19 OIL AND GAS DEVELOPMENT AND ASSOCIATED ENVIRONMENTAL IMPACT STUDIES ON THE PACIFIC COAST OF THE UNITED STATES

James C. Kelley

Abstract

Oil was discovered in the United States in Titusville, Pennsylvania in 1863. In the 1880's, oil and gas development began on the West Coast and the first offshore well was drilled in the Summer land field, near Santa Barbara, in 1896 into the Monterey Formation. This activity has greatly intensified, particularly offshore in the last 20 years. The States of California, Oregon and Washington have jurisdiction from the shoreline to a distance of 3 nautical miles offshore. The Federal Government has jurisdiction from 3 to 200 nautical miles offshore in the U.S. Exclusive Economic Zone (EEZ). The U.S. Department of Interior, through the Bureau of Land Management and the Minerals Management Service, has been in the middle of an increasingly strident public debate, while trying to carry out an environmental studies program and management offshore leases in a timely manner. Those involved in the government, as advisors to the government and as contractors on the studies, have tried to develop an environmental assessment program which complements other research efforts along the U.S. Pacific Coast. Some good science has resulted, as well as better understanding between the participants: government, industry and academic science.

19.1 Introduction

Nearshore oil and gas development in the Pacific States of the U.S. (exclusive of Alaska and Hawaii) began in S California in 1896 (Figure 19.1). In the last 20 years offshore, or outer continental shelf (OCS) activity has greatly increased while activity in State waters has declined (Figure 19.2). At the present time OCS activity is confined to S and Central California, but the potential Pacific OCS area extends to Oregon and Washington (Figure 19.3). Oil and gas currently is produced from the Monterey Formation (Miocene) in California. A number of sedimentary basins along the coast are potential sources of oil and gas (Figure 19.4). The Pacific coast of the U.S. is a region of great natural beauty and is home to a large recreational industry. The region is also one of the largest and most productive coastal upwelling areas in the world and a large fishing industry, both commercial and recreational, depends upon this highly productive marine ecosystem. In addition, several marine mammals inhabit the region. Some, like the Northern elephant seal (Mirounga angustirostris) and the California sea otter (Enhydra lutris), breed there and California Greg whales (Eschrichtius Robustus) pass through the entire area on their annual migration from Alaska to the several lagoons in Baja California and Mexico when they breed. Other pinnipeds, notably the California sea lion (Zalophus Californianus) and the Stellar sea lion (Eumetopias jubatus), inhabit the waters of the California current system.
The U.S. government has afforded special protection for marine mammals under the Marine Mammals Protection Act of 1972. The requirements to protect marine mammals and other endangered species under the Endangered Species Act of 1973