulations, and Policies

**6.3.1.1.1 Federal Water Pollution Control Act of 1972 (Clean Water Act) (33 U.S.C. 1251 et seq.)**. The Clean Water Act (CWA) is the principal statute governing water quality. The goal of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters. The proposed Project IPA MPAs will be allowed to continue existing operations that may be permitted under the CWA. Sections of the CWA that may be applicable to the proposed project are:

- Section 301 of the CWA prohibits the discharge into navigable waters of any pollutant by any person from a point source unless it is in compliance with a National Pollution Discharge Elimination System (NPDES) permit.
- Section 311 of the CWA regulates the discharge of oil and other hazardous substances into navigable waters and waters of the contiguous zone, as well as onto adjoining shorelines, that may be harmful to the public or to natural resources. The CWA allows the federal government to remove the substance and assess the removal costs against the responsible party. Under the CWA, removal costs include those associated with the

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

restoration or replacement of the natural resources damaged or destroyed as a result of a discharge of oil or a hazardous substance.

- Section 316(b) of the CWA of the CWA Requires that EPA ensure that the location, design, construction and capacity of the cooling water intake structures (CWIS) reflect the best technology available (BTA) to protect organisms from being killed or injured by impingement or entrainment. EPA divided the rule-making into three phases. EPA has asked the 5<sup>th</sup> Circuit Court to partially or completely remand Phase 2 and Phase 3 (<http://edocket.access.gpo.gov/2010/2010-17808.htm>, Accessed 8/9/10).
- Section 319 of the CWA addresses non-point sources of pollution. The 1987 amendments to the CWA authorized measures to address such pollution by directing states to develop and implement nonpoint pollution management programs (Section 319 of the act). States were encouraged to pursue groundwater protection activities as part of their overall nonpoint pollution control efforts.
- Section 401 of the CWA provides that projects that involve discharge or fill to wetlands or navigable waters must obtain certification of compliance with state water quality standards.
- Section 402 of the CWA establishes the NPDES permit program. The NPDES program control point source discharges and non-point source discharges that become point sources (e.g., stormwater run-off discharged by a publicly-owned treatment works (waste water treatment plant). Permits are typically issued by a state agency (in California, the Regional Water Quality Control Board [RWQCB]), and cannot exceed 5 years in duration. Permit compliance enforcement is shared between the state and the federal government.
- Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (Corps) to issue permits for the disposal of dredged and fill material into navigable waters. Generally, projects that discharge dredged or fill material into waters including wetlands require Section 404 permits. Under the Corps' general policy, a project should:
  - Provide public benefits that outweigh foreseeable detriments
  - Not unnecessarily alter or destroy wetlands
  - Conserve wildlife
  - Be consistent with water quality standards
  - Protect historic, scenic, and recreational values
  - Not interfere with adjacent properties or water resources projects, and

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

- Comply with approved coastal zone management programs<sup>1</sup>

**6.3.1.1.2 Rivers and Harbors Act of 1899.** The federal Rivers and Harbors Act of 1899 (RHA) regulates development and use of the nation's navigable waterways. It prohibits the unauthorized obstruction or alteration of any navigable waters of the United States. As defined by the RHA, navigable waters include all waters that are:

- Subject to the ebb and flow of tides and/or
- Presently, historically, or potentially used for foreign or interstate commerce

Regulations implementing Section 10 of the RHA are coordinated with those implementing CWA Section 404. Specifically, the RHA regulates:

- Construction of structures in, under, or over navigable waters;
- Excavation or deposition of material in navigable waters; and
- All work affecting the course, location, condition, or capacity of navigable waters.

The RHA is administered by the Corps, typically in conjunction with Section 404 of the CWA. If a proposed activity falls under the authority of both CWA Section 404 and RHA Section 10, the Corps processes and issues a single permit. For activities regulated only under RHA Section 10, such as installation of a structure not requiring fill, permit conditions may be added to protect water quality during construction.

**6.3.1.1.3 Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1464).** The purpose of the Coastal Zone Management Act (CZMA) is to preserve, protect, and restore or enhance the nation's coastal zones. The state of California has enacted the federally approved California Coastal Act (see Section 6.3.1.2, below).

Section 1456 of the CZMA requires that any federal action inside or outside of the coastal zone that affects any land or water use or natural resources of the coastal zone shall be consistent, to the maximum extent practicable, with the enforceable policies of approved state management programs. It states that no federal license or permit may be granted without giving the state the opportunity to concur that the project is consistent with the state's coastal policies. The associated regulations outline the consistency procedures.

**6.3.1.1.4 Magnuson-Stevens Fishery Conservation and Management Act.** The Magnuson-Stevens Fishery Conservation and Management (Magnuson-Stevens) Act establishes a management system for national marine and estuary fishery resources. The Act requires all federal agencies to consult with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) regarding all actions

---

<sup>1</sup> 33 C.F.R. §320.4.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat (EFH). Essential fish habitat is defined as waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. The legislation states that migratory routes to and from anadromous fish spawning grounds should also be considered EFH. Within the context of the Magnuson-Stevens Act, the phrase “adversely affect” refers to the creation of any impact that reduces the quality or quantity of EFH, and may include reductions in water quality. Federal activities that occur outside an EFH but that may nonetheless have an impact on EFH waters and substrate also must be considered in the consultation process. Under the Magnuson-Stevens Act, effects on habitat managed under the Pacific Salmon Fishery Management Plan must be considered as well.

The Magnuson-Stevens Act states that consultation regarding EFH should be consolidated, where appropriate, with the interagency consultation, coordination, and environmental review procedures required by other federal statutes, such as the National Environmental Policy Act (NEPA), CWA, and the federal Endangered Species Act. Essential fish habitat consultation requirements can be satisfied through concurrent environmental compliance requirements if the lead agency provides NOAA Fisheries with timely notification of actions that may adversely affect EFH and if the notification meets the requirements for EFH assessments.

**6.3.1.1.5 National Marine Sanctuaries Act.** The National Marine Sanctuaries Act prohibits the destruction, loss of, or injury to any sanctuary resource and any violation of the act, any regulations, or permits issued pursuant to the act. The Secretary of Commerce (Secretary) is required to conduct such enforcement activities as are necessary and reasonable to carry out the act. The Secretary may issue special use permits that authorize specific activities in a sanctuary to establish conditions of access to and use of any sanctuary resource, or to promote public use and understanding of a sanctuary resource.

The National Marine Sanctuaries Act also establishes liability for response costs and natural resource damages for injury to sanctuary natural resources. Under the National Marine Sanctuaries Act, the Secretary may undertake or authorize all necessary actions to prevent or minimize the destruction or loss of, or injury to, sanctuary resources, or to minimize the imminent risk of such destruction, loss, or injury. Furthermore, the Secretary shall assess damage to sanctuary resources. The act defines natural resource damages to include: 1) the cost of replacing, restoring, or acquiring the equivalent of a sanctuary resource; 2) the value of the lost use of the resource pending its restoration; 3) the cost of damage assessments; and 4) reasonable monitoring costs. The Secretary is required to use recovered response costs and damages to finance response actions and damage assessments to restore, replace, or acquire the equivalent of the injured sanctuary resource, and to manage and improve national marine sanctuaries.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

**6.3.1.1.6 Estuary (Estuarine) Protection Act of 1968 (PL 90-454, as amended; 16 U.S.C. 1221 et seq.)**. The Estuary (Estuarine) Protection Act of 1968 established congressional policy on values of estuaries and the need to conserve their natural resources. The purpose of the act is to provide a means to protect, conserve, and restore estuaries in a manner that “adequately and reasonably” maintains a balance between the national need for protecting and conserving natural resources and natural beauty and the need to develop estuaries to further the growth and development of the nation.

**6.3.1.1.7 National Park Act of August 19, 1916 (Organic Act), 16 U.S.C. 1, et seq.**. The National Park Act of August 19, 1916 (16 U.S.C. 1 et seq.), also known as the Organic Act, created the National Parks Service (NPS) in the Department of the Interior. The NPS is charged with the promotion and regulation of the use of the federal areas known as national parks, monuments, and reservations, so as to conform with “the fundamental purpose to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment for the same in such manner and by means as will leave them unimpaired for the enjoyment of future generations.”

**6.3.1.1.8 Marine Protection, Research and Sanctuaries Act (33 U.S.C. 1401 et seq.)**. The Marine Protection, Research and Sanctuaries Act (33 U.S.C. 1401 et seq.) regulates the ocean dumping of waste, provides for a research program on ocean dumping, and provides for the designation and regulation of marine sanctuaries. Often known as the Ocean Dumping Act, it regulates the ocean dumping of all material beyond the territorial limit (3 miles from shore) and prevents or strictly limits dumping material that “would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.”

**6.3.1.1.9 National Wildlife Refuge System Administration Act of 1966 and National Wildlife Refuge System Improvement Act of 1997**. The United States Fish and Wildlife Service (USFWS) owns and manages National Wildlife Refuges and bay waters totaling 30,000 acres. The National Wildlife Refuge System Administration Act of 1966 conserves and protects listed endangered and threatened species and migratory birds through protection and restoration of species’ habitats, and by managing uses, such as recreation, of refuge areas to prevent negative impacts to these species. The National Wildlife Refuge System Improvement Act of 1997 designates wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation as “priority general public uses.” When these activities are compatible with species protection goals (as determined by USFWS), they are welcome on refuges and receive priority over other uses. The San Diego National Wildlife Refuge Complex in the SCSR includes the following: Seal Beach National Wildlife Refuge, South Beach National Wildlife Refuge, Sweetwater Marsh National Wildlife Refuge, and Tijuana Slough National Wildlife Refuge.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

**6.3.1.1.10 Oil Pollution Act of 1990 (33 U.S.C. 2701-2761).** The Oil Pollution Act of 1990 (OPA) was passed to expand the government's ability to respond to oil releases and provide funding for those spill cleanups, and increase enforcement and penalties for non compliance. It also provided new requirements for contingency planning developed in the National Oil and Hazardous Substances Pollution Contingency Plan.

**6.3.1.1.11 Executive Order 11990 – Protection of Wetlands.** This federal Executive Order (1977, in furtherance of NEPA) protects wetlands and requires that all federal agencies minimize the destruction, loss, or degradation of wetlands, and preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for: 1) acquiring, managing, and disposing of federal lands and facilities; and 2) providing federally undertaken, financed, or assisted construction and improvements; and 3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities (42 FR 26961, 3 CFR, 1977 Comp).

**6.3.1.1.12 Other Federal Laws and Regulations That May Regulate Water Quality.** Several other laws and their associated regulations may require protection of water quality. The goal of the federal Endangered Species Act (ESA) of 1973 is to conserve species populations that are endangered or threatened and therefore require special protection. It requires federal agencies to evaluate whether a listed species could be affected by a discretionary action, such as the granting of a permit. If a listed may be affected the federal agency must consult with the USFWS and/or NOAA before granting the permit or other approval, or initiating a discretionary action. For major construction activities, a biological assessment is required to assist in the determination of whether the proposed action is likely to adversely affect listed species and critical habitats. USFWS and/or NOAA Fisheries will issue a biological opinion including reasonable and prudent measures required to avoid potential impacts to listed species. For activities in aquatic environments these reasonable and prudent measures may include requirements to protect water quality (e.g., to minimize turbidity during the breeding seasons of certain fish species).

### **6.3.1.2 State Law, Regulations, and Policies**

**6.3.1.2.1 Public Trust Doctrine.** The Public Trust Doctrine encompasses the notion that title to lands under navigable waters up to the high water mark is held by the state in trust for the people<sup>2</sup>. The U.S. Constitution grants states sovereignty over their tide and submerged lands, and the Supreme Court established the states' duty to protect (in perpetuity) the public's interest in these areas<sup>3</sup>. The California Supreme Court has interpreted the range of

---

<sup>2</sup> The concept of a public trust resource originated in Roman law. Through U.S. federal and state constitutional and case law, the doctrine has been applied to these resources in the U.S. For a more detailed discussion of the evolution of public trust law in California, refer to the Public Trust Statements at the California State Lands Commission website: [http://www.slc.ca.gov/Policy%20Statements/Policy\\_Statements\\_Home.htm](http://www.slc.ca.gov/Policy%20Statements/Policy_Statements_Home.htm).

<sup>3</sup> *Illinois Central Railroad v. Illinois*, 1892. 146 U.S. 387. The Public Trust Doctrine has yet to be applied to federal lands and waters through statutes or case law.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

public interest values in these waterways to include general recreation activities such as swimming and boating, and preservation of lands in their natural state as open space, as wildlife habitat, and for scientific study.<sup>4,5</sup>

State and local governments have two forms of authority to manage navigation that enable them to strike a balance between recreation and environmental needs: 1) control over development of tide and submerged lands that can affect navigability of waterways, and 2) recreational boating rules. Under the first category, the California State Lands Commission (SLC) manages public uses of navigable waters through its leasing program. When a public or private entity applies for a permit to lease tide and submerged lands, the SLC reviews the application to ensure that the proposed use (e.g., a marina or pier) will maintain the public benefits of the overlying navigable waters. Usually the city or county fulfills this review role because most tide and submerged lands are owned by local authorities through past legislative grants of state lands.

Under the second category, recreational boating rules in Section 660 of the California Harbors and Navigation Code empower local governments to establish ordinances that regulate navigation in waters within their jurisdiction through time-of-day restrictions, speed zones, special-use areas, and sanitation and pollution controls.<sup>6</sup>

**6.3.1.2.2 Porter-Cologne Water Quality Control Act (Porter-Cologne).** The Porter-Cologne Water Quality Act provides the state with broad jurisdiction over water quality and waste discharge, and also provides the state the authority to prepare regional Basin Plans to protect the state's water resources. Under the Porter-Cologne Water Quality Control Act and Section 401 of the federal CWA, the State Water Resources Control Board and the RWQCBs regulate discharges to surface waters (including wetlands), groundwater, and point and non-point sources of pollution. The Basin Plan designates existing and potential beneficial uses for each water body within its geographic region, sets numeric and narrative water quality objectives to protect the beneficial uses, and describes strategies and time schedules for achieving these water quality objectives.

The RWQCBs regulate all nonpoint source discharges under one of two statutory requirements: the NPDES Storm Water Permitting Program and the Coastal Nonpoint Pollution Control Program. The CWA Section 402 program is designed to regulate storm water and urban runoff (i.e., the nonpoint source discharges that become point sources).

---

<sup>4</sup> *Marks v. Whitney*. 1971. 6 Cal.3d 251; *National Audubon Society v. Superior Court*. 1983. 33 Cal.3d 419; *People v. California Fish Co.* 1913. 166 Cal. 576.

<sup>5</sup> Frank, R.M. 1983. "Forever Free: Navigability, Inland Waterways, and the Expanding Public Interest." *University of California, Davis Law Review*, 16:579. California case law also establishes a link between navigation and recreation, and verges on treating the two as interchangeable public interests.

<sup>6</sup> Harbors and Navigation Code §660 (b); and *Personal Watercraft Coalition v. Marin County Board of Supervisors*. 2002. 100 Cal. App. 4th 129; and *People ex. rel. Younger v. County of El Dorado*, 96 Cal App.3d. 403.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

Virtually all other nonpoint sources are subject to the Coastal Nonpoint Pollution Control Program.

The RWQCBs' permit authority includes the issuance of waste discharge requirements and conditions on CWA Section 401 water quality certification authorizations. The water quality objectives for surface waters in the SCSR are established by the Water Quality Control Plans (Basin Plans) for Regions 3 (Central Coast), 4 (Los Angeles), 8 (Santa Ana), and 9 (San Diego). The standards represent maximum levels of pollutants, or acceptable ranges (for parameters such as dissolved oxygen, temperature or pH) that allow beneficial uses of the water basin to continue unimpaired. The RWQCB has primary authority for ensuring that water resources are protected from degradation by pollutant discharges. To develop water quality standards that are consistent with the uses of a water body, each RWQCB attempts to classify historical, present, and future beneficial uses of the waters under its jurisdiction as part of the Basin Plan for its region. The Basin Plan is periodically reviewed and updated. Finally, each RWQCB is required to identify water bodies that do not meet water quality objectives pursuant to Section 303(d) of the CWA.

Beneficial uses of the major rivers and groundwater basins, along with narrative and numerical water quality objectives, are established in the Basin Plans. Beneficial uses of surface water in the Project area include municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; groundwater recharge; navigation; hydropower generation; contact and non-contact recreation; warm, freshwater habitat; cold, freshwater habitat; wildlife habitat; estuarine habitat; marine habitat; wildlife habitat; preservation of biological habitat; and commercial and sports fishing.

- The Water Quality Control Plan Ocean Waters of California (Ocean Plan) (SWRCB 2005) identified the following beneficial uses: The beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

**6.3.1.2.3 SWRCB Regulations for CWA Section 316(b).** The SWRCB adopted a policy for Section 316(b) of the CWA in May 2010, Use of Coastal and Estuarine Waters for Power Plant Cooling. The policy is not in effect pending review and approval of the State Office of Administrative Law.

The Policy establishes technology based standards to implement federal Clean Water Act section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. The Policy will apply to the 19 existing power plants (including

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

two nuclear plants) that currently have the ability to withdraw over 15 billion gallons per day from the State's coastal and estuarine waters using a once-through cooling systems.

**6.3.1.2.4 California Coastal Act (California Public Resources Code Sections 30000, et seq.)**. The California Coastal Act was enacted by the California State Legislature in 1976 to provide long-term protection of California's 1,100-mile coastline for the benefit of current and future generations. The Coastal Act created a partnership between the state (acting through the CCC) and local government (15 coastal counties and 58 cities) to manage the conservation and development of coastal resources through a comprehensive planning and regulatory program. New development in the Coastal Zone may require a permit from the CCC or the appropriate local government agency. The CCC also reviews and approves local coastal programs, which are the basic planning tools used by local governments to guide development in the Coastal Zone.

For all of the California coast, except San Francisco Bay, the CCC implements the federal Coastal Zone Management Act of 1972. The CCC is responsible for reviewing proposed federal and federally authorized activities to assess their consistency with the approved state coastal management program. The CCC developed the California Coastal Management Program pursuant to the requirements of the federal Coastal Zone Management Act of 1972. After NOAA Fisheries approved the California Coastal Management Program in 1977, all federal activities affecting Coastal Zone resources became subject to the CCC's regulatory jurisdiction. A federal agency must conduct its activities (including federal development projects, permits and licenses, and assistance to state and local governments) in a manner consistent with the California Coastal Management Program. The process established to implement this requirement is called a consistency determination for federal activities and development projects and a consistency certification for federal permits and licenses and federal support to state and local agencies.

**6.3.1.2.5 Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990**. In 1990, the California state legislature enacted the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (California Government Code Chapter 7.4) and established the Harbor Safety Committee. The purpose of the Harbor Safety Committee is to prepare a Harbor Safety Plan that considers all vessel traffic to ensure safe navigation and operation of tankers, barges, and other vessels. Harbor Safety Plans exist for the Port of Los Angeles/Port of Long Beach Harbor Complex, Port Hueneme, and the Port of San Diego. The Harbor Safety Committee meets regularly to develop additional strategies to further safe navigation and oil spill prevention.

**6.3.1.2.6 Public Resources Code, Division 6, Sections 6001, et seq. (California State Lands Commission Tide and Submerged Lands)**. The Public Resources Code, Division 6, gives the SLC jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable rivers, sloughs, lakes, etc. The SLC has certain

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

residual and review authority for tide and submerged lands legislatively granted in trust to local jurisdictions (Public Resources Code §6301 and §6306). All tide and submerged lands, granted or ungranted, as well as navigable rivers, sloughs, etc., are impressed with the common law public trust, as discussed above.

### **6.3.1.3 Statewide Management Plans and Executive Orders**

**6.3.1.3.1 Ocean Plan.** The Ocean Plan was adopted by the State Water Board in 1972 and amended most recently in 2005. The Ocean Plan sets forth standards to protect all ocean waters of California and prescribes programs to implement these standards. The standards include the designated beneficial uses of the ocean waters, narrative and numeric objectives to protect these uses, and the State's Antidegradation Policy. The program of implementation includes waste discharge limitations, monitoring, and enforcement. The Ocean Plan provides the basis for regulation of wastes discharged into the State's coastal waters, and applies to both point and nonpoint source discharges.

The Ocean Plan also describes requirements for management and design of systems discharging wastewaters to the ocean and effluent quality requirements for discharges. The Plan states that "areas of special biological significance" (ASBS) shall be designated by the State Board. In these areas, the maintenance of natural water quality conditions must be assured. Waste discharges to ASBS are prohibited unless the State Board finds that there would be no adverse impact to beneficial uses. The State Water Board and the six coastal Regional Water Quality Control Boards are responsible for reviewing the Ocean Plan water quality standards and for modifying and adopting standards in accordance with Section 303(c)(1) of the federal CWA and Section 13170.2 of the California Water Code.

The California Ocean Plan (SWRCB 2005) identified the following beneficial uses:

- The beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

**6.3.1.3.2 Water Quality Control Plan for Control of Temperature in Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan).** The Thermal Plan, which was adopted by the State Water Resources Control Board on January 7, 1971, and revised most recently on September 18, 1975, provides the state with specific water quality objectives for cold and warm interstate waters, coastal waters, enclosed bays, and estuaries. The State Water Resources Control Board and the RWQCBs administer this plan by establishing waste discharge requirements for existing and future discharges of elevated temperature wastes. Existing and future dischargers of thermal waste are required to

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

conduct studies to define the effect of the discharge on beneficial uses and, for existing discharges, determine design and operating changes which would be necessary to achieve compliance with the provisions of the Thermal Plan. The RWQCBs may, in accordance with Section 316(a) of the federal Water Pollution Control Act of 1972, and subsequent federal regulations including 40 CFR Part 122, grant an exception to Specific Water Quality Objectives in the plan.

### **6.3.1.3.3 Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling.**

On May 4, 2010 the State Water Resources Control Board, the statewide policy making and oversight body for the RWQCBs, adopted the Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling. The intent of the policy is to protect marine and estuarine life from the impacts of once-through cooling without disrupting the critical needs of the State's electrical generation and transmission system. The policy establishes technology-based standards to implement federal CWA Section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. The policy applies to the 19 existing power plants (including two nuclear plants) that currently have the ability to withdraw over 15 billion gallons per day from the state's coastal and estuarine waters using a single-pass system, also known as once-through cooling. Section 316(b) is implemented through NPDES permits, issued by the RWQCBs.

**6.3.1.3.4 Water Quality Control Plan for Enclosed Bays and Estuaries Plan.** The Enclosed Bays and Estuaries Plan sets forth objectives for the protection of aquatic life and human health. This plan applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the State's Porter Cologne Act and the federal CWA. Such regulation may occur through the issuance of NPDES permits, the issuance or waiver of waste discharge requirements (e.g., for discharges of treated wastewater to land), or other relevant regulatory approaches. The goal of this policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency. The policy is intended as a tool to be used in conjunction with watershed management approaches and, where appropriate, the development of total maximum daily loads (TMDLs) to ensure achievement of water quality standards (i.e., water quality criteria or objectives, and the beneficial uses they are intended to protect, as well as the State and federal anti-degradation policies). This policy establishes implementation provisions for priority pollutant criteria promulgated by the Environmental Protection Agency (EPA) through the National Toxics Rule and through the California Toxics Rule, and for priority pollutant objectives established by the RWQCB in each Basin Plan.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

### **6.3.1.4 State Water Quality Protection Areas—Areas of Special Biological Significance**

ASBSs were intended to afford special protection to marine life through prohibition of waste discharges within these areas. The RWQCBs were required to select areas in coastal waters which contain “biological communities of such extraordinary, even though unquantifiable, value that no acceptable risk of change in their environments as a result of man’s activities can be entertained.” Since 1983, the Ocean Plan has prohibited waste discharges to ASBS. Similar to previous versions of the Ocean Plan, the 2005 Ocean Plan (SWRCB 2005) states: “Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.” There are currently a total of 34 ASBS statewide; 17 are located within the SCSR.

### **6.3.2 Environmental Setting**

The MLPA SCSR extends for over 1,046 miles along the California coast, includes 2,351 square miles of ocean, and drains over 10,000 square miles from the 19 hydrologic units or major watersheds (See Table 6.3-1). The study area is located within the Southern California Bight (bight), an oceanic region bounded landward by the coast and seaward by the continental slope (Patton Escarpment). The bight is a region that includes coastal Southern California, the Channel Islands, and the local portion of the Pacific Ocean. This region is referred to as a bight because the characteristic north-south trending coastline found off much of western North America experiences a significant curvature or indentation along the coast of Southern California. The Pacific Ocean that occupies this region, from Point Conception in the north to just past San Diego in the south, and extending offshore of San Nicolas Island, is characterized by complex current circulation patterns. For the purposes of this Draft EIR, the bight is defined as the area between Point Conception in the north, Cabo Colonet, located south of Ensenada, Mexico to the south, outside of the Cortez and Tanner Banks to the west, and coastal watersheds to the east. The SCSR extends from Point Dume to Dana Point along the coast and includes the California Channel Islands and those Baja California Pacific Islands that lie within the bight.

Circulation patterns within the bight are more complex than elsewhere off the west coast of the United States. The south-flowing California Current, a well-described eastern boundary current, dominates flow in this region, and is strongest during summer, see Figure 6-1. The California Current branches shoreward and then poleward (north) in the bight, forming the California Countercurrent, and, at times, an eddy-like cyclonic circulation (i.e., the Southern California Eddy). The Southern California Eddy seasonal maximum is summer to early fall.

**SOUTH COAST MARINE PROTECTED AREAS PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

**TABLE 6.3-1  
MAJOR WATERSHEDS IN THE STUDY REGION**

<b>Major Hydrologic Unit</b>	<b>Area (sq. mi.)</b>	<b>Major Hydrologic Unit</b>	<b>Area (sq. mi.)</b>
South Coast <sup>1</sup>	375	San Luis Rey River <sup>2</sup>	565
Pitas Point <sup>3</sup>	22	Carlsbad <sup>2</sup>	210
Ventura River <sup>3</sup>	300	San Dieguito <sup>2</sup>	350
Santa Clara-Calleguas <sup>3</sup>	1,760	Penasquitos <sup>2</sup>	170
Malibu <sup>3</sup>	242	San Diego River <sup>2</sup>	440
Los Angeles-San Gabriel <sup>3</sup>	1,608	Pueblo San Diego <sup>2</sup>	60
San Pedro Channel Islands <sup>1,3</sup>	156	Sweetwater River <sup>2</sup>	230
Santa Ana River <sup>1</sup>	1,972	Otay River <sup>2</sup>	160
San Juan <sup>2</sup>	500	Tijuana River <sup>2</sup>	470
Santa Margarita River <sup>2</sup>	750		
<b>Total</b>			<b>10,340</b>

<sup>1</sup> Source: State Water Resources Control Board GIS layer.

<sup>2</sup> Source: SDRWQCB 2007.

<sup>3</sup> Source: LARWQCB 1994.

The California Undercurrent, also strongest in summer, similarly exhibits poleward flow over the continental slope in this region. The strongest equatorward winds are found during spring along most of the California coast. At this time, the California Current moves closer to shore and accelerates, producing mainly equatorward flow in the bight. Thus, poleward flow in the bight experiences a minimum during spring when the California Current impinges on the bight, and a maximum in summer when the California Current moves further offshore and spreads out, allowing more water to shear from the California Current, promoting the flow of the California Countercurrent.

Winds in the bight are generally weaker but highly variable as compared to the rest of the California coast. Because of this, upwelling events within the bight tend to be limited to winter and early spring; local upwelling during summer, while strong elsewhere along the California coast, is minimal in the bight due to a large reduction in wind stress. Temporally and spatially variable local winds, as well as eight nearshore islands and numerous coastal promontories, submarine canyons, basins, and ridges introduce complexity to these large-scale circulation patterns, particularly in the form of sub-mesoscale or small-scale eddies that are typically under 31 miles in diameter (CSU Long Beach 2010).

Many areas within the SCSR have degraded water quality. However, on the whole, offshore water quality has improved in the last two decades because of enacted discharge regulations (California Cooperative Ocean Fisheries Investigations 2002). Water quality in the study region is affected by a wide range of pollution sources; both land-based and water-based

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

sources exist. Urbanized areas are often associated with treated wastewater discharges that 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 (CCLEAN 2007). Land use varies considerably, from highly urbanized in Los Angeles County to more agricultural and open space in Ventura County, although there is an increasing trend towards urban residential and commercial land use (LARWQCB 1994). Los Angeles County continues to receive the poorest water quality reports for the state with the Los Angeles River outlet having “very poor water quality” in 2008 (Heal the Bay 2008). In addition, seven of the ten beaches with the highest water pollution in the state are located in the SCSR, with five of those in Los Angeles County (Department 2009a).

For purposes of the water quality evaluation, the SCSR was divided into seven subregions. These subregions were created to more easily present information on maps and are not related to the bioregions identified by the Science Advisory Team (SAT). Five primary factors affect offshore water quality issues: 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 and hazardous material spills. Other potential concerns include dredged material disposal, beach nourishment/sand mining, and releases from recreational and commercial vessels. The five primary concerns are described in more detail below.

### **6.3.2.1 Primary Water Quality Concerns in the Study Area**

There are five primary factors affecting offshore water quality issues: 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.

**6.3.2.1.1 Point Source Pollution.** There are specific locations (point sources) where industrial pollution enters coastal waters; these are generally regulated by state or federal agencies. 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. There are 18 municipal wastewater treatment plants, three desalination plants, 12 “once-through” cooling power plants, and six other permitted discharge sites which include: aquaculture wastewater, marine lab waste seawater, refinery wastewater and treated sanitary waste from oil platforms. Another point source within the study region consists of outfalls for untreated stormwater. Only the municipal wastewater sites and the power plant cooling intakes are considered to have major effects on the aquatic system (Department 2009a). Figures 6-2 through 6-9 show the location of major point source discharges within the study area.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

Three existing desalination plants currently operate within the study area. In addition to the three existing desalination plants, the Poseidon Resources' Carlsbad Desalination Project was recently approved for construction. Furthermore, several other desalination plants are being proposed in the study region. Some of these sites may be co-located with power plant locations (Department 2009a).

**6.3.2.1.2 Non-point Source Pollution.** Non-point source pollution is the leading cause of degraded water bodies in Southern California and across the country (Department 2009a). 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. Figures 6-10 and 6-11 show agricultural and urban land coverage in major watersheds that feed the SCSR. The transition in the region from open space/agricultural land uses to more urban land uses may further degrade water quality in the region. Land use issues are discussed in Section 8.3.

Resource extraction can cause erosion or sedimentation and leaching or discharge of harmful chemicals. There are a large number of active energy projects within and adjacent to the south coast study region as shown in Figures 6-8 and 6-9. Some of these projects may have effects on the marine ecology of the study region by impacting water quality, oceanographic patterns, habitat suitability, and other environmental conditions. Boats can affect water quality through discharge of fuels and oils, ballast water (non-native organisms), and biological wastes (untreated sewage from small boats).

In addition, some coastal features are naturally susceptible to erosion. These coastal features include headlands, coastal cliffs, and submarine canyons. During storm events, runoff transports pollutants and sediment into surface waters. Erosional processes provide sediment needed for coastal processes, as well as nutrients such as iron that are often limited in near-shore waters; however, increased sediment delivery results in disruption of biological communities due to the smothering of marine habitats and increasing turbidity of the nearshore water column (Department 2009a). The increase in impervious surfaces and flood control structures due to urbanization has increased sedimentation rates into the coastal waters (Department 2009a).

**6.3.2.1.3 Algal Blooms.** Certain species of phytoplankton and cyanobacteria pose threats to marine waters and associated life through rapid reproduction or release of toxins. Harmful algal blooms occur naturally in surface waters under the following conditions: elevated water temperature, high nutrient levels, and reduced water flow and circulation. Algal blooms can impact dissolved oxygen levels. In 2007, Southern California experienced a major bloom that caused historic levels of toxins in planktons, shellfish, and other wildlife (Department 2009a).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

**6.3.2.1.4 Contaminated Sediments.** The SCSR has a number of areas with contaminated sediments. Twenty-five of those sites have been designated as a superfund sites by the federal government. These sites are identified under the Comprehensive Environmental Response, Compensation and Liability Act as sites to be placed on the National Priorities List. A recent study conducted as part of the Southern California Bight Regional Monitoring Program looked at sediment throughout the region. Three hundred fifty nine sediment samples were taken from the following types of areas: onshore, offshore, embayments, estuaries, and publicly owned treatment works (i.e., sewage treatment plants). Most of the SCSR had contaminated sediment. The study found that 94 percent of all sediment samples contained at least one contaminant. The greatest dichlorodiphenyltrichloroethane (DDT) contamination was found in coastal areas near outfalls, where urban runoff was the probable source of contamination. Similarly, the highest concentrations of trace metals were in embayments, where there is minimal opportunity for contaminant flushing, as water circulation is restricted. In contrast, the Channel Islands experience constant ocean flow and quickly moving currents, such that this area had the least sediment contamination, in terms of both accumulation and concentration (Department 2009a). There are numerous on-going water quality monitoring efforts in the SCSR, some of which, such as the Southern California Bight Regional Monitoring Program, also include sediment quality. In the study region significant contamination was found in the sediments; the majority of the sediment did not have an adverse biological impact (Department 2009a). Additional information regarding current water quality monitoring efforts in the SCSR and the former Mussel Watch Program is provided in section 6.3.2.4.

***Ocean Dredged Material Disposal Sites.*** Ocean dredged material disposal sites (ODMDS) are designated by the EPA and contain the materials derived from ocean dredging operations from local port districts, marinas and harbors, and federal navigational channels. The availability of suitable ocean disposal sites to support ongoing maintenance and capital improvement projects is important for the continued use and economic growth of the commercial and recreational areas in the region. Dredged material is not allowed to be disposed of in the ocean unless the material meets strict environmental criteria established by the EPA and U.S. Army Corps of Engineers.

There are currently 3 ODMDS sites within the SCSR. These sites are identified as LA-2, LA-3 and LA-5. The LA-2 ODMDS was designated as a permanent disposal site on February 15, 1991. The LA-2 site is located on the San Pedro Sea Valley about 5.9 nautical miles south-southwest of the entrance to Los Angeles Harbor. LA-3 ODMDS is a permanent disposal site located approximately 4.3 nautical miles offshore from Newport Bay. LA-5 ODMDS is a permanent disposal site located west of the San Diego Bay.

**6.3.2.1.5 Oil and Hazardous Material Spills.** The risk of spills is high in the SCSR due to heavy oil and hazardous material tanker traffic, dozens of oil platforms located off the coast, and pipelines running from platforms to onshore sites. Since the 1990s, there have been eight

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

oil spills in both federal and state waters, all of which had an effect on water quality. The causes of these spills include pipeline breaks, platform accidents, a tanker accident, and in one instance the cause is unknown. For additional discussion of oil spills and other hazards and hazardous materials located within the SCSR, see Section 8.5.

### 6.3.2.2 Water Quality Summaries by Subregion

The following subsections present basic information and highlights regarding water quality in each of the seven subregions. As noted above, the subregions were created for the ease of displaying information on maps and are not related to the bioregions identified by the SAT.

The information was compiled as from a joint fact-finding effort with the South Coast Regional Stakeholder Group and their constituents. The information presented builds on information found in the Regional Profile and incorporates local knowledge gathered from stakeholders. While the information represent stakeholders' intimate knowledge of their region, they may not represent an exhaustive list of every activity or important area (e.g., uses/activities at each public access point, important recreational and/or commercial fishing areas). Three dredged material disposal sites (San Pedro, Los Angeles, and San Diego) are located within the SCSR, see Figure 6-12.

**6.3.2.2.1 Point Conception to Rincon Point (Subregion 1).** Subregion 1 begins at the most northern portion of the SCSR, which is also the northernmost portion of the bight. It covers 225 square miles, with 70 miles of coastline facing south with a slight west-to-southeast curve. Coal Oil Point, Goleta Point, and Santa Barbara Point are the major promontories in this subregion. The coast faces the Santa Barbara Channel and northern Channel Islands. Several coastal creeks, including Arroyo Burro, Mission Creek, Carpinteria Creek, and Rincon Creek, are found in this subregion, but no major rivers (Figure 3-10).

An upwelling center is located at Point Conception, which also marks the boundary where the cool California Current meets the relatively warmer California Countercurrent. During the upwelling season (March through September), cold, nutrient-rich waters are brought to the surface near Point Conception, the upwelling center, and move eastward along the western edge of the Santa Barbara Channel (Department 2009a). There are two existing MPAs in Subregion 1: Refugio state marine conservation area (SMCA) and Goleta Slough State Marine Park (SMP). The Halibut trawl grounds from around Gaviota State Park to Point Hueneme (past Rincon Point) are closed. The rockfish conservation areas that restrict commercial trawl and non-trawl fishing cross into the subregion in several areas, and the rockfish conservation area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion.

Water quality concerns for the subregion include impaired water bodies, major point sources, and oil seeps. The main impaired water bodies in the subregion are; Arroyo Burro Creek (pathogens), Arroyo Paredon (boron, nitrates [NO<sub>3</sub>], toxicity), Cholame Creek (boron, fecal

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

coliform), Mission Creek (pathogens, unknown toxic), Franklin Creek (NO<sub>3</sub>), Carpinteria Creek (pathogens) and Rincon Creek (boron, toxicity) (Department 2009a).

The major point sources include five waste water treatment plants (Goleta, Santa Barbara, Montecito, Summerland, and Carpinteria treatment plants) discharging treated sanitary wastewater; desalination brine from Chevron U.S.A., Inc.'s Gaviota desalination plant; and aquaculture wastewater discharged by Cultured Abalone Inc. Oil seeps are especially common in the area between Coal Oil Point and Campus Point. An oil platform is also present in this subregion, and a marine oil terminal is present off Goleta.

**6.3.2.2.2 Rincon Point to Point Dume (Subregion 2).** Subregion 2 covers 177.7 square miles and 78.6 miles of coastline oriented northwest to southeast with freshwater input from the Ventura and Santa Clara Rivers. The northern half of Subregion 2 faces the Channel Islands. This configuration creates a channel which large pelagic species use as a transit corridor and where they congregate to feed. Prominent coastal features include: Pitas Point, Pierpont Bay, Ventura Harbor, Channel Islands Harbor, Port Hueneme, Middle Point, Laguna Point, Point Mugu, Sequit Point, and Point Dume. The majority of the subregion has soft substrate from 0 to 328 feet depth. Submarine canyons lie off Point Hueneme, Point Mugu, and Point Dume. The counter-clockwise circulating gyre called the Southern California Eddy is located in this area. There are two major rivers, the Ventura River and Santa Clara River and eight coastal watersheds in the subregion (Pitas Point, Ventura River, Buena Ventura, Santa Clara-Calleguas, Oxnard, Calleguas, Ventura Coastal Streams, and Santa Monica Bay) (Figure 3-11).

The subregion has one existing MPA, Big Sycamore Canyon State Marine Reserve (SMR), which is unique because it starts below the mean high-tide line and regulations restrict non-consumptive recreational uses (see Figure 3-11). The Halibut trawl grounds are closed from Rincon Point to Point Mugu with a break at Point Hueneme. The rockfish conservation area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion. The rockfish conservation areas that restrict commercial trawl and non-trawl fishing cross into the subregion in several areas. There is an intersection of recreational, trawl, and non-trawl rockfish conservation areas in the southern portion of the SCSR.

Water quality concerns for the subregion include impaired water bodies, major point sources, and oil seeps. The main impaired water bodies in the subregion are the Channel Islands Harbor (lead, zinc), Mugu Lagoon (endosulfan), Point Hueneme Harbor (DDT, polychlorinated biphenyls [PCB]), Santa Clara Estuary (chem A, coliform, toxaphene) and Ventura River Estuary (algae, eutrophic conditions, trash, coliform).

Major point sources include two power plants: (Ormond Beach Generating Station and Mandalay Bay Generation Station discharging cooling water, and three wastewater treatment

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

plants (Oxnard, Camrosa and Ventura) discharging treated sanitary wastewater. Treated sewerage effluent into Santa Clara River and Santa Rosa Creek provides for perennial flow in those drainages. The Thousand Oaks wastewater treatment facility at the headwaters of Santa Rosa Creek discharges nutrient-rich waters. Dredge spoils from Ventura Harbor are disposed of within the Ventura Harbor in a “confined aquatic disposal” site cell constructed below the Navy portion of the harbor. An oil platform (Platform Gina) is also present in this subregion, 3.7 miles offshore from Port Hueneme.

**6.3.2.2.3 Point Dume to Newport Beach (Subregion 3).** Subregion 3 covers 283.8 square miles and 246.4 miles of coastline oriented northeast to southwest with only one major promontory: the Palos Verdes Headland. Between Point Dume and Palos Verdes Point lies Santa Monica Bay. The largest port complex in the United States, comprised of the Port of Los Angeles and the Port of Long Beach, is located in this subregion. There are three major rivers (Los Angeles River, San Gabriel River, and Santa Ana River) and five coastal watersheds (Santa Monica Bay, Dominguez Channel, Los Angeles River, San Gabriel River, and Santa Ana River) in Subregion 3 (Figure 3-12).

The marine bottom in this subregion is mostly soft bottom in the subtidal zone north and south of Palos Verdes. Two submarine canyons at Point Dume and Redondo Beach anchor the two ends of Santa Monica Bay, and upwell clean water and nutrients. Two deep marine canyons lie off Orange County: Newport Canyon, which starts at the Newport Pier, and the San Gabriel Canyon off Huntington Beach. Most of the subregion is soft substrate under 323 feet deep, except off Palos Verdes Point where there are depths of more than 656 feet, and off Point Vicente where depth reaches 0.5 mile in state waters. White Point on the Palos Verdes peninsula has a unique intertidal and shallow subtidal vent community with the filamentous sulfide bacteria *Beggiatoa* at the base of its food chain. While sulfide bacteria are also found at oil seeps, White Point is unique in that the other vents are co-located with oil seeps.

The subregion has six existing MPAs: Abalone Cove SMP, Point Fermin SMP, Bolsa Chica SMP, Upper Newport Bay SMP, Robert E. Badham SMCA, and Irvine Coast SMCA (see Figure 3-12). The rockfish conservation area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion. The rockfish conservation areas that restrict commercial trawl and non-trawl fishing cross into the subregion in several areas. There is an intersection of recreational, trawl, and non-trawl rockfish conservation areas at Point Dume and Palos Verdes Point. Commercial fishing using set lines, trammel or gill nets, and handlines with more than 15 hooks attached to any one fishing line and one fishing line attached to another fishing line has been prohibited in Santa Monica Bay within 1 mile of the mainland shore (Department 2009a). Traps are banned from most areas of the bay. Finfish and hagfish traps may not be used within 750 feet of any piers, jetties, and breakwaters, but are allowed outside that area, pursuant to sections 9001 and 9001.7(g) of the California Fish and Game Code. Spot prawn

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

traps are also allowed in Santa Monica Bay (see sections 9001 and 9015 of the Fish and Game Code). Commercial take of rock crabs and lobster is also not allowed; see the California Code of Regulations (CCR) at 14 CCR 122(a)(2) and section 8282 of the California Fish and Game Code. There is also a restricted area south of Marina del Rey Harbor.

Water quality concerns for the subregion include impaired water bodies, major point sources, and oil seeps. Beach nourishment is also conducted. The main impaired water bodies in the subregion are Malibu Lagoon (DDT, PCBs), Marina Del Rey Harbor (DDT and Dieldrin), Los Angeles/Long Beach Harbors (DDT, PCBs, and sediment toxicity), Alamitos Bay (fecal coliform), and other estuaries and lagoons (Department 2009a).

Malibu Beach and Surfrider Beach have historically had dozens of beach-site days receive posted warning for nonpoint source pollution with both non-human and human fecal contamination (Department 2009a). There have been frequent beach closures in the Huntington Beach area as well in recent years due to fecal coliform contamination of unknown origin, also the Santa Ana river mouth is listed by the state of California as a hotspot for bacterial contamination.

Major point sources include power plants, waste water treatment plants, the Montrose Chemical Superfund Site (sediment contamination), a refinery, and oil platforms. There are four power plants (AES Huntington Beach, Scattergood Generating Station, El Segundo Generating Station, and AES Redondo Beach Generating Station) and three major wastewater outfalls in the subregion (Orange County, Hyperion, and Los Angeles County sanitary treatment plants). El Segundo discharges refinery wastewater. Oil platforms Esther and Eva also treated sanitary waste from oil platform operations. For years, the Montrose Chemical Company years released DDT and PCB into the Southern California marine environment. In this subregion, the soft-bottom areas adjacent to White's Point and other locations at the Palos Verdes Peninsula are among the most severely impacted.

**6.3.2.2.4 Newport Beach to Agua Hedionda (Subregion 4).** Subregion 4 covers 176.6 square miles and 108.2 miles of coastline oriented northwest to southeast with major promontories being Dana Point and San Mateo Point. The California Countercurrent runs along the coast. The subregion includes five coastal watersheds (Santa Ana River, San Juan, Santa Margarita, San Luis Rey, and Carlsbad) and five major rivers (Santa Ana River, San Juan Creek, San Mateo Creek, Santa Margarita River, and San Luis Rey River). The majority of the subregion is soft substrate from 0 to 328 feet. The area north of Dana Point is deeper, and two submarine canyons run south from Newport Beach.

The existing MPAs in the subregion are: Upper Newport Bay SMP, Robert E. Badham SMCA, Crystal Cove SMCA, Irvine Coast SMCA, Heisler Park SMR, Laguna Beach SMCA, South Laguna Beach SMCA, Niguel SMCA, Dana Point SMCA, Doheny SMCA,

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

Doheny Beach SMCA, and Agua Hedionda Lagoon SMR (see Figure 3-15). There are three ASBSs (Newport Beach Area of Special Biological Significance, Irvine Coast Area of Special Biological Significance, and Heisler Park Area of Special Biological Significance). The Rockfish Conservation Area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion. The rockfish conservation areas that restrict commercial trawl and non-trawl fishing cross into the subregion in several areas. There is an intersection of recreational, trawl, and non-trawl rockfish conservation areas in the northern portion of the subregion and along the outside of the southern portion. Point Loma and La Jolla both have no-take areas. Other protected areas include the Buena Vista Lagoon Ecological Reserve, Crystal Cove Underwater Park, and the Bureau of Land Management's National Coastal Monument (all offshore rocks are protected). Restricted areas exist off Camp Pendleton.

Water quality concerns for the subregion include impaired water bodies (including areas with bacterial contamination) and major point sources. Beach nourishment is also conducted. The main impaired water bodies in the subregion are Newport Harbor and Bay, Oceanside Harbor, San Luis Rey River Mouth, Buena Vista Lagoon, Agua Hedionda Lagoon, Anaheim Bay (Dieldrin, Ni, PCBs, sed. toxicity), Balboa Beach (DDT, Dieldrin, PCBs), Huntington Harbor (Chlordane, copper [Cu], lead [Pb], nitrogen [Ni], pathogens, PCBs, sed. toxicity); and other estuaries and lagoons. The north end of Dana Point Harbor and Doheny Beach are recognized by the state of California as bacterial contamination hotspots from both local and watershed-related sources. Two power plants (San Onofre Nuclear Generation Station Units 1, 2, and 3, and Encina Power Plant), and four major wastewater treatment plant outfalls (Oceanside, Aliso, SERRA, and Dana Point) are located in this subregion. Local runoff from development all along the Laguna shoreline is considered a major source of habitat degradation in the nearshore area.

**6.3.2.2.5 Agua Hedionda to California/Mexico Border (Subregion 5).** Subregion 5 covers 203.3 square miles and 187.64 miles of coastline oriented north to south with the major promontories Point La Jolla and Point Loma. Prominent coastal features include: Teramar Reef/Point, Encinitas Point, La Jolla Bay, Goldfish Point, Point La Jolla, Seal Rock, Bird Rock, False Point, Point Medanos, Mission Bay Channel and Mission Bay, Point Loma, and San Diego Bay (see Figure 3-14). San Diego Bay is the third-largest bay/estuary complex in California, and the largest in Southern California. There are significant differences in the community composition of San Diego Bay as compared to other Southern California bays. San Diego Bay is unique in that it is the northernmost range for many tropical/subtropical fish. The southward-moving California Current bends shoreward near San Diego and northward along the bight as the California Countercurrent. Along the San Diego County coast the current changes direction for weeks at a time.

Most of the subregion waters are at depths of less than 328 feet. There is a submarine canyon off Agua Hedionda Lagoon in Carlsbad, and a submarine canyon reaches the nearshore area

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

near La Jolla. “Del Mar Ridge,” a hard-bottom shelf, in depths of 125 feet to over 300 feet, is from 1 to 3 miles offshore Del Mar. There are eight coastal watersheds (Carlsbad, San Dieguito, Los Peñasquitos, San Diego, Sweetwater, Pueblo San Diego Bay, Otay, and Tijuana) and seven major rivers (Escondido Creek, San Dieguito River, San Diego River, Sweetwater River, Otay River, and Tijuana River) in Subregion 5.

Water quality concerns for the subregion include impaired water bodies (including areas with bacterial contamination) and major point sources. Beach nourishment is also conducted. The main impaired water bodies in the subregion are Batiquitos Lagoon, San Elijo Lagoon (eutrophic, coliform, sediment/silt), San Dieguito Lagoon, Los Peñasquitos Lagoon (sediment/silt), back corners of Mission Bay (eutrophic, Pb, coliform), San Diego Bay (Cu, sediment toxicity, zinc [Zn], polynuclear aromatic hydrocarbons [PAHs], PCBs, coliform), Sweetwater Marsh, the Tijuana Estuary (eutrophic, coliform, Pb, Low DO, Ni, pesticides, thallium, trash, turbidity), Agua Hedionda Lagoon (coliform, sediment/silt), Santa Margarita Lagoon (eutrophic), and other smaller estuaries and lagoons, as well as Shelter Island Yacht Harbor (high copper load in sediments), Chollas Creek area (high E.coli counts), East Mission Bay near Hilton Hotel (elevated E.coli, low oxygen); Children’s Pool (high fecal coliform from hauled-out Harbor Seals). During large rainstorms the treatment plant for the outfall from Tijuana is commonly overrun, the river becomes contaminated and the beaches north and south must be closed, including Elijo Lagoon and the Tijuana River Estuary. Other non-point sources include dredging activities and beach nourishment. Finally, the US Navy (which has facilities at North Island Naval Air Station, Naval Amphibious Base Coronado, and Naval Base San Diego) and Air Force have a large presence at San Diego and conduct many maneuvers and training exercises, some of which may impact water quality.

Major point sources include five sanitary wastewater treatment plant outfalls (San Elijo, Point Loma, South Bay, Carlsbad and Tijuana) and a power plant (Chula Vista Power Plant). Heated water from Chula Vista Power Plant may provide refuge for green turtles and sub-tropical/tropical fishes during colder winter months. In addition, the Scripps Institution of Oceanography discharge marine lab and public aquarium waste seawater. At Imperial Beach, the Tijuana sewage outfall spills out into 90 feet of water above the border and has a visible discharge.

There are eight existing MPAs in this subregion: Batiquitos Lagoon SMP, Encinitas SMCA, Cardiff-San Elijo SMCA, San Elijo Lagoon SMP, San Dieguito Lagoon SMP, San Diego-Scripps SMCA, La Jolla SMCA, and Mia J Tegner SMCA (see Figure 3-14). Other protected areas include San Diego-La Jolla Underwater Park (this park includes an ASBS); Scripps Shoreline Underwater Reserve; San Diego-La Jolla Ecological Reserve and ASBS; and large Restricted Area from Point Loma south and offshore, South Bay Marine Biological Study Area, Sweetwater Marsh National Wildlife Refuge, and Tijuana River National Estuarine Research Reserve.

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

The rockfish conservation area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion. The Rockfish Conservation Areas that restrict commercial trawl and non-trawl fishing cross into the subregion in several areas. There is an intersection of recreational, trawl, and non-trawl rockfish conservation areas at the study region boundary in the northern portion of Subregion 5 that continues south outside the study region boundary.

**6.3.2.2.6 Northern Channel Islands (Subregion 6).** Subregion 6 covers 645.22 square miles and 190.8 miles of coastline divided between San Miguel, Santa Rosa, Santa Cruz, and Anacapa Islands. The islands face the mainland to the north and are oriented east-west. Anacapa Island is closest to the mainland at a distance of about 11 miles. Channel Islands National Park includes all four islands.

San Miguel, Santa Rosa, and the western portion of Santa Cruz islands are bathed in the cooler, nutrient-rich waters of the California Current and are more characteristic of the Oregonian biogeographic province. The east portion of Santa Cruz and Anacapa islands are bathed in warmer waters of the California Countercurrent. Over half the study area is soft substrate at 98 to 328 feet depth, hard substrate occurs from 0 to 98 feet around the islands. Each island is a watershed, and there are no major rivers in the subregion. The only water quality concern in Subregion 6 is due to the oil seeps north of Anacapa Island and near Chinese Harbor on Santa Cruz Island. There are no impaired water bodies or major point sources in the subregion.

There are multiple existing MPAs in Subregion 6: Richardson Rock SMR, Judith Rock SMR, Harris Point SMR, South Point SMR, Carrington Point SMR, Skunk Point SMR, Painted Cave SMCA, Gull Island SMR, Scorpion SMR, Footprint SMR, Anacapa Island SMCA, Anacapa Island SMR. Other managed areas include San Miguel Island Special Closure, Anacapa Island Special Closure, Channel Islands National Marine Sanctuary (six nautical miles off the coast of each island). The entire region is included in an Area of Special Biological Significance. The Rockfish Conservation Area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion. The rockfish conservation areas that restrict commercial trawl and non-trawl fishing circle the islands. There is an intersection of recreational, trawl, and non-trawl RCAs surrounding these four islands.

**6.3.2.2.7 Southern Channel Islands (Subregion 7).** Subregion 7 covers 642.4 square miles and 162.6 miles of coastline divided between Santa Barbara, Santa Catalina, San Nicolas, and San Clemente islands. Santa Barbara is the peak of a larger submerged bank. San Nicolas is situated on a similar offshore bank. Both islands are mostly rocky and support diverse marine life. Santa Catalina is located between the Santa Monica-San Pedro basin and the Catalina Basin and supports warm-water species. San Clemente has a relatively shallow slope to the west and a much steeper slope to the east, and also supports warm-water species.

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

The deepest point in the study region is located off the northwest corner of San Clemente Island. San Nicolas Island is located between these warm-water sites and cold-water sites, like Santa Barbara Island. Farnsworth Bank is the only completely submerged pinnacle in the study region. About a third of the area is hard substrate from 99 to 656 feet depth and a quarter of it is soft substrate from 656 to 9,843 feet depth. Santa Catalina and San Clemente Islands have very steep bathymetry near their coastlines, with extensive cliff-like submerged topography that descends to deep basins within state waters. Each island is a watershed, and there are no major rivers in the subregion.

Water quality concerns in Subregion 7 are due to impaired water bodies include Avalon Beach (fecal coliform) and Catalina Harbor), and several major point sources. The point sources are the Avalon Wastewater Treatment Plant (treated sanitary wastewater), Pebbly Beach Desalination Plant (desalination brine), USC Wrigley Institute Marine Science Center (marine lab waste seawater), San Nicolas Island Navy desalination plant (desalination brine), San Clemente Island Wastewater Treatment Plant (treated sanitary wastewater) and San Nicolas Island west end (spent uranium) (Department 2009a).

There are four existing MPAs in Subregion 7: Santa Barbara Island SMR, Catalina Marine Science Center, Farnsworth Bank SMCA, and Lover's Cove SMCA (see Figure 3-13). There are also four ASBSs: Santa Barbara Island, San Nicolas Island and Begg Rock, San Clemente Island, and Santa Catalina Island (4 subareas). state waters around Santa Barbara Island are part of the Channel Islands National Marine Sanctuary (to six nautical miles offshore). The U.S. Navy limits access around San Nicolas and San Clemente islands, including some areas that are permanently closed. Other managed or protected areas include the Arrow Point to Lion Head Special Closure, Avalon City Underwater Park (extends from Lovers Cove east of Avalon to the west side of Hamilton Cove half a mile above Casino Point) on Santa Catalina Island, and a marine reserve that extends from Ring Rock east of Avalon Harbor to the east break wall.

Cowcod Conservation Area overlaps San Nicolas and Santa Barbara Islands. The Rockfish Conservation Area that restricts recreational fishing from March through December extends seaward from the 60-fathom (361-foot) depth contour throughout the subregion. The Rockfish Conservation Areas that restrict commercial trawl and non-trawl fishing circle Santa Catalina and San Clemente islands. There is an intersection of recreational, trawl, and non-trawl Rockfish Conservation Areas around Santa Catalina and San Clemente islands. The shoreward side of Santa Catalina Island is closed to most other forms of commercial fishing, especially lobster (FGC 8258) and purse seine (FGC 8754, 8755) (Department 2009a).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

### **6.3.2.3 Impaired Water Bodies in the South Coast Study Region**

As described above, there are numerous impaired water bodies in the SCSR, all associated with discharges from land in Subregions 1 through 5. The list of impaired water bodies in the state was established by the State Water Resources Control Board as mandated by §303(d) of the federal CWA. An impaired water body is a body of water that does not meet established water quality standards. States are required to work towards resolving problems associated with the listed water bodies. Typically, a TMDL is developed for each constituent for which the water body is impaired. A TMDL determines the total amount of the pollutant/stressor (e.g., pathogens, sediment, nutrients) that the water body can receive and still meet water quality standards. As part of the TMDL process, the sources of each pollutant are identified. The TMDL then allocates the allowable loading among all point and nonpoint sources to the water body and establishes an implementation plan to ensure that the allocations and water quality standards are achieved (Department 2009a).

Based on data from 2006, the study region has a far greater number of water bodies designated as impaired than other MLPA study regions in the state (see Figures 6-2 through 6-7). There are a total of 314 identified impaired water bodies within the study region. Eighty TMDLs have been established in the study region. There are 21 impaired water bodies and one TMDL in the South Coast Hydrologic Unit, which is the only unit within the Central Coast RWQCB (Region 3) that is located in the study region. The Los Angeles RWQCB (Region 4) has the most impaired water bodies in the study region with 161 water bodies deemed impaired; it also has the most TMDLs in the study region with a total of 36 TMDLs. The Santa Ana RWQCB (Region 8) has 33 impaired water bodies and 14 TMDLs. The San Diego RWQCB (Region 9) has the second highest number of impaired water bodies, with 99 listed on the 303(d) list and 29 TMDLs in place. Appendix X includes four tables that show impaired water bodies in each of the regional water quality control boards that fall within, or drain into the SCSR (Department 2009a).<sup>7</sup>

### **6.3.2.4 Water Quality Monitoring Programs**

Information on water quality in the south coast region is available from a large number of sources. There is overlap in the areas monitored and types of parameters monitored. The data are of varying quality. The following are some of the regional water quality monitoring programs that exist or have existed in the south coast study region.

**6.3.2.4.1 Southern California Bight Regional Monitoring Program.** The Southern California Bight Regional Monitoring Program is a regional monitoring program with

---

<sup>7</sup> Other information provided in the appendix is the type of pollutants or stressors involved, the general source of impairment, and the status of TMDLs for each location. More information on these water bodies, including GIS data and in-depth information on pollutants, sources, and TMDLs, is available at [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/303d\\_lists2006\\_epa.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

standardized data collection methods to assess and analyze sediment conditions, water quality and contaminant input sources for Southern California. This regional effort involves local, state and federal entities and is coordinated by the Southern California Coastal Water Research Project (SCCWRP). The SCCWRP is a research institute focusing on the coastal ecosystems of Southern California from watersheds to the ocean. The SCWRRP is a joint-powers public agency comprised of 14 public agencies:

- California State Water Resources Control Board
- US Environmental Protection Agency Region IX
- Ocean Protection Council
- California Regional Water Quality Control Board, Los Angeles Region
- California Regional Water Quality Control Board, Santa Ana Region
- California Regional Water Quality Control Board, San Diego Region
- City of Los Angeles
- Los Angeles County Sanitation Districts
- Orange County Sanitation District
- City of San Diego
- Ventura County Watershed Protection District
- Los Angeles County Flood Control District
- Orange County Public Works
- County of San Diego

Four assessments have been completed (1994, 1998, 2003, and 2008). The methods, data collection, and results require the participation of a diverse network of citizens and scientists. The information developed is vetted by a multi-party review. This regional monitoring effort was established when the National Research Council identified the need to better coordinate and link up local monitoring efforts. More information about the Bight Monitoring Program can be found at online see References section (Bight Monitoring Program 2010).

**6.3.2.4.2 Stormwater Monitoring Coalition.** The Stormwater Monitoring Coalition is a collaborative program of Southern California stormwater management agencies to better align monitoring efforts, create consistency, provide technical guidance and tools, and share information. Stormwater Monitoring Coalition participants include: the Counties of Orange, Los Angeles, and San Diego; Ventura County Watershed Protection District; Cities of Long Beach and Los Angeles; State Water Resources Control Board, Regional Water Quality

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

Control Boards Los Angeles, Santa Ana Region and San Diego Regions; EPA Region 9; Southern California Coastal Waters Research Project; and CalTrans.

**6.3.2.4.3 Surface Water Ambient Monitoring Program.** The Surface Water Ambient Monitoring Program (SWAMP) is a statewide surface water quality monitoring effort between the State Water Resources Control Board, Regional Water Quality Control Boards, and other monitoring efforts. Information on SWAMP can be found online (SWRCB 2010a). Until 2003, the State Mussel Watch Program and Toxic Substance Monitoring Program were conducted as part of the SWAMP. State Mussel Watch Program was a site-specific monitoring program in place for over twenty years that sampled mussels and clams to detect and assess the existence of toxic substances. This effort ended in 2003. During its existence, it focused data collection on water bodies with known or suspected water quality problems. The Toxic Substance Monitoring Program existed for 27 years. That program was also site-specific and sampled fish and other aquatic specimens from known or suspected impaired water bodies. Specimens were analyzed for trace elements, pesticides, and organic compounds, such as PCBs.

An on-going effort through the SWAMP is the Clean Water Team, a citizen monitoring effort out of the State Water Resources Control Board to collect information on water quality, fish habitat, bird populations, and stream health. Data collected by this program are available online (SWRCB 2010b).

**6.3.2.4.5 Beach Closures, Postings, and Rain Advisories.** Beach closures, postings, and rain advisories are direct indicators of the negative impacts to water quality, and consequently beneficial uses, at beaches. Beach monitoring was mandated by the state of California beginning in 1999. Weekly monitoring is required between April and October for beaches with more than 50,000 visitors annually or located adjacent to storm drains flowing during the summer. The waters are tested for coliform, including fecal and enterococcus bacteria. Whereas beach closures prohibit water contact due to sewage spillages, beach postings are advisories that the public not contact water based on monitoring information that indicates high bacteria levels. Rain advisories are a preventative measure put in place that warns people not to swim during a rain event or for three days after a rainstorm due to predictions of poor water quality. Seven local (city or county) ocean water programs are responsible for regularly sampling beaches and sewage outfalls in the study region to monitor bacteria levels. The local monitoring programs include:

- County of Santa Barbara, Environmental Health Services, Ocean Monitoring Program
- County of Ventura, Environmental Health Division, Ocean Water Quality Monitoring Program
- County of Los Angeles, Department of Public Health, Ocean Water Monitoring Program
- City of Los Angeles, Department of Public Works, Environmental Monitoring Division

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

- City of Long Beach, Health and Human Services, Water Quality Program
- County of Orange, Health Care Agency, Environmental Health Division, Ocean Water Protection Program
- County of San Diego, Department of Environmental Health, Beach and Bay Program

In addition, the City of Dana Point, in collaboration with the Southern California Coastal Water Research Project, and the University of California, Berkeley conducted monitoring in 2007 and 2008 to assess the source and level of concern associated with bacteriological contamination at Doheny State Beach.

### 6.3.3 Significance Criteria

#### 6.3.3.1 Criteria for Determining Significance

The project would be considered to have a potentially significant effect on water quality if it would:

- Violate any water quality standards or waste discharge requirements; or,
- Otherwise substantially degrade water quality.

### 6.3.4 Environmental Impacts

The California Environmental Quality Act (CEQA) requires assessment of potential impacts of a project on the environment. Consequently, this section evaluates the potential effect of designating new MPAs, modifying the boundaries of existing MPAs, and deleting MPAs on water quality in the study region.

The process leading up to the development of the proposed Project IPA considered numerous factors in the selection and placement of proposed and modified MPAs. MPAs were located based on biological and other criteria consistent with the MLPA and secondarily in areas where water quality discharges were minor or did not occur (Department 2009b). In addition, the proposed Project IPA, as described in the ISOR, would allow existing regulated ongoing discharges/activities (e.g., aquaculture, publicly owned treatment works, maintenance dredging, habitat restoration, beach nourishment) to continue in the MPAs, and existing structures (e.g., fishing piers and jetties) to remain in the MPAs (see Figures 6-2 through 6-7). The proposed Project IPA would not modify the existing permitted discharges or water quality related activities regulated by other agencies as stated below (Department 2010).

“Pre-existing activities and artificial structures including but not limited to wastewater outfalls, piers and jetties, maintenance dredging, and beach nourishment occur throughout the heavily urbanized southern south coast study region. These are activities that may result in incidental take. However, these activities are regulated by

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

other federal, state and local agencies, whose jurisdiction cannot be pre-empted through designation of MPAs under MLPA. These activities are specified within the proposed MPA regulations to make explicit that these regulated activities are allowed to continue under current permits.”

Further, the proposed Project IPA described in the ISOR (Department 2010) allows for monitoring and research as required by regulatory agencies or conducted for scientific research, as follows:

“Monitoring includes sampling of water, sediments, and marine organisms using a variety of methods. Since monitoring and research is permissible in all MPA designations, the proposed regulation adds a general provision to 14 CCR 632(a), to clarify that this activity is authorized in all MPAs pursuant to a scientific collecting permit.”

In addition the guidance used to evaluate the MPA proposals specifically recommended the following:

“For the MPA network design, the SAT recommends including areas already designated as areas of special biological significance (ASBS) because these areas benefit from the protection beyond that offered by standard waste discharge restrictions. The SAT recommends avoiding location of poor or threatened water quality, including:

- Major cooling water intake sites for power plants
- Municipal sewage and industrial outfalls
- Areas that are significantly impacted by a variety of pollutants from large industrial or developed watersheds.” (Department 2009c)

Adaptive management is a part of the MLPA. The MLPA requires monitoring to determine whether its goals are being met (see Section 3.2). If the water-quality-related goals of the MLPA are not being met, then either regulatory or management changes could occur to try and meet the goals.

### **Criterion WQ-1: Violate any water quality standards or waste discharge requirements.**

The regional goals of the South Coast MLPA are consistent with the Ocean Plan goals and other statewide and regional water quality policies. The South Coast MLPA provides protection of ocean resources and other uses consistent with the beneficial uses designated in the Ocean Plan (the beneficial uses are listed in Section 6.3.1.2). Under the proposed Project IPA expansion of the existing MPA network would also be consistent with the wildlife and marine habitat beneficial uses designated by the RWQCBs basin plans for the SCSR.

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

The designation of the MPAs would not conflict with existing water quality standards or permitted discharges for the existing uses in the SCSR. There would be no impacts to currently permitted discharges because under the proposed MPA regulations currently permitted uses would be allowed to continue. The MLPA does not provide the Department regulatory authority over water quality discharges; however, the MPAs have been located in areas some distance from regulated discharges to ensure that water quality within the MPAs is suitable for the beneficial uses to the degree feasible.

Existing discharges or activities such as routine maintenance, dredging, habitat restoration, research and education, maintenance of artificial structures, publicly owned treatment works, superfund sites, beach nourishment, non-point source stormwater, municipal and industrial wastewater discharges, marine research and scientific collecting, water quality monitoring, and operation and maintenance of existing facilities in the proposed MPAs would continue under the proposed Project IPA pursuant to any required federal, state, and local permits, or activities pursuant to Section 630, Title 14, CCR, or as otherwise authorized by the Fish and Game Commission (Commission). The previous clarifying language in the ISOR has been included in the MPA regulations for sites where possible conflicts could occur. Further, should presently unknown conflicts be identified in the future the MPA Master Plans adaptive management strategy would result in these conflicts being reviewed and if feasible or necessary, mitigated.

**Mitigation:** No mitigation would be required.

### **Criterion WQ-2: Otherwise Substantially Degrade Water Quality.**

Implementation of the proposed regulatory changes would have the potential to cause water quality impacts by changing the use patterns of recreational users of the SCSR's marine environment. Boating-related activities can cause water pollution from antifouling paint, sewage, spills, wastewater, and trash (Department 2009a). There is a relatively high level of existing boating and shipping activities in the SCSR. A large commercial fishing fleet as well as recreational fishing community (including shore-based, private boaters and "party boat" operations), major ports in Long Beach Harbor and San Diego Bay, as well as numerous marinas currently exist in the SCSR.

The effect of non-consumptive recreational users is expected to be relatively small when compared to the primary water quality concerns as described in 6.3.2.1. Such users could include those engaged in sailing, motor boating, scuba diving, wading, kayaking, and swimming. Potential water quality impacts associated with shifts in non-consumptive uses could result from increased use of motor boats and more time spent on the water as a result of users needing to travel farther to reach suitable locations for their activities and from allowing uses in areas that are currently restricted however these impacts are not expected to substantially degrade water quality, because non-consumptive use that does not have the

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

potential for take is not affected by this regulation would still be allowed to continue. For non-consumptive recreational uses not dependent on motor boats, the addition or modification of an MPA would not affect water quality.

Shifts in non-consumptive uses involving motor boats, such as motor boating, jet skiing, water skiing or tubing, scuba diving with motor boat support, or use of motor boats to access bird watching, due to changes in locations could have a minor localized effect on water quality. If these recreational uses were displaced by designation of a new MPA(s) and/or changes in regulations at an existing MPA, these uses could require travel to a more distant location. The increased travel distance could lead to a small increase in the potential for the discharge of petroleum products or other pollutants to surrounding water through routine or improper operation of a vessel, or accidents en route. However, these effects are anticipated to be very minor when compared to the existing background levels of boating and shipping activity in the SCSR, as well as effects of existing discharges into the SCSR (see Section 6.3.2.1.2). Alternate sites could also become more crowded, leading to slight increase in the risk of collisions. As described in Section 8.5, Hazards, the potential increase in accidents due to overcrowding or longer transit times is considered to be less than significant.

Shifts in boating associated with prohibition of consumptive uses would be similar to those described above, although more consumptive users are likely to be displaced due to the new regulations. The actual locations selected by displaced users and associated incremental travel time and/or increase in risk of collisions cannot be predicted; however, they are expected to be slight. Areas of high boat density fishing activity already occur within the SCSR during sand bass spawning season on the Huntington Beach flats and at times near smaller artificial and natural reefs along the SCSR. Should high fish densities occur along the edges of MPAs then these areas may attract fisherman and may become crowded during times of increased fish bite. The Commission does not expect this to result in significant impacts to water quality (T. Napoli personal communication 2010).

Where existing MPA designations would be removed or reduced in size, and would therefore allow non-consumptive or consumptive uses involving motor boats in formerly protected areas, the potential for the discharge of petroleum products or other pollutants to waters in the newly open area would increase slightly. This impact would be less than significant, and no mitigation is required.



# SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

## 6.4 MINERAL RESOURCES

This section describes energy and mineral resources in the vicinity of marine protected areas (MPAs) in the Proposed Project Integrated Preferred Alternative (IPA), describes the existing regulatory framework controlling mineral resource activities, and evaluates the impacts that the proposed Project IPA may have on these resources. Potential impacts to energy and mineral resources created by the proposed Project IPA are based on an analysis of a change from existing conditions.

### 6.4.1 Regulatory Framework

Primary federal, state and local laws and regulations related to offshore mineral leases are described below (California Coastal Commission [CCC] 1999; County of Santa Barbara Planning and Development Energy Division [CSBPDED] 2010a).

#### 6.4.1.1 Federal

**6.4.1.1.1 Outer Continental Shelf Lands Act of 1953 (43 U.S.C. sec. 1331).** The Outer Continental Shelf Lands Act of 1953 (OCSLA) established that the submerged lands and resources of the outer continental shelf (OCS) “appertained to the United states and [were] subject to its jurisdiction, control and power of disposition.” The OCSLA authorized the Secretary of the Interior to lease these federal offshore lands for mineral exploration, development, and production, and limited state involvement in the federal program. The OCS is defined by the OCSLA as “all submerged lands lying seaward of state coastal waters (3 miles offshore) that are under U.S. jurisdiction.” Congress amended the OCSLA in 1978 to require the Department of the Interior to better balance the need for expeditious development of the OCS with the need to protect the offshore marine and coastal environment, and required preparation of environmental impact statements for offshore development.

**The Submerged Lands Act of 1953 (43 U.S.C. §§ 1301 et seq.).** The Submerged Lands Act of 1953, 43 U.S.C. §§ 1301 et seq., delegates to the state the authority to regulate activity in its waters. This act defines each state’s seaward boundary as “a line three geographical miles distant from its coast line” (43 U.S.C. § 1312) and grants to each state title to and ownership of lands beneath navigable waters within that boundary and natural resources within such waters (43 U.S.C. § 1311(a)). (Note: a nautical mile is 6,087 feet in length, approximately 10 feet longer than a geographic mile). Along with title, the Submerged Lands Act also grants each state authority to manage these lands and natural resources. Although the statutory language addresses only submerged lands and natural resources, the Supreme Court has referred to the Submerged Lands Act as granting to the states authority over “lands and waters.” *United States v. California* (1978) 436 U.S. 32, 36-37. Following this language, other courts have held that that the Submerged Lands Act grants the states regulatory authority “over the waters above the submerged lands.” *Barber v. State of Hawai’i* (9th Cir. 1994) 42 F.3d 1185, 1190; *see also Murphy v. Department of Natural Resources* (1993) 837

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

F. Supp. 1217, 1221. (Pursuant to this consistent judicial interpretation, the act grants to the state regulatory control over activities in waters within the state's seaward boundary, generally 3 nautical miles).

**6.4.1.1.2 Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.)**. In 1972, Congress passed the federal Coastal Zone Management Act of 1972 (CZMA) to encourage effective state management of coastal development, including but not limited to oil and gas activities, and its associated environmental impacts. The CZMA provided federal funding to support state coastal zone management programs that met certain policy objectives (e.g., protection of the marine environment and wetlands, and orderly development of offshore energy resources). The CZMA also established a unique federal/state coordinated regulatory process known as “consistency review,” which grants coastal states which elect to participate in the CZMA program the ability to regulate federal activities that affect their coastlines (including OCS oil and gas activities). Accordingly, California pursued certification of the California Coast Act of 1976 as a “coastal zone management plan” sanctioned under the CZMA. The National Oceanic and Atmospheric Administration (NOAA) certified the California Coastal Management Plan (CCMP) in 1978, giving the state consistency review authority over federal activities that affect the California coastal zone.

**6.4.1.1.3 Deepwater Port Act of 1974 (33 U.S.C. sec. 1501–1524 amended 1984, 1990, 1995, 1996)**. This Act establishes a licensing system for ownership, construction, and operation of deepwater ports, that is, manmade structures located beyond the U.S. territorial sea. It sets out conditions that applicants for licenses must meet, including minimization of adverse impact on the marine environment and submission of detailed plans for construction and operation of deepwater ports. Additionally, the act authorizes and regulates the location, ownership, construction, and operation of deepwater ports in waters beyond the territorial limits of the U.S.; provides for the protection of the marine and coastal environment to prevent or minimize any adverse impact which might occur as a consequence of the development of such ports; protects the interests of the U.S. and those of adjacent coastal states in the location, construction, and operation of deepwater ports; and protects the rights and responsibilities of states and communities to regulate growth, determine land use and otherwise protect the environment in accordance with law. As amended in 1996, this act promotes the construction and operation of deepwater ports as a safe and effective means of importing oil into the U.S. and transporting oil from the OCS while minimizing tanker traffic and associated risks, and promotes oil production on the OCS by affording an economic and safe means of transportation to the U.S. mainland.

**6.4.1.1.4 Title 18 of the Code of Federal Regulations**. Title 18 of the Code of Federal Regulations (CFR) addresses the Federal Energy Regulatory Commission (FERC). FERC is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

interstate natural gas pipelines as well as licensing hydropower projects. Additional FERC responsibilities are outlined in the Energy Policy Act of 2005.

**6.4.1.1.5 Title 30 of the Code of Federal Regulations.** In 1981, OCS development responsibilities of the Bureau of Land Management and the USGS were consolidated into one federal agency under the Department of the Interior (DOI) by Title 30 of the CFR, establishing the Minerals Management Service (MMS). In 1982, the Federal Oil & Gas Royalty Management Act mandated the protection of environment and conservation of federal land in the process of building oil and gas facilities. The Secretary of the Interior designated the MMS as the federal agency that manages the nation's natural gas, oil, and other mineral resources on the OCS. As of June 18, 2010, the MMS has been renamed the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) and is undergoing restructuring. Additionally, the passage of the Energy Policy Act of 2005 gave BOEMRE the authority to develop wave, wind, current, and other renewable energy projects on the OCS. The agency also collects, accounts for, and disburses revenues from federal offshore mineral leases and from onshore mineral leases on federal and Native American lands.

### **6.4.1.2 State**

**6.4.1.2.1 Tidelands Leasing Act of 1921.** The Tidelands Leasing Act of 1921 asserted the state's sovereign authority over all minerals on state lands and the marginal sea (Chapter 303, Statutes of 1921). Thus, the State Surveyor General could issue prospecting permits and oil leases for state lands in coastal waters with a 5 percent royalty provision. This Act also prohibited offshore exploration on lands fronting municipalities plus one mile on either side. All oil extraction operations under these leases were conducted from piers. The Oil Pollution Act of 1924 prohibited oil discharges in the marginal seas.

**6.4.1.2.2 State Lands Act of 1938 and the Cunningham-Shell Act of 1955.** California enacted the State Lands Act in 1938, which established the California State Lands Commission (SLC) and assigned to it exclusive jurisdiction over all state-owned tide and submerged lands. In 1955, California enacted the Cunningham-Shell Act, which amended the 1938 State Lands Act and added more detail on leasing of submerged lands under the jurisdiction of the SLC. Both Acts are codified in Division 6 of the Public Resources Code.

The 1955 act limited the application of general leasing to submerged lands along the coast from the City of Newport Beach to a point six miles south of Oceano. Specific scenic lands in portions of Los Angeles, Santa Barbara, and San Luis Obispo Counties were excluded. The remainder of the coast was also excluded from leasing. This act established the basic parameters under which the majority of the state's offshore leases were issued. As deep-water offshore platforms become more economically viable, the Cunningham-Shell Act provided for the construction of these platforms for drilling and exploration.

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

**6.4.1.2.3 California Coastal Act of 1976.** The California Coastal Commission (CCC) was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976 . This act established the permanent CCC (California Public Resources Code, Division 20). In partnership with coastal cities and counties, the CCC plans and regulates the use of land and water in the coastal zone and in state waters. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the CCC or the local government if it has a CCC-approved Local Coastal Program.

The CCC has permit authority over offshore oil and gas development and other mineral extraction activities in state waters (i.e., out to three nautical miles). The CCC's standard review of such development is Chapter 3 of the Coastal Act, which contains policies that specifically address oil and gas development. These include standards for addressing geological conditions, consolidation of facilities, use of subsea wells to protect aesthetics, subsidence, water quality impacts, and vessel traffic. Chapter 3 also includes other oil spill, water and air quality, safety, commercial and recreational fishing, marine and land resource, public access, and recreation policies that must be considered in such development proposals. The Coastal Act also provides an override provision allowing for the approval of coast-dependent industrial facilities (e.g., development, structures, etc.), that are not otherwise consistent with the policies of the Coastal Act (Coastal Act § 30260). However, these facilities can only be developed if alternative locations are infeasible or more environmentally damaging, denying the project would hurt the public's welfare, and adverse environmental effects are mitigated to the maximum extent feasible.

### **6.4.1.3 Local**

Local counties regulate energy sector development (oil and gas development in particular) in the OCS through regulatory controls on onshore facilities with offshore elements such as platforms, wells, and pipelines. Local regulatory controls and guidelines include local coastal plans, zoning ordinances, development codes, and comprehensive plan policies, among others.

## **6.4.2 Environmental Setting**

Mineral resources within the south coast study region (SCSR) include oil and natural gas for energy uses, sand and gravel for beach nourishment and construction needs, and salts used for food and industrial purposes. Each of these resources as well as mineral leasing is further described below. A primary data source used during preparation of this section is MarineMap, a web-based decision support tool for planning in the marine environment (MarineMap Consortium 2010).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

### **6.4.2.1 Oil and Natural Gas**

California's oil development began onshore in the 1860s and rapidly expanded through the 1900s. Early offshore development started with wooden piers extending from developed onshore oil fields, and the first California tidelands oil well was drilled in 1896 in Santa Barbara County. Within 10 years, there were approximately 400 wells on the beach and just offshore. At the time, coastal oil development was regulated only by private individuals and companies. Wasteful and polluting drilling practices were endemic (CCC 1999). In 1915, the California legislature created the Division of Oil and Gas (now the Division of Oil, Gas, and Geothermal Resources) to encourage efficient recovery and end wasteful extraction processes. Extraction of crude oil and natural gas from underground reservoirs continues today within offshore lease areas in Southern California.

The SLC lists 28 active offshore oil- and gas-producing platforms in the SCSR. Oil and natural gas derived from the offshore platforms (both state and federal leases) are transported through state waters to onshore marine terminals by underwater pipelines located within designated pipeline corridors.

Marine tanker ships and barges are also used to transport crude oil to the terminals from non-platform sources (see Section 8.4 for discussion of vessel traffic). The SLC has identified 43 marine oil terminals in the Southern California area located near Santa Barbara (decommissioned Cojo Bay and Gaviota, Santa Barbara, and Ellwood terminals), Ventura County (Port Hueneme and Mandalay Bay terminals), Los Angeles/Long Beach Harbor (El Segundo, Cenco, and 24 other terminals within the harbors), and San Diego County (Carlsbad and 8 other terminals within San Diego Harbor) (SLC 2010d). In general, the crude oil transported to onshore terminals is processed into gasoline and other petroleum products by local Southern California refineries, and the natural gas is used to power local electricity-generating plants (Perry 2009).

Further details regarding oil and gas leases and offshore platforms in the SCSR are provided below. Coastal energy projects within the SCSR, including oil platforms and marine terminals, are illustrated in Figures 6-8 and 6-9.

**6.4.2.1.1 State Leases and Offshore Platforms, Wells and Pipelines.** The State Lands Act of 1938 granted the SLC exclusive jurisdiction over state-owned submerged lands, including the issuance of leases. Prior to the 1969 oil spill off Santa Barbara, the SLC had leased over 150,000 acres of submerged lands, comprising 58 leases (CCC 1999). After the oil spill, the SLC established a moratorium on drilling, including on established leases where oil and gas production had not been established. This moratorium was not all-inclusive and portions of the coast remained unprotected until the California Coastal Sanctuary Act of 1994 placed a comprehensive ban on new oil and gas leasing. Despite the long-term ban on new

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

leasing in the state, drilling and production have continued on existing leases from existing drilling and production platforms.

Nine offshore platforms in the SCSR are located in state waters (Culwell 1997; SLC 2010b). None are located within existing or proposed MPAs. The nine platforms include the following:

- Santa Barbara Channel (two platforms):
  - Platform Holly
  - Rincon Island

Platform Holly is located approximately 2 miles offshore Santa Barbara County in state lease PRC 3242. Oil and gas from the platform are transported to an onshore processing plant at Ellwood via a pipeline. The Naples SMCA is located several miles west of the platform and its associated pipeline and the onshore facility. Rincon Island is an artificial island in state lease PRC 1466 located approximately 3,000 feet offshore Rincon Beach in Ventura County. Rincon Island is an oil and gas production facility connected to the mainland by a causeway. No MPAs are proposed near Rincon Island.

Nautical chart data (MarineMap Consortium 2010) also indicate that a variety of other offshore wells and associated pipelines are found in state waters in the Santa Barbara Channel. Those found in MPAs associated with the proposed Project IPA include two wells in the proposed Pt. Conception SMR, two pipelines in the proposed Kashtayit SMCA, and three wells and two associated pipelines in the proposed Campus Point SMCA.

- San Pedro Bay/Long Beach Harbor (seven platforms):
  - Oil Islands Grissom, White, Chaffee, and Freeman (artificial islands)
  - Platforms Ester, Eva, and Emmy

Four artificial oil islands were constructed in Long Beach Harbor after the City of Long Beach's oil contractor won approval in 1965 to drill the offshore extension of the Wilmington oil field. The oil islands have been well designed to mask the sights and sounds of drilling and production activities and to beautify the infrastructure. Disguised by hundreds of palm trees, cleverly designed oil rigs that resemble attractive high rise condominiums, and even tall waterfalls, most do not know their true function. The islands were named after four astronauts who were killed early in the nation's space program (<http://webcoist.com/2010/03/16/fuels-paradise-thums-islands-help-big-oil-look-good>).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

Platforms Esther, Eva and Emmy are located southeast of the oil islands in state leases 3095, 3033, and 425, respectively, between 1.2 and 1.8 miles offshore Seal Beach and Huntington Beach in Orange County. Emmy was built in 1963, Eva in 1964 and Esther in 1990. Oil and gas pipelines from Platform Eva and other platforms in federal waters come ashore at the existing Bolsa Chica SMP. An oil pipeline from Platform Emmy comes ashore approximately 0.5 mile southeast of the SMP while and an oil pipeline from Platform Esther comes ashore approximately 3.75 miles northeast of the SMP (California Department of Conservation (CDC) 2000).

Eight decommissioned platforms are also located within the SCSR. The platforms consisted of steel structures and one artificial island. With the exception of Platform Hazel, portions of which were left in place, the steel structures were reportedly removed and their leases quitclaimed (CSBPDED 2010a). Available maps suggest none of these decommissioned facilities were located in existing MPAs or MPAs proposed by the proposed Project IPA (CSBPDED 2010a, MarineMap). The decommissioned wells are listed below with their respective year of abandonment:

- Santa Barbara Channel (seven platforms decommissioned):
  - Platforms Harry (1974); Herman and Helen (1988); Hilda, Hazel, Hope, and Heidi (1996 through 1999)
- San Pedro Bay (one platform decommissioned):
  - Belmont Island (artificial island) (2002) (SLC 2010c)

In addition to the platforms, a number of power cables and intra-field and field-to-shore pipelines have been decommissioned in place (Department 2009a).

**6.4.2.1.2 Federal Leases and Offshore Platforms, Wells, and Pipelines.** Federal offshore leasing takes place on the OCS, which commences three geographical miles seaward of the national coastline, including three miles seaward of the coastline of offshore islands. Seventy-five federal oil and gas leases are situated offshore the tri-counties of Ventura, Santa Barbara, and San Luis Obispo and an additional four are situated offshore Orange County. No MPAs can be located in federal leases, although pipelines from platforms in federal waters can pass through MPAs if they are designated appropriately to allow necessary maintenance and operations.

Platforms within federal waters adjacent to the SCSR consist of 19 steel structures (see Figures 6-8 and 6-9; BOEMRE 2010; County of Santa Barbara Planning and Development Energy Division 2010 a–b):

- Santa Barbara Channel (15 platforms):

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

- Platforms Heritage, Harmony, Hondo, A, B, C, Hillhouse, Henry, Houchin, Hogan, Habitat, Grace, Gilda, Gail, and Gina

Currently, offshore platforms Hermosa, Harvest and Hidalgo, located west of Point Conception just outside the SCSR produce and process oil and gas from the Point Arguello Unit. Pipelines are used to transport oil and gas produced and processed offshore to onshore terminal facilities. Approximately 16 miles of the easterly flowing oil and gas pipelines parallel the coast from their landfall near Point Conception. The onshore pipelines are located adjacent to the Refugio State Marine Conservation Area (SMCA).

Platforms Heritage, Harmony and Hondo are located within federal waters in leases 182, 190, and 188. Oil and natural gas pipelines from these platforms are located adjacent to the existing Refugio SMCA where they reach landfall.

Platforms A, B, C, Hillhouse, Henry, Houchin, Hogan, and Habitat are located in the Pitas Point Unit offshore of the city of Carpinteria in leases 166, 240, 241 and 234. Pipelines from these platforms come onshore at Venoco's Carpinteria plant. None of these platforms or pipelines are within or adjacent to existing MPAs or MPAs proposed by the proposed Project IPA (CSBPDED 2010a, MarineMap).

- San Pedro Bay/Long Beach Area off Orange County (4 platforms):

- Platforms Edith, Ellen, Elly, and Eureka

Currently, offshore platforms Edith, Ellen, Elly and Eureka, located in the Beta oil field approximately 8.5–10.5 miles south of Long Beach produce and process oil and gas. The Beta oil field includes federal leases POCS 296, 300, 301, and 306. Near Huntington Beach, oil and gas pipelines from these platforms traverse through or pass very close to the Bolsa Chica State Marine Park (SMP) (CDC 2000; MarineMap).

### **6.4.2.2 Sand and Gravel**

Sand and gravel reach the ocean via streams and from the erosion of coastal cliffs, headlands, and wave cut platforms. This coarse sediment is distributed by wave and longshore currents forming beaches and large waves and rip currents carrying sediment offshore. Accumulation of coarse sediment varies from a few feet thick on some beaches to thousands of feet thick near the marine shelf edge.

Based on available public information, no active sand and gravel mining operations are identified within the SCSR (Perry 2009; RAC 1995).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

**6.4.2.2.1 Beach Nourishment.** Beach replenishment is another activity associated with the use of sand and gravel deposits within the SCSR. Two commonly used methods of beach replenishment are scoop dredging and hydraulic or suction dredging. Scoop dredging involves using a large, porous clamshell shovel to excavate sediment from shallow water. This approach is mainly employed to dig deep channels for large-ship access to harbors or for river passages. Hydraulic dredging, much like a water vacuum, uses large pumps on a barge to suck a water/sand mixture from the ocean floor. The mix is pumped onshore through large-diameter pipes. The pipe outfall is strategically located on a shoreline where the mix discharges from the end of the pipe, with sand settling onto the beach and water flowing back to the ocean (Perry 2009).

Local authorities in charge of beach replenishment activities include the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON), and the San Diego Association of Governments (SANDAG). BEACON is a California Joint Powers agency established in 1992 to address coastal erosion, beach nourishment and clean oceans within the California coast from Point Conception to Point Mugu. The member agencies of BEACON include the counties of Santa Barbara and Ventura as well as the coastal cities of Santa Barbara, Goleta, Carpinteria, Ventura, Oxnard, and Port Hueneme. BEACON prepares and implements sediment management plans for the area between Point Conception and Point Mugu (BEACON 2010).

SANDAG and the California Coastal Sediment Management Workgroup prepared a Coastal Regional Sediment Management Plan in 2009 for regional management of beaches within San Diego County. The plan was developed to inform the public and decision-makers on sand deficits and related issues within the region, and proposes solutions for existing sediment management problems along the coast. Insufficient sediment or sand volumes exist along the San Diego County shoreline, leading to coastal erosion, narrowing of beaches, damage to infrastructure, habitat degradation, and reduced recreational and economic benefits. SANDAG is composed of 18 cities and counties in the San Diego area, and serves as the forum for regional decision-making. SANDAG is represented by mayors, council members, and county supervisors from each of the region's local governments (SANDAG 2010).

Two of the proposed MPAs, Campus Point SMR and Goleta Slough SMCA, are located near BEACON's Goleta Beach Nourishment Demonstration Project and the Goleta Beach Long Term Master Plan Project. Three of the proposed MPAs, Baticuitos Lagoon SMCA, San Elijo Lagoon SMCA, and Swami's SMCA, are located near SANDAG's Regional Beach Sand Project II. According to MarineMap, offshore sources of sand for beach nourishment are located in several MPAs proposed by the proposed Project IPA, including, for example, the Swami SMCA and the Tijuana River Mouth SMCA. Onshore receiver sites are located immediately adjacent to the Swami and Tijuana River Mouth SMCAs at Moonlight State

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

Beach and Border Field State Park, respectively, and an onshore receiver site is located at Corona Del Mar State Beach immediately adjacent to the Crystal Cove SMCA.

Regulatory approvals and permits needed for beach nourishment activities vary greatly by location and jurisdiction. Such projects may require compliance with the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA), and typically require a Coastal Development Permit from the CCC or local government with an approved Local Coastal Plan. Additionally, they may require permits from agencies such as the U.S. Army Corps of Engineers, pursuant to its authority under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act.

The California Fish and Game Commission (Commission) does not have authority to permit or prohibit beach nourishment in the marine or estuarine environment and the MLPA cannot supersede otherwise lawful activities that are not within the authority of the Commission to regulate (Department 2009b).

### **6.4.2.3 Salt**

Salts form naturally in protected lagoons and estuaries where ocean water circulation is limited or lacks an open, constant connection to the ocean. Non-circulating water warms in these shallow areas and evaporates, leaving salt deposits. The main salt-producing region within the SCSR is the Western Salt Works located at the south end of the San Diego Bay, where artificial ponds along edges of the bay are alternately filled with ocean water and allowed to partially evaporate. This process concentrates salts into dense brine. The brine is pumped into a separation plant and the salts are isolated and packaged (Perry 2009).

### **6.4.2.4 Mineral Leases**

Development of solid mineral resources on state lands, particularly precious metals and industrial minerals, is managed by the SLC, Mineral Resources Management Division. Although several solid minerals such as gold and talc are mined in California, there are no known solid mineral resources in the proposed Project IPA area (California Natural Resources Agency 2010).

### **6.4.2.5 Geothermal Resources**

Geothermal resources or geothermal fields are not present within the SCSR in either federal or state waters (CDC 2001).

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

### 6.4.3 Impact Analysis

#### 6.4.3.1 Methodology

Impacts to mineral resources were assessed by determining whether MPA-regulated activities would be incompatible with existing and planned uses within and adjacent to the SCSR, or be inconsistent with applicable plans, regulations, and ordinances. The specific thresholds of significance evaluated for mineral resources impact analysis are provided below.

#### 6.4.3.2 Criteria for Determining Significance

The proposed Project IPA would result in a significant impact on mineral resources if it would:

- 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.
- 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.

#### 6.4.3.3 Environmental Impacts

##### Criterion MR-1: Loss of Availability of a Known Mineral Resource of Value to the Region and the Residents of the State

Based on a review of online oil and gas lease information (e.g., MarineMap Consortium 2010, CDC 2001, and CSBPDED 2010a) no MPAs within the proposed Project IPA are located over existing oil and gas production facilities, including offshore platforms. Further, there has been a ban on issuing new state oil and gas leases in state tidelands since 1989 (later incorporated into the California Coastal Sanctuary Act in 1994), and continued federal moratoria on new OCS oil and gas leasing activities off the California coast since 1990 (CCC 1999). Moreover, the proposed Project IPA allows existing mineral recovery facilities and product distribution systems to operate within the conditions of their current permits and leases, and proposed MPAs allow operation and maintenance of existing facilities. As a result, the proposed Project IPA will have no effect on the availability of oil and gas resources. There are several MPAs that contain offshore wells and associated pipelines not associated with platforms and not within mapped active leases; these wells and pipelines may not be active. Regardless, the proposed Project IPA would allow any operations or maintenance activities to occur within conditions of current permits or leases.

Based on available public information, no active sand and gravel mining operations are identified within the SCSR (Perry 2009; California Natural Resources Agency 1995).

## **SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT**

---

Therefore, the proposed Project IPA will have no effect on the availability of sand and gravel.

Based on a review of existing information (e.g., MarineMap Consortium 2010, Perry 2009, City of San Diego 2007), the primary salt-producing facility in the SCSR consists of onshore diked evaporation ponds located within the South San Diego Bay Unit of the San Diego National Wildlife Refuge. No MPAs are proposed in San Diego Bay and the proposed Project IPA would have no impact to salt-producing facilities.

The proposed MPA regulations will have no adverse effect on beach nourishment activities even though, for example, the proposed Campus Point SMR and Goleta Slough SMCA are located near BEACON's Goleta Beach Nourishment Demonstration Project and the Goleta Beach Long Term Master Plan Project and the proposed Batiquitos Lagoon SMCA, San Elijo Lagoon SMCA, and Swami's SMCA are located near SANDAG's Regional Beach Sand Project II. The proposed MPA regulations allow maintenance dredging, habitat restoration, research and education, maintenance of artificial structures, and operation and maintenance of existing facilities pursuant to required permits or authorization by the Department. Moreover, the California Fish and Game Commission does not have authority to permit or prohibit beach nourishment in the marine or estuarine environment (Department 2009b). As a result, the proposed Project IPA would have no effect on beach nourishment projects.

Based on a review of the 2002 Geothermal Map of California (DOGGR 2002), no geothermal resources or geothermal fields are present within the SCSR and the proposed Project would have no effect on such resources.

Based on a review of Perry (2009) and California Natural Resources Agency (1995), there are no known solid mineral resources or active sand and gravel mining operations identified within the SCSR.

Based on the above considerations, implementation of the proposed Project IPA is not expected to result in a loss of availability of known mineral resources of value to the region and the residents of the state.

**Mitigation:** No mitigation is required since no impacts are anticipated.

### **MR-2: Loss of Availability of a Locally-Important Mineral Resource Recovery Site Delineated on a Local General Plan, Specific Plan, or Other Land Use Plan**

As discussed above in MR-1, MPAs for the proposed Project IPA are located offshore and are not located over existing oil and gas production facilities or active leases, salt-producing facilities, or geothermal resource areas and there are no known solid mineral resources or active sand and gravel mining operations identified within the proposed Project IPA. Several proposed MPAs will encompass offshore sites used to provide sand for beach nourishment

## SOUTH COAST MARINE PROTECTED AREAS PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

---

and are immediately adjacent to several onshore beach nourishment receiver sites, but the Commission does not have authority to permit or prohibit beach nourishment in the marine or estuarine environment and the MLPA cannot supersede otherwise lawful activities that are not within the authority of the Commission to regulate (Department 2009b). Finally, there is a ban on issuance of state leases offshore and since 1990 there has been a moratorium on issuance of new oil and gas leases in federal waters.

Based on the above, the proposed Project IPA will have no effect on locally important mineral resource recovery sites delineated on a local general plan, specific plan, or other land use plan.

**Mitigation:** No mitigation is required since no impacts are anticipated.