



Environmental Sciences Pacific Region Overview

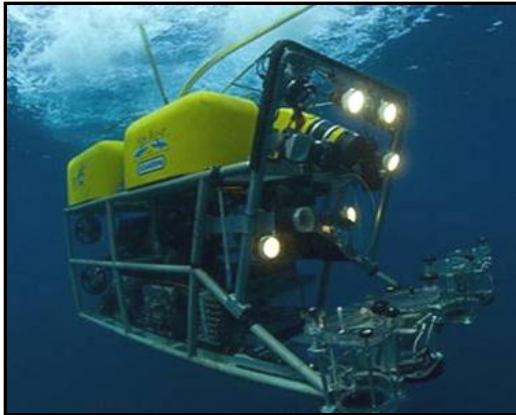
**Scientific Committee Meeting
February 8, 2012**

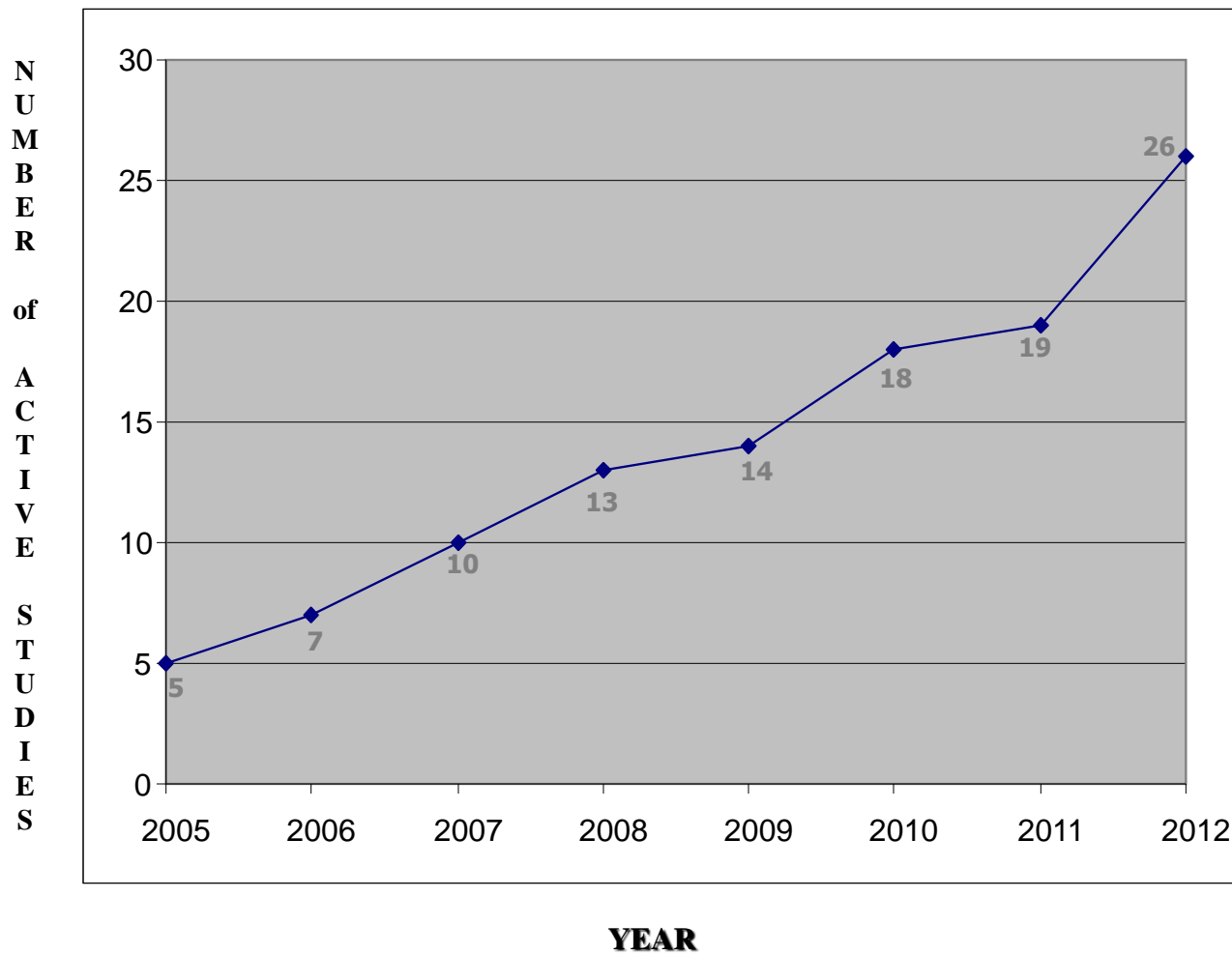
**Ann Scarborough Bull, Ph.D.
Chief, Environmental Sciences Section**



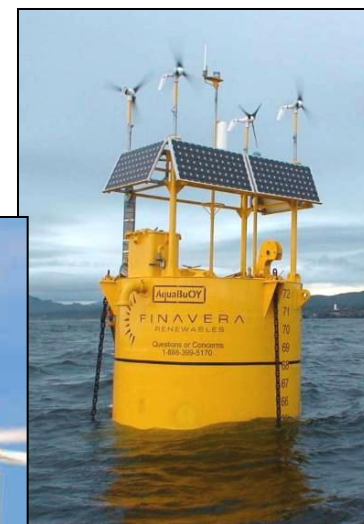


- **1973 – 2011**
- **296 studies completed at nearly \$ 138 M**
- **20 on-going studies ~\$ 11.1 M**
- **10 conventional energy ~\$ 3.2 M**
- **10 renewable energy ~\$ 7.9 M**
- **5 more under development for FY 2012**



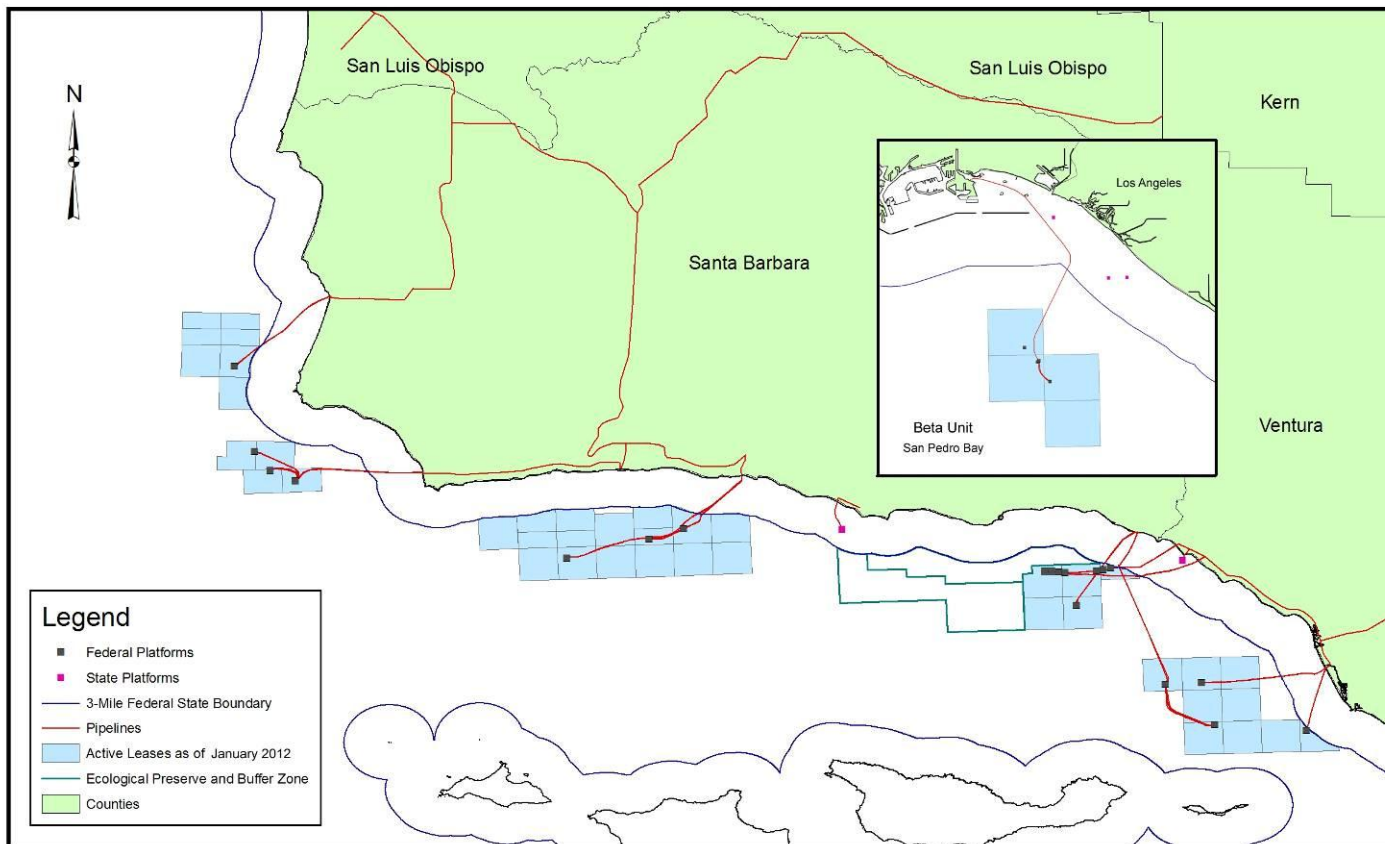


Preparing for Renewable Energy



Supporting and Monitoring Conventional Energy





Pacific OCS Region Leases and Facilities

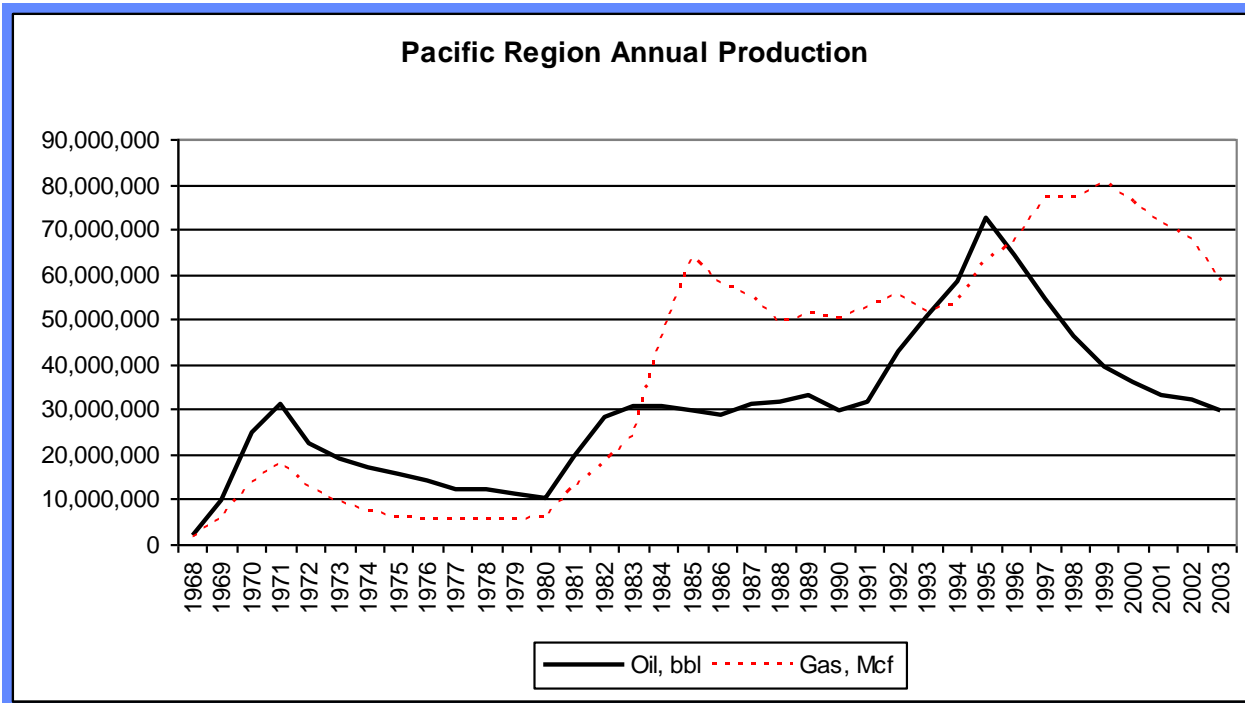


Existing Pacific Offshore Oil & Gas



- **43 producing federal leases**
- **23 platforms in federal waters**
- **Last oil and gas lease sale 1984**





- **Peak oil production in 1995, over 200,000 bbls per day**
- **Recent annual petroleum production - 2011**
~ 24 million bbl oil and 47 billion cf natural gas
- **Cumulative production > 1.24 billion bbl oil**
> 1.67 trillion cf natural gas





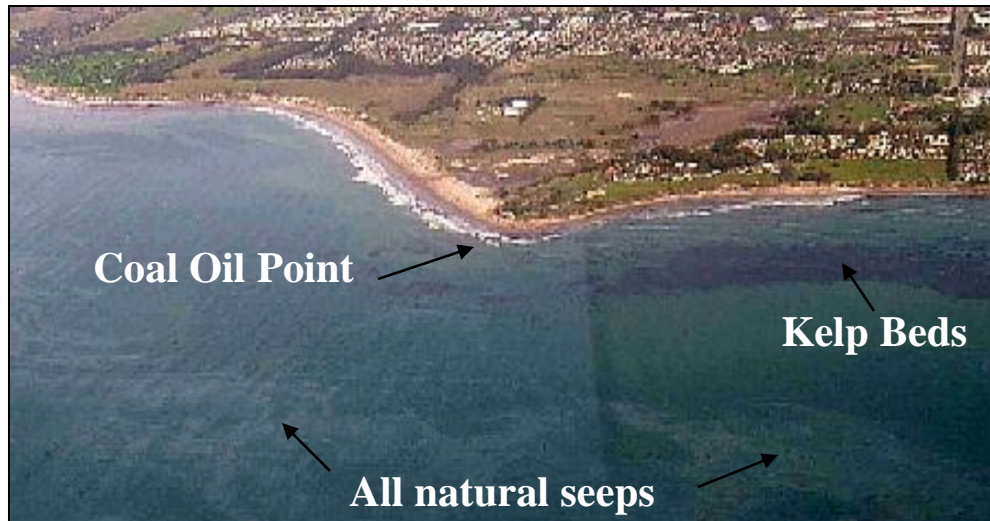
- **Researching the role of platforms in the southern California marine ecosystem**
- **Studying oil and gas operations within a regional context**
- **Investigating potential impacts from removal or reefing of conventional energy structures**





- Having 32 partners and using more than a decade of twice-yearly repetitive shoreline surveys at specific sites
- Led NOAA to be able to designate critical habitat for black abalone along CA shorelines





- **Using partnerships with UCSB and USGS to research natural seeps**
- **Led to public understanding of the likely sources of oil and tar on local beaches**

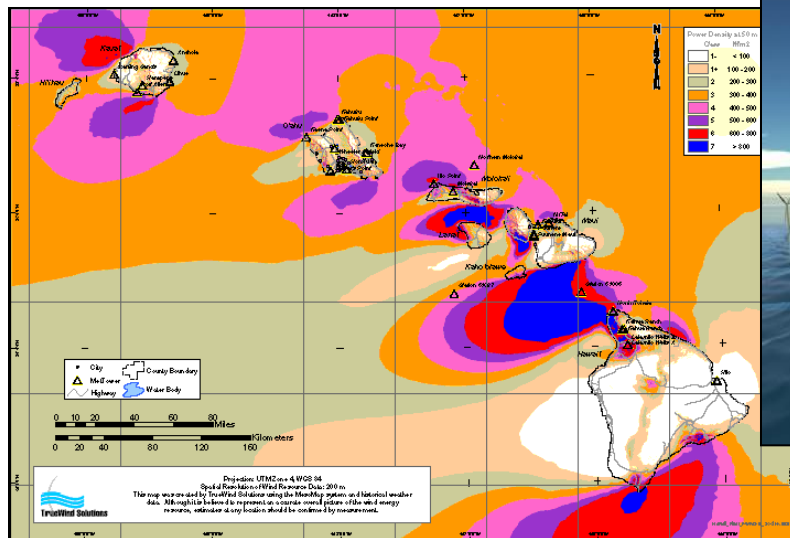
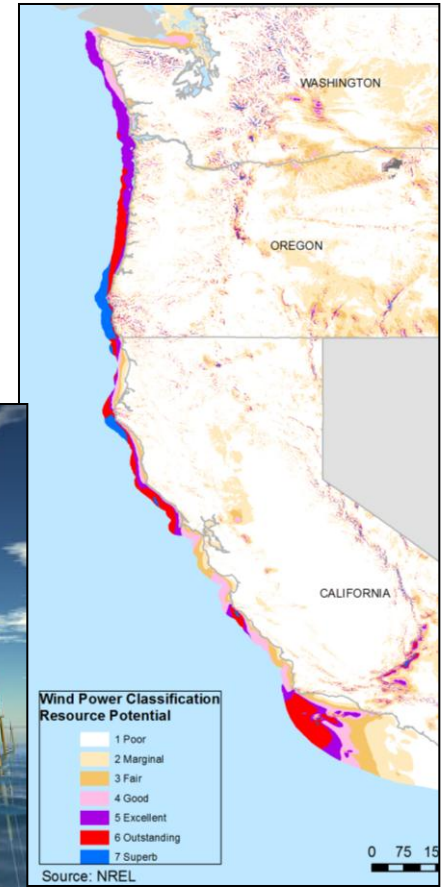


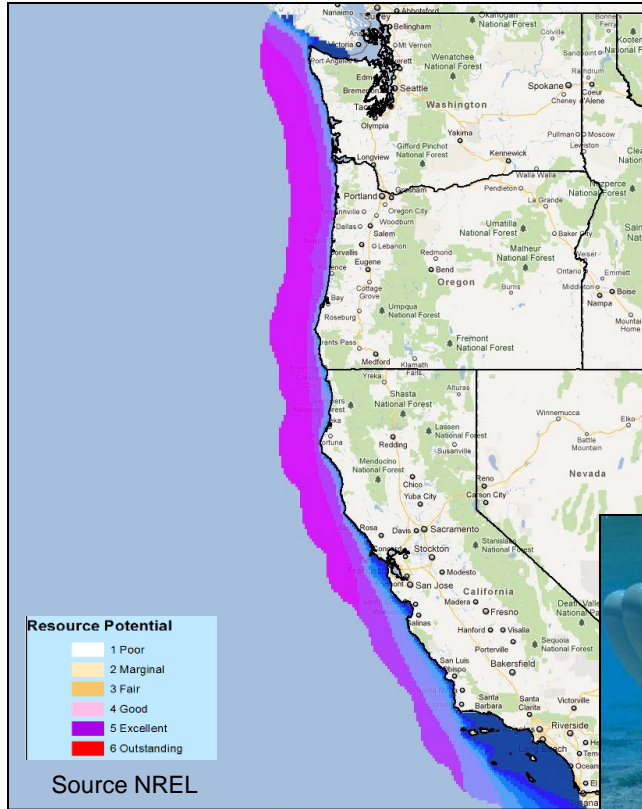


- **Using SCUBA and submersibles to investigate regional importance of platform assemblages**
- **Led the State of California to legislate and implement a decommissioning Rigs to Reefs option**

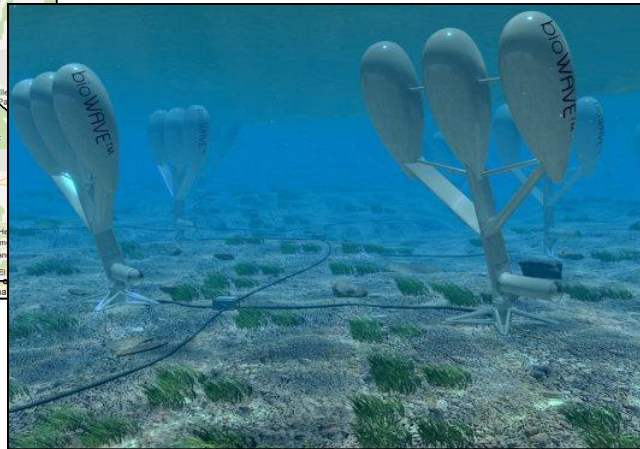


The Pacific Region has great potential for development of renewable energy from wind via floating deepwater turbines.





The Pacific Region has great potential for development of renewable energy from wave via floating and subsea devices.

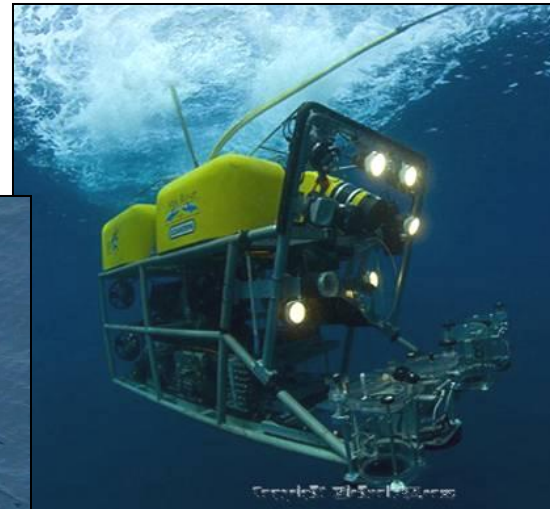




- **Re-initiated external stakeholder input for the Pacific Region's Studies Development Plan for FY 2013**
- **Expanded our area of study for potential siting of projects to encompass the Pacific coast and Hawaii**
- **Planning an Oregon Renewable Energy Science Workshop in summer 2012**
- **Efforts expected to result in identification of valuable information needs, partnering and leveraging opportunities**



- **Existing partnerships with DOE and NOAA**
- **Leading to knowledge of benthic resources within areas of interest for renewable energy installations**



Pacific Region Study of Baseline Marine Migratory Resources



- Existing partnerships with USGS and FWS
- Leading to knowledge of seabirds and marine mammals within areas of interest for renewable energy installation



Pacific Region Study of Baseline Sampling Protocols and Facility Monitoring



- Existing partnerships with DOE and NOAA
- Leading to recommended protocols for pre-installation sampling and post-installation monitoring





- Existing partnerships with DOE and NOAA
- Leading to the ability to evaluate potential visual impacts from renewable energy installations





- **Serve as a keynote speaker and presenter at science conferences, teacher workshops and community events**
- **Work with local educators to develop curricula and leverage BOEM science into classroom activities**
- **Serve as a member of national and state science organizations**





Supporting and Monitoring Conventional Energy and Preparing for Renewable Energy

- **Further foundational studies for renewable energy**
- **Completion of conventional energy faunal studies**
- **Initiation & maintenance of monitoring studies**
- **Integration into ecosystem understanding**
- **Continue outreach and education**



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