

# Chapter 4

## Description of the Affected Environment

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# Chapter 4

## Description of the Affected Environment

### 4.0 INTRODUCTION

This chapter describes the existing environment that could be affected by the Proposed Action, the Alternatives to that action, and the past, present and reasonably foreseeable actions. Additionally, section 4.0.1 describes the past and present offshore oil and gas activities, while each resource description in this chapter includes a discussion of the impacts of past OCS activities on the resource. The reader is encouraged to read section 1.2, Reader's Guide to the Use of this Document, to get a good understanding of how this EIS is organized. The Study Area for the Proposed Action and Alternatives is presented in figure 1.0-2. Most of the impacts that could potentially result from the delineation drilling of the 4-5 wells addressed in the Proposed Action would be limited to the general geographic area of these operations. However, the geographic scope of the affected environment included in this document is larger than what is potentially affected by just delineation drilling. The extended scope includes the areas and resources potentially affected by the development of all 36 undeveloped federal leases offshore California. The Study Area for this cumulative impact analysis is shown in figure 4.0-1. The inclusion of the cumulative impact analysis of the undeveloped leases in chapter 6 is consistent with commitments made in 1999 to the Governor of California and the California Coastal Commission by the MMS and the Department of the Interior. To obviate the need for two separate descriptions of the affected environment, MMS is focusing on the larger geographic area.

The impact analyses in this EIS distinguish the effects on two separate geographical areas: (a) in chapter 5, we describe the area affected by the Proposed Action and Alternatives including the cumulative impacts of past, present, and foreseeable activities in the area for the period 2002-2006; and (b) in chapter 6, we describe the area affected by the cumulative impacts of past, present, and reasonably foreseeable actions through the hypothetical development of all 36 undeveloped federal leases (2002-2030).

To properly describe the environment that could be impacted by the hypothetical development of all 36

undeveloped leases, the geographical study area for the Proposed Action was expanded. The expanded study area results from the need to understand the environment that could be impacted from:

- The hypothetical placement of development platforms;
- The subsea pipelines to transport oil and gas to existing platforms and/or existing or new onshore facilities ; and
- Potential oil spill effects over a greater area and longer timeframe than the Proposed Action

The expanded Study Area extends from Point Lobos in the north to Point Fermin in the south. It includes the Channel Islands, San Nicolas Island, and Santa Catalina Island. It also includes the city of Casmalia - the assumed locations of a hypothetical pipeline route and onshore processing facility (figure 4.0-2).

### 4.0.1 PAST AND PRESENT OFFSHORE OIL AND GAS ACTIVITIES

Both past and existing natural and anthropogenic sources have strongly influenced the existing environment. The natural and anthropogenic sources that are found to have the largest effect on existing resources are discussed in this chapter and chapter 5. Oil and gas development and production have been one of the larger industrial influences within the Tri-County area of San Luis Obispo, Santa Barbara, and Ventura.

The first offshore oil well was drilled from a pier in Summerland California in 1897 (Lima, 1994). By the early 1950's, much of the Santa Barbara Channel had been explored, under various State and Federal laws. In 1953 the Federal Submerged Lands Act established State control over that portion of the submerged lands within State boundaries, and Federal jurisdiction over the submerged lands beyond the State boundary. There are currently 10 State and 23 Federal offshore oil and gas facilities from northern Santa

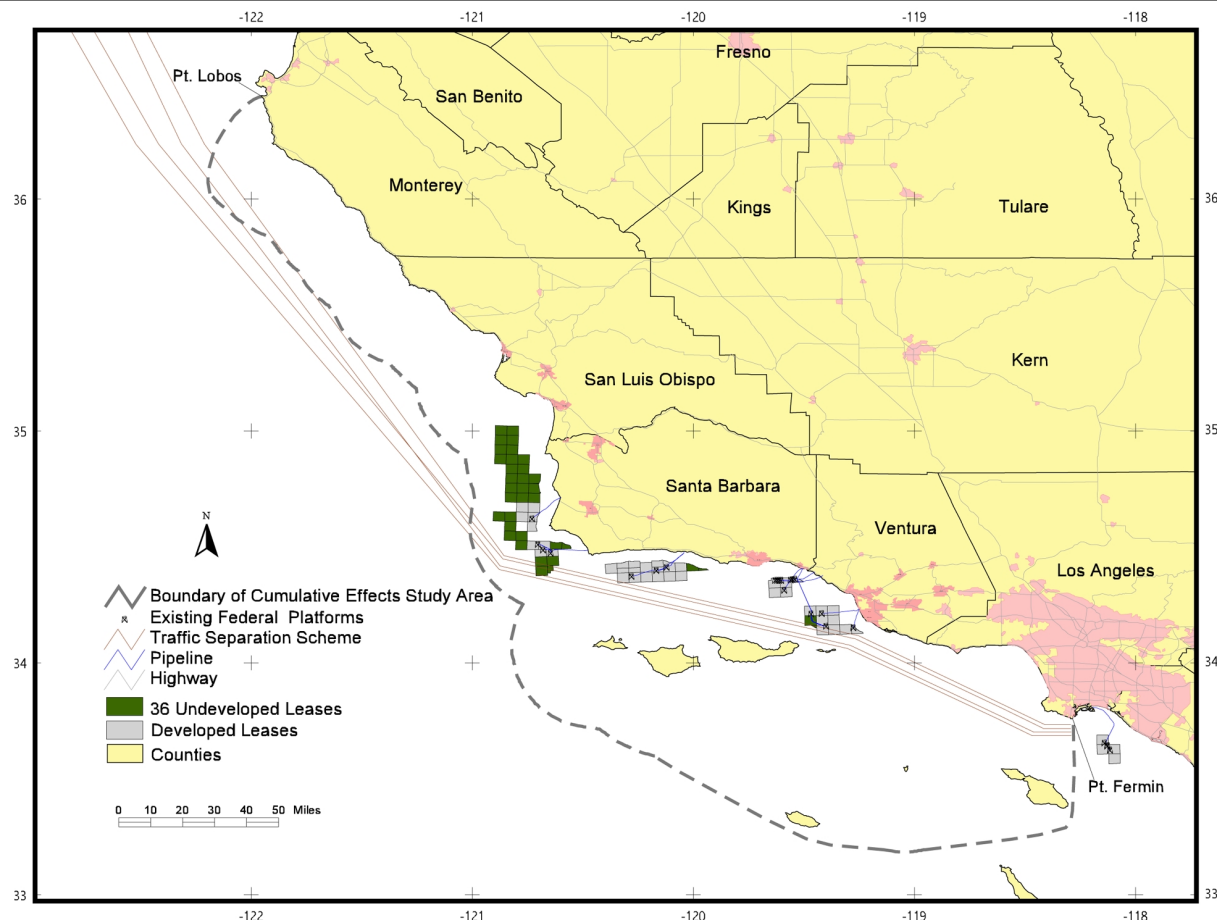


Figure 4.0-1. The study area boundary for the cumulative effects analysis.

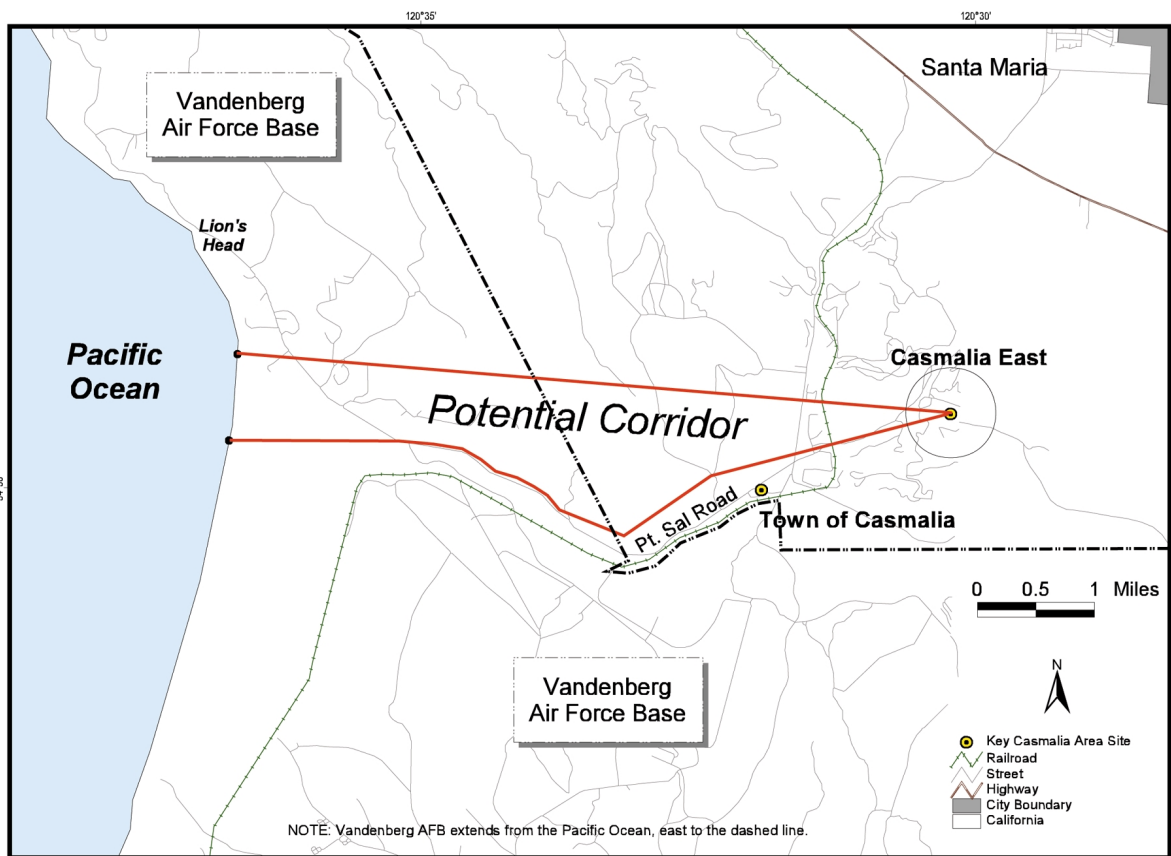
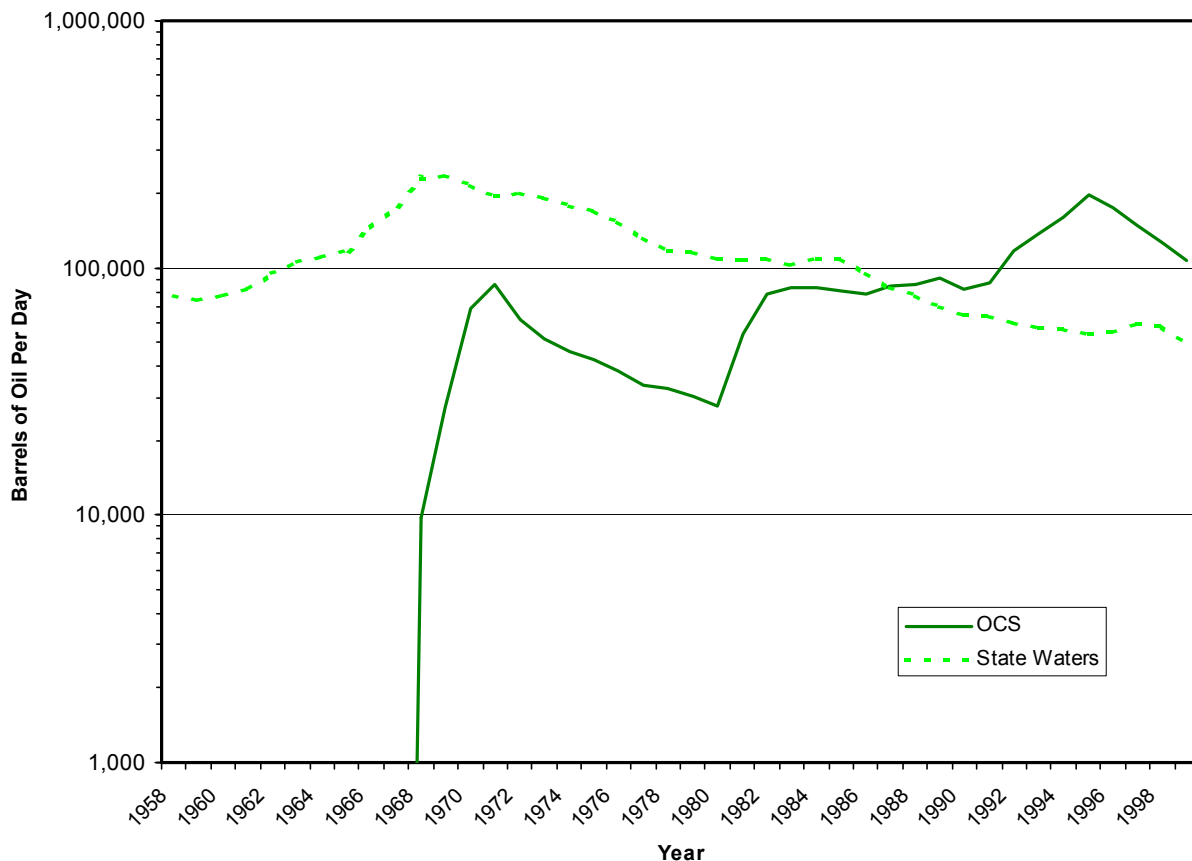


Figure 4.0-2. Study area for the hypothetical pipeline landfall, pipeline route, and onshore processing facility.

# Offshore Oil Production



**Figure 4.0.1-1. State and Federal oil production offshore southern California.**

Barbara County to Huntington Beach. Offshore oil production peaked in State waters in 1969 and in Federal waters in 1996. Figure 4.0.1-1 depicts annual State and Federal oil and gas production from offshore southern California.

As of January 1, 2000, daily production from the 43 developed federal OCS leases offshore California was 95,000 barrels of oil and 222 million cubic ft of gas. This production is attributed to 13 fields. Remaining reserves for these fields was estimated to be 370 million barrels of oil and 1,205 billion cubic ft of gas. At January 2000 production rates, these reserves will last about 10 years for oil and 16 years for gas. Cumulative regional production as of January 1, 2000, was 954 million barrels of oil and 1,104 billion cubic ft of gas.

There are 79 existing federal OCS leases offshore California. Forty-three of the leases are developed and 36 are undeveloped. There are 23 oil and gas platforms located on the federal OCS. The majority of the platforms (19) are located off the coast of Santa Barbara County and Ventura County. A total of 38 fields have been discovered in the California OCS, including 14 fields in the offshore Santa Maria Basin, 22 fields in

the Santa Barbara Channel, and two fields in the offshore Los Angeles Basin.

To develop and produce offshore oil and gas, a complex and interrelated series of operations are required. These operations or activities include: geophysical and geologic exploration sampling or seismic surveys; drilling of exploration wells; installation of production facilities; development of oil and gas transportation systems; onshore processing facilities, pipeline construction, support activities; and recent initiation of decommissioning activities. In addition, Alaska and foreign oil is imported by marine tankers to California. These activities have always had a potential to influence the environment conditions within the study area. The following information on the recent past and present oil and gas activities is provided to better understand activities that may have influenced the existing environment

## GEOLOGICAL AND GEOPHYSICAL SURVEYS

Geological and geophysical (G&G) surveys are generally conducted prior to lease sales. The surveys often cover large areas. Table 4.0.1-1 provides the