

Session 4: Human Dimensions <i>Chair: Donna Schroeder</i>	
9:10–9:15	Introduction Donna Schroeder, BUREAU OF OCEAN ENERGY MANAGEMENT
9:15–9:30	Impact Analysis of Offshore Energy Installations to Commercial Fisheries Donna Schroeder, BUREAU OF OCEAN ENERGY MANAGEMENT
9:30–9:45	A Forward Thinking Approach to Marine Renewable Energy Development Through Marine Spatial Planning Dr. Crow White, CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO
9:45–10:00	Jobs and Economic Impacts from Floating Offshore Wind in California Dr. Suzanne Tegen, NATIONAL RENEWABLE ENERGY LABORATORY
10:00–10:15	Visibility and Visualization of Offshore Wind Facilities Robert Sullivan, ARGONNE NATIONAL LABORATORY
10:15–10:30	Q&A / Panel Discussion
10:30–10:45	Break





Impact Analysis of Offshore Energy Installations to Commercial Fisheries

Donna M. Schroeder

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Bureau of Ocean Energy Management
Pacific OCS Region*

*2016 California Ocean
Renewable Energy Conference
University of California, Davis
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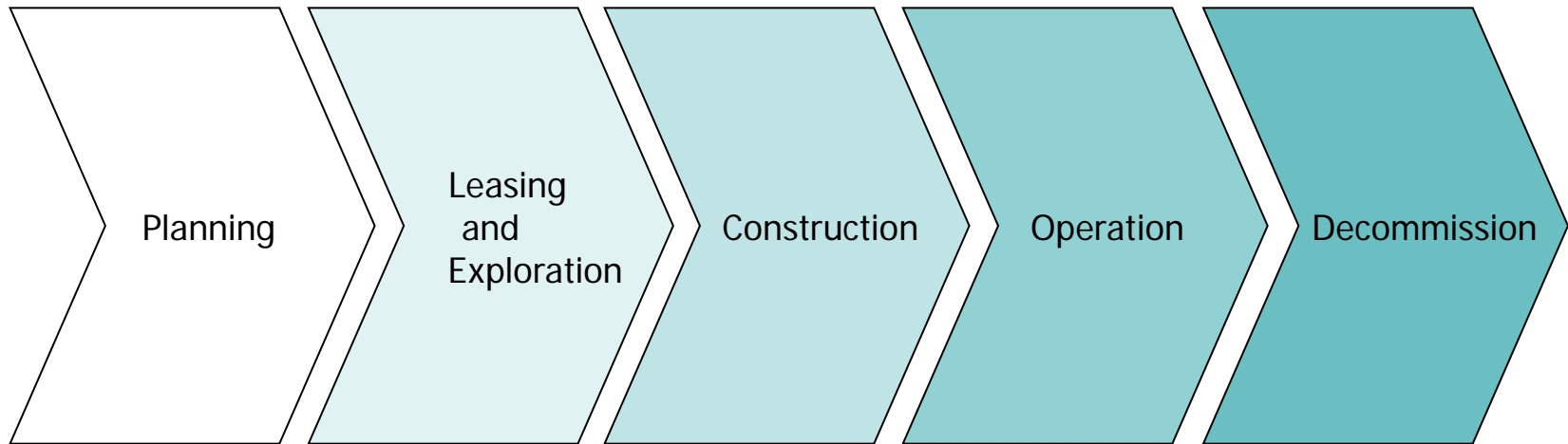
- Impact Analysis Overview
- Case Studies
- Available Information
- Future Plans





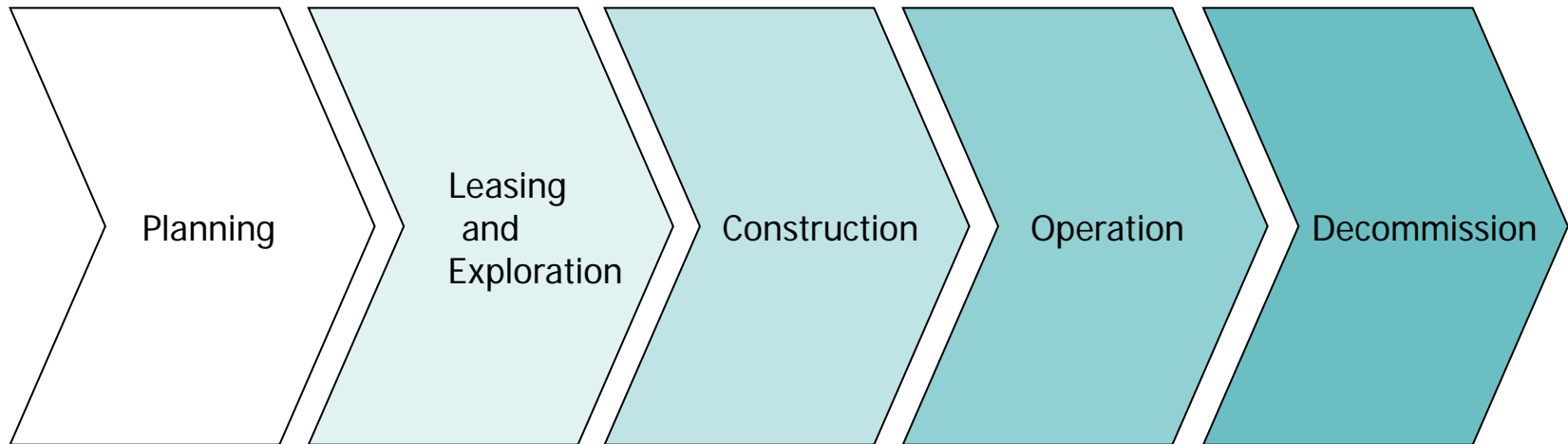
- Receive project description (PD).
- Identify impacting agents (stressors).
- Define geographic and temporal scope using PD and stressors.
- Identify which resources within the spatial and temporal scope that could be affected by the stressors (receptors).
- Identify direct and indirect impacts to receptors that may be made for each project stressor. The probability of risk of these impacts will also be presented.
- Develop mitigation measures. Determine residual impacts or receptors remaining after mitigation measures are implemented.

Public scoping process can help with many of these steps!



Baseline, Mapping, Planning

Impact Assessment, Monitoring, Mitigation



Site Assessment Plan (SAP)

General Activities Plan (GAP)

Construction and Operations Plan (COP)

Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585 October 2015

	Information Requirement	Type of Plan	Regulatory Citation
1.	Your plans must demonstrate that you have planned and are prepared to conduct the proposed activities in a manner that does not unreasonably interfere with other uses of the OCS and uses best management practices.	SAP, COP, and GAP	30 CFR 585.606(a)(3) & (6) (SAP); 30 CFR 585.621(c) & (f) (COP); and 30 CFR 585.641(c) & (f) (GAP).
2.	You must submit with your plans a list of agencies and persons with whom you have communicated, or with whom you will communicate, regarding potential impacts associated with you proposed activities. This description must contain the contact information and the issues discussed.	SAP, COP, and GAP	30 CFR 585.610(a)(13) (SAP), 30 CFR 585.626(b)(17) (COP), 30 CFR 585.645(b)(14) (GAP)

Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585 October 2015

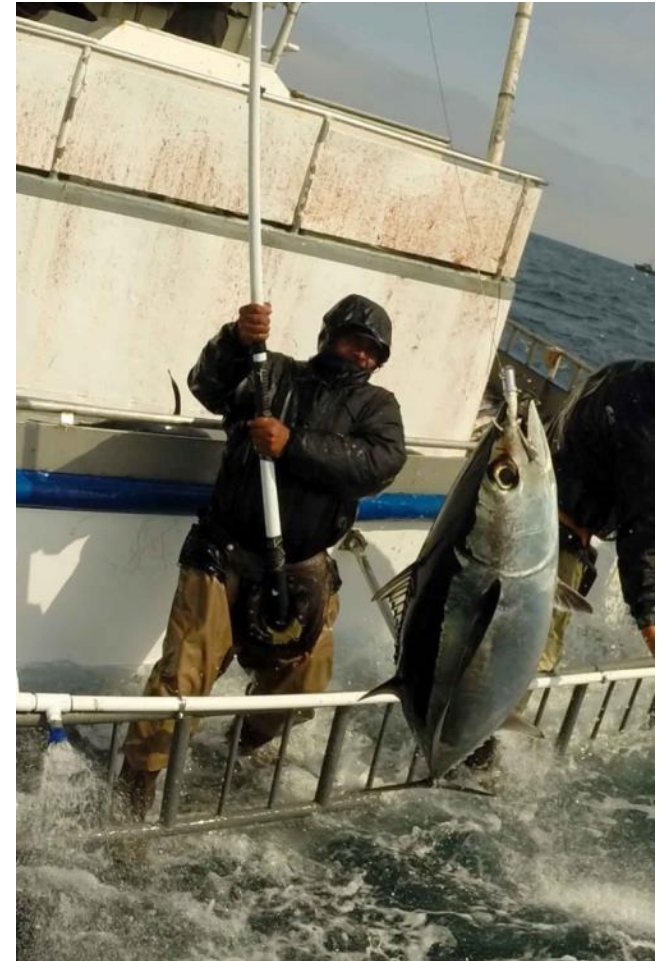
	Information Requirement	Type of Plan	Regulatory Citation
3.	You must submit additional project-specific information requested by BOEM.	SAP, COP, and GAP	30 CFR 585.610(a) (17) (SAP), 30 CFR 585.626(b) (23) (COP), and 30 CFR 585.645(b)(16) (GAP)
4.	You must provide a description of the social and economic conditions of commercial and recreational fisheries that could be affected by the activities proposed in the plan.	SAP, COP, and GAP	30 CFR 585.611(b)(7) (SAP); 30 CFR 585.627(a)(7) (COP); and 30 CFR 585.646(b)(7) (GAP)
5.	BOEM may require additional information during the review of the plans and failure to provide the information may result in the disapproval of the plan.	SAP, COP, and GAP	30 CFR 585.613(d) (SAP); 30 CFR 585.628(e) (COP); 30 CFR 585.648(d) (GAP)

Example Stressors

- Vessel traffic
- Offshore fixed installations
- Use of port infrastructure
- etc.*

Example Receptors

- Fishing grounds
- Fishing gear
- Fuel usage
- Port economics, infrastructure
- Fish populations and habitats
- etc.*



Planning



Source: David McNew/WSJ



Source: Ulrich Karlowski 2008/Marine Photobank

Macro-siting

Micro-siting

Turbine arrangement

Use existing cable corridors

Establish traffic corridors

Cable burial

Fisheries liaison

Comment on aspects of design

Enhance port infrastructure

Consider consequences

to marine populations

Construction and Operation



Source: Kirt L. Onthank

- Restrictions during sensitive seasons
- “Notice to Mariners”
- Minimization and recovery
of marine debris
- Minimize anchor scarring of seabed
- Fisheries liaison
- Fisheries training program (video)
- Monitoring
 - Cable burial
 - Marine debris

Southern California Offshore Oil and Gas

Block Island Offshore Wind Farm (Rhode Island)

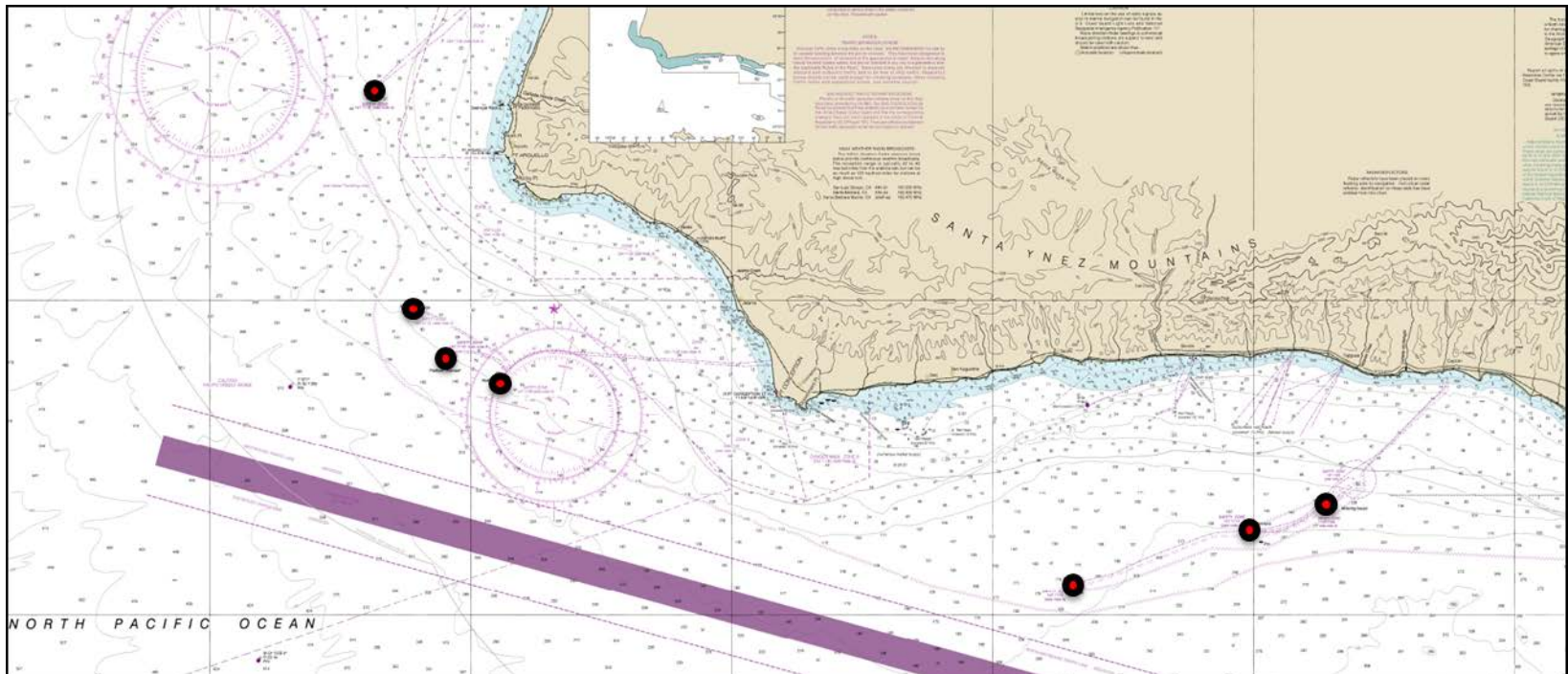


Source: U.S. Sustainability Alliance

Southern California Offshore Oil and Gas

USCG Safety Zones

500 m around some platforms for vessels over 100 ft in length, or those towing another vessel

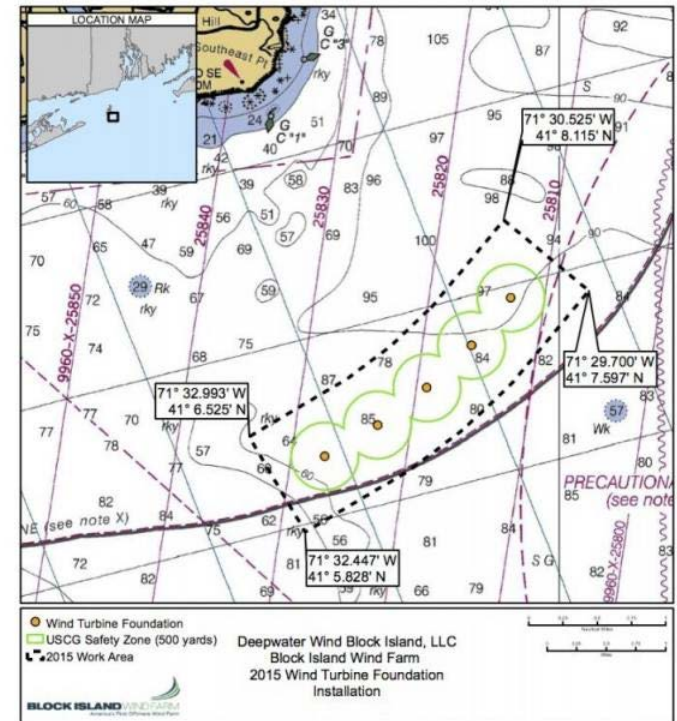


Block Island Offshore Wind Farm (Rhode Island)

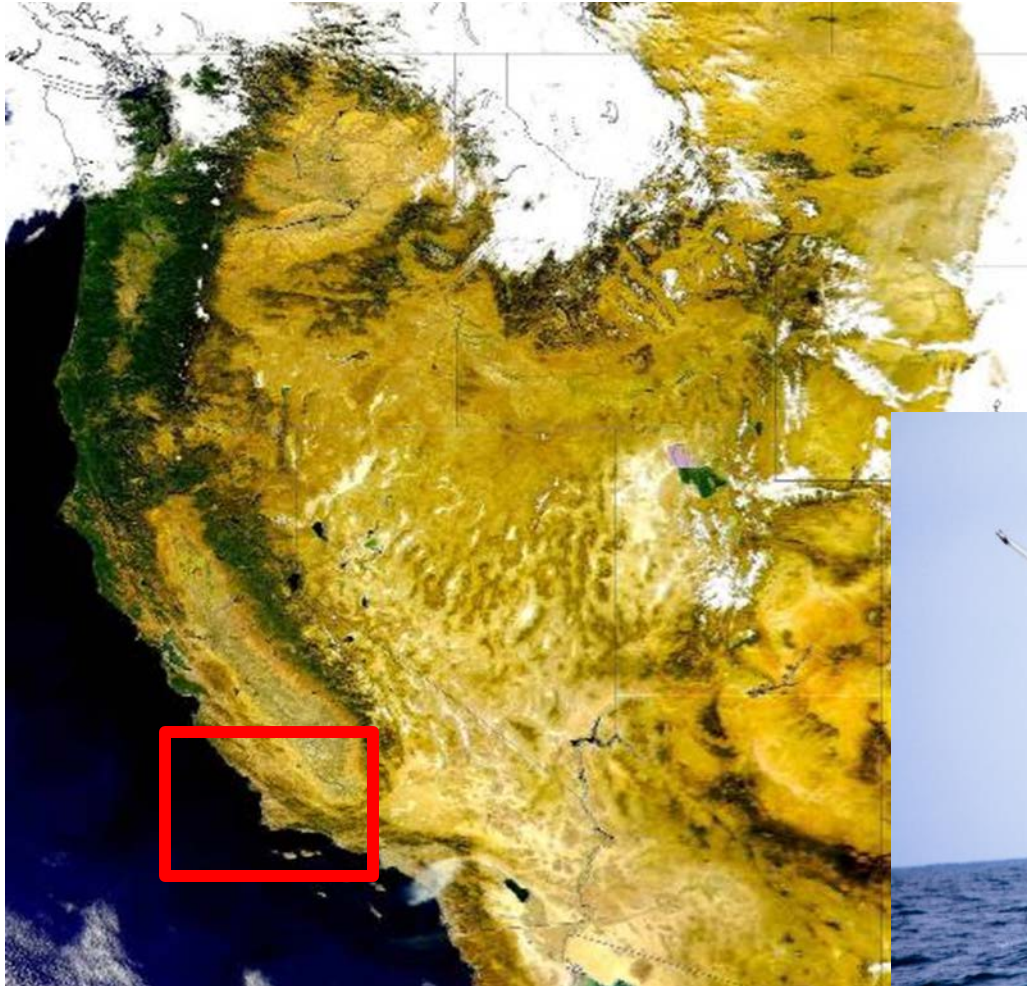
Temporary USCG Safety Zones

500 yards - prohibits vessels from entering into, transiting through, mooring, or anchoring within these safety zones while construction vessels and associated equipment are working on-site for approximately 5 months.

Operationally, no exclusion.



Source: AP Photo/Michael Dwyer



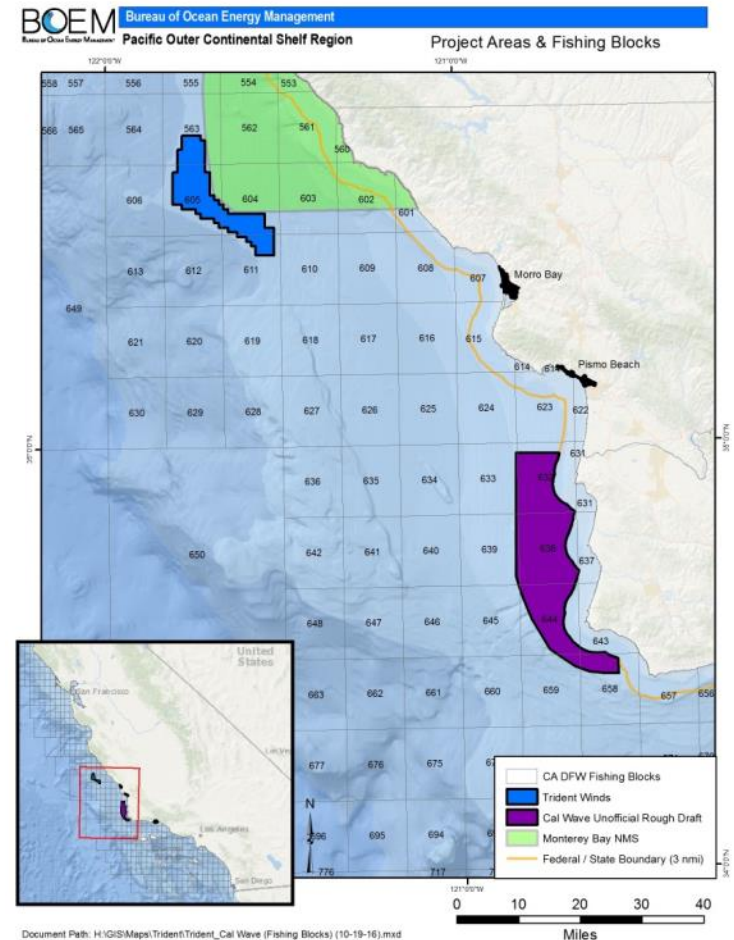
Central and Southern California supports a significant commercial fishing industry



- Additional Outreach to Industry and Stakeholders
- Compile and Summarize Baseline Information
- Collect New Information
- Determine Potential Project Impacts
- Develop Appropriate Mitigation Measures, if Necessary
- Monitor Outcomes



- California Dept. of Fish & Wildlife Commercial Fishing Landings
- Joint Oil-Fisheries Liaison Office
- Public Outreach and Commentary
- Marine Cadastre - Cumulative Fishing Exclusion Zones
- California Ocean Uses Atlas
- Data Summaries from MLPA Process
- California Sea Grant Information
- Pacific Fishery Management Council
- Other Sources TBD





Thank you for the opportunity to speak with you today

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