

U.S. Department of the Interior



Bureau of Ocean Energy Management, Regulation and Enforcement

Pacific Region Overview

**Scientific Committee Meeting
May 17, 2011**

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Chief, Environmental Studies**

Pacific OCS Region Environmental Studies



- **1973 – 2010**
284 studies nearly \$ 130 M
- **19 Active Studies April 2011**
- **9 Conventional Energy ~\$ 3.1 M**
- **10 Renewable Energy ~\$ 6.3 M**
- **8 Proposed for FY 2012-2014**

http://www.boemre.gov/omm/pacific/enviro/enviro_studies.htm

Environmental Studies on the Pacific Outer Continental Shelf

Preparing for Renewable Energy

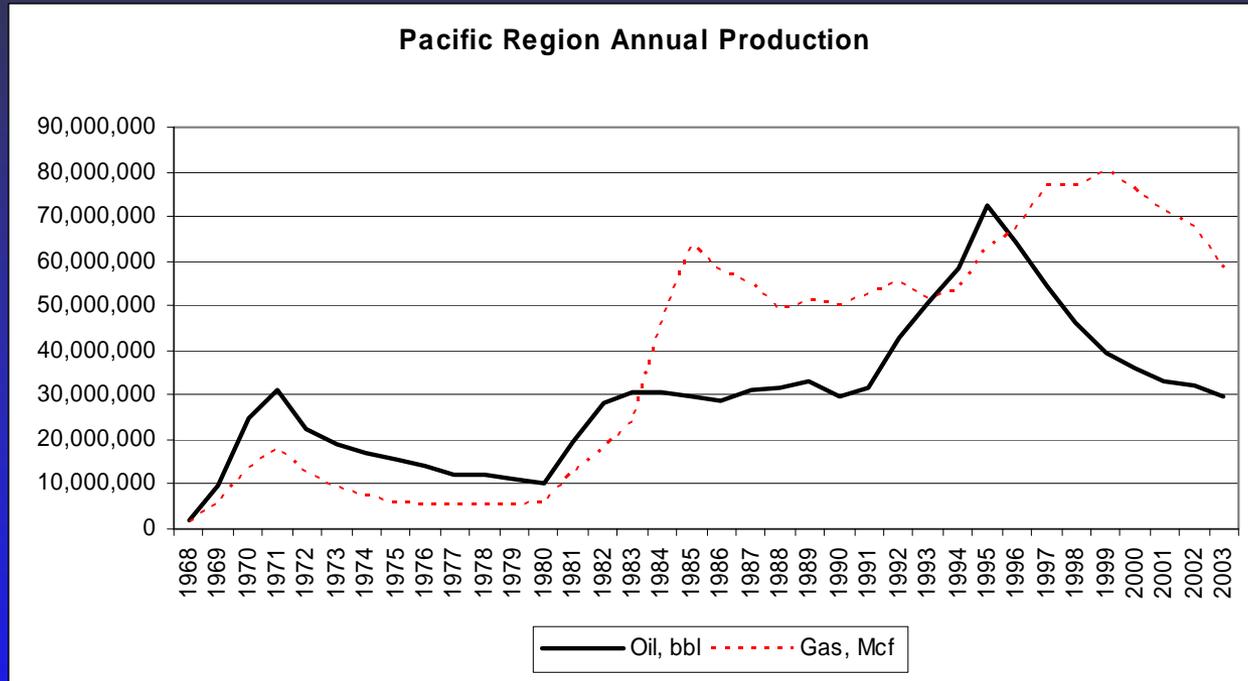


Supporting and Monitoring Conventional Energy



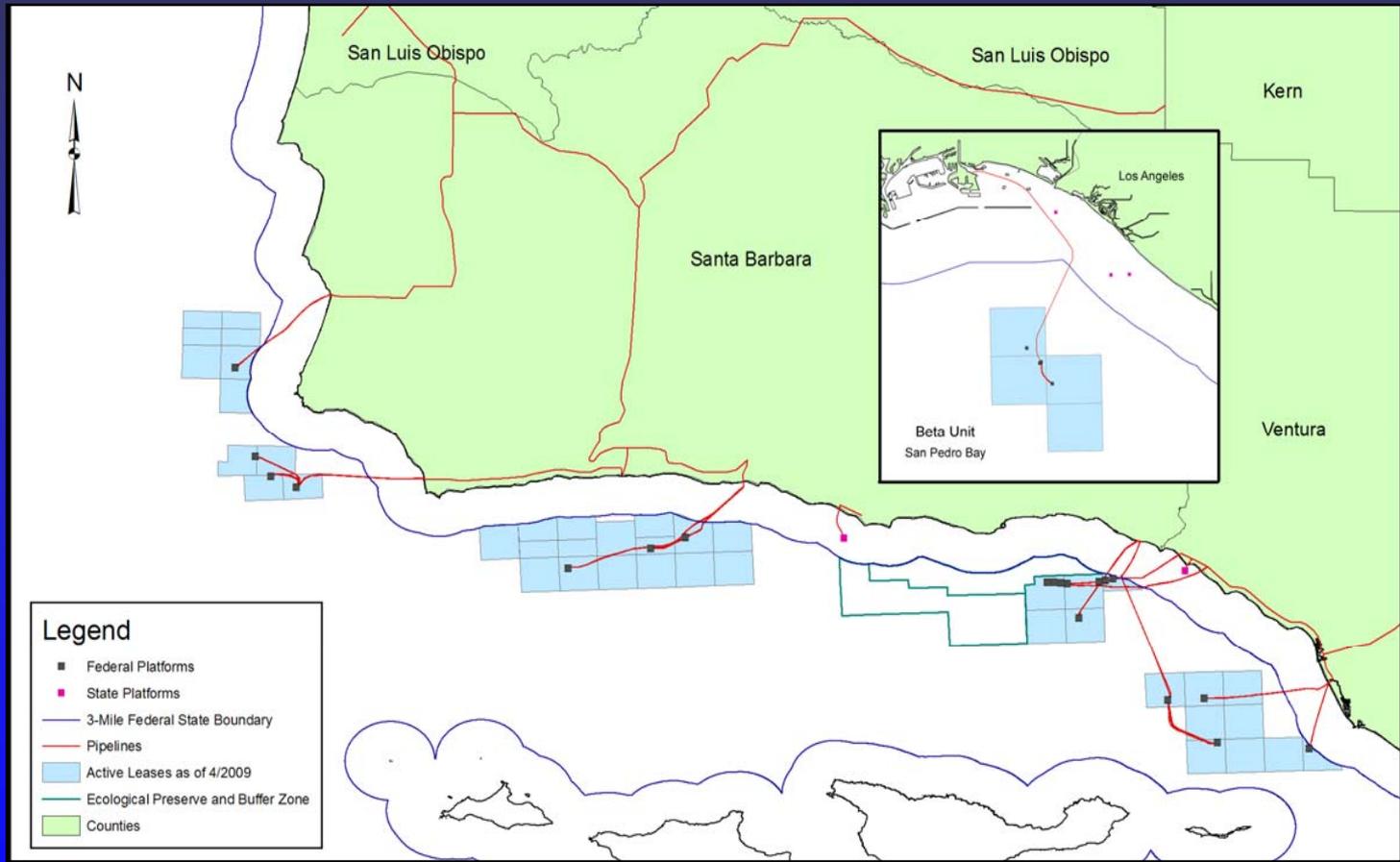
On-going Conventional and Prospective Renewable Energy

Pacific Region Conventional Energy Oil & Gas Production



- Peak oil production in 1995, over 200,000 bbls per day
- Recent daily petroleum production (May 2011):
 - ~ 61,113 bbl oil and 113 million cf natural gas
- Cumulative production > 1.24 billion bbl oil
 - > 1.67 trillion cf natural gas

Conventional Energy Program



Pacific Region Oil and Gas Leases and Facilities

Existing Pacific Offshore Oil & Gas

23 Platforms in Federal Waters



Environmental Science

Supporting Conventional Energy



- Studying the role of platforms in the So Cal marine ecosystem
- Monitoring regional context for oil and gas operations
- Investigating potential impacts from removal or reefing of convention energy structures

Pacific Region Study of Above Water Platform Habitat



Using on-deck observers to investigate general lighting effects on birds

Completed 6 Platforms 2010

Four More Scheduled for Spring and Fall 2011



Pacific Region Study of Underwater Platform Habitat



Using SCUBA & Submersibles to investigate regional importance of platform assemblages



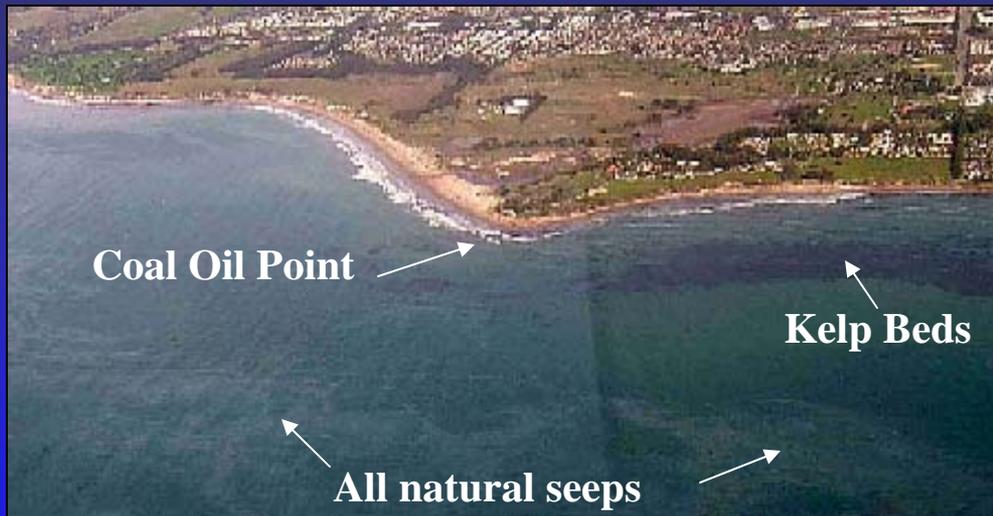
Pacific Region Monitoring of Regional Context



Partnership with USGS to investigate potential body burden of heavy metals, PAH's, and PCB's



Pacific Region Monitoring of Regional Context



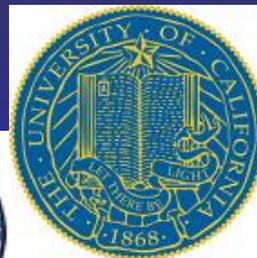
**Partnership with UCSB to investigate
sources of chronic oiling**



Pacific Region Monitoring of Regional Context



Over 40
Partners

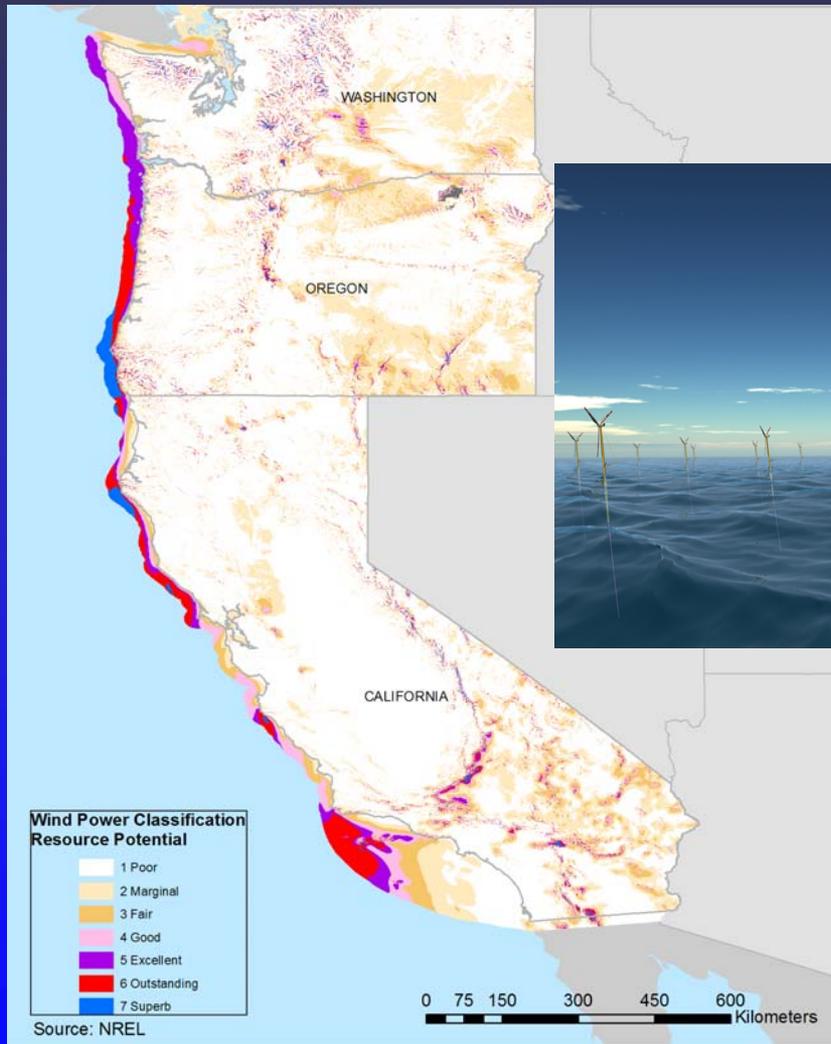


MARINE is the largest long-term monitoring program on the Pacific coast

Several decades of rocky shoreline data in a common database

Ability to compare/contrast impacts from offshore activity and direct spill response

Renewable Energy Program



The Pacific Region has great potential for development of renewable energy from deepwater wind power.

Renewable Energy Program



The Pacific Region has the greatest potential for development of renewable energy from wave power.

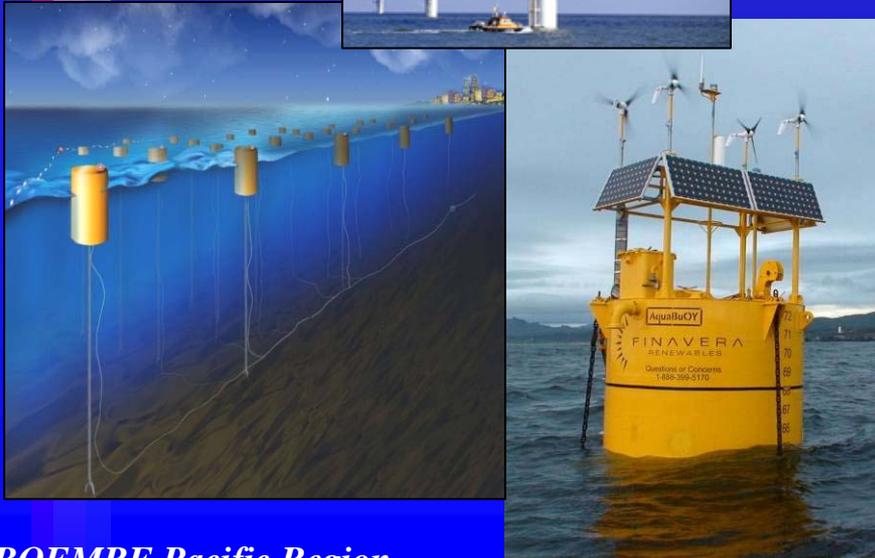


Environmental Science

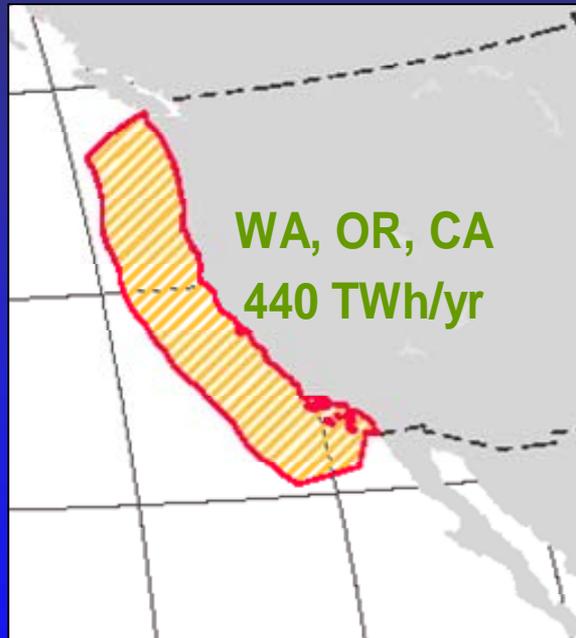
Preparing for Renewable Energy



- Expanding our area of study to encompass the Pacific coast for siting renewable energy projects
- Increasing information of existing resources and habitats
- Investigating potential impacts from installation of renewable energy structures



Pacific Region Study for Planning and Siting



Partnership with DOE & NOAA to develop a robust, quantifiable analysis system to assist decision makers in accurately siting future ocean renewable energy projects

**Bayesian Integration for Marine Spatial Planning
and Renewable Energy Siting**

Pacific Region Study of Environmental Resources

Protocols for Baseline Studies and Monitoring
For Ocean Renewable Energy



Partnership with DOE and NOAA to
recommend protocols for pre-installation
sampling and post-installation monitoring

Pacific Region Study of Environmental Resources



Aerial surveys of seabirds and marine mammals



Partnership with USGS and FWS to investigate resources within areas of interest for renewable energy installation

Pacific Region Study of Environmental Resources



Multifaceted approach to benthic surveys



Partnership with OSU & UW through NW CESU to investigate resources within areas of interest for renewable energy installation

Pacific Region Investigation of Potential Impacts

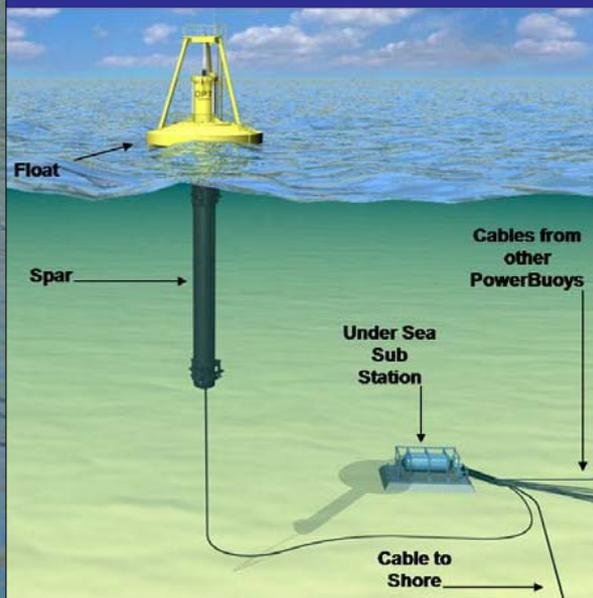


Partnership with DOE and NOAA to investigate viewshed and visual effects



Renewable Energy Visual Evaluations

Pacific Region Investigation of Potential Impacts



Effects of Electromagnetic Fields from Transmission Lines on Elasmobranchs and Other Marine Species

Pacific Region

Environmental Studies Program

On the Horizon



- Further foundation studies for renewable energy
- Completion of conventional energy faunal studies
- Initiation & maintenance of monitoring studies
- Integration into ecosystem understanding

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