Good morning!

The BOEM California Intergovernmental Renewable Energy Task Force Meeting will begin at 9am PT.

If you are encountering any technical issues, please contact Jasmine King at jking@kearnswest.com







BOEM California Intergovernmental Renewable Energy Task Force Meeting

July 13th, 2021



Jean Thurston-Keller | California Task Force Coordinator BOEM Pacific Office



Zoom Webinar Instructions – Task Force Members



 Click the mute button at the bottom of the screen to mute yourself when not speaking.



 The raised hand button is a small icon located at the bottom right of the participant pod. You may use this button to enter the discussion queue. Please lower your hand once you are done speaking.



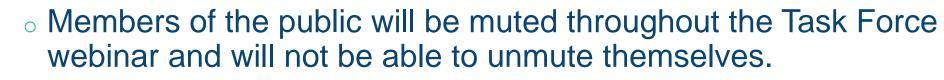
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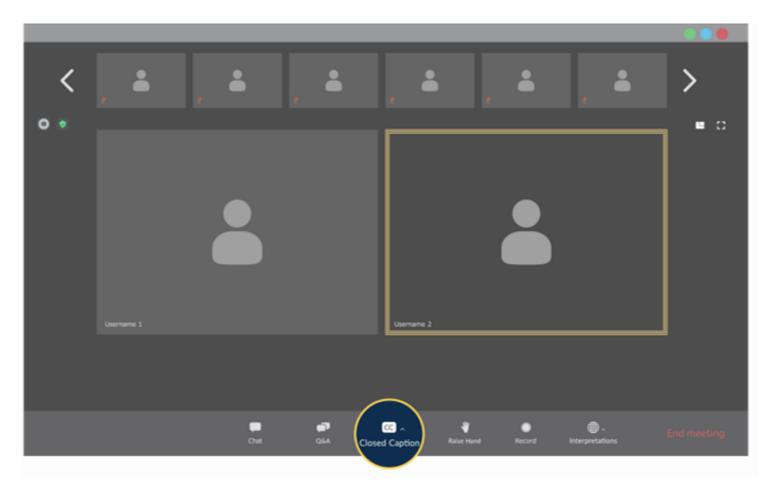
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- Provide your name and affiliation each time you speak.
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Welcome & Opening Remarks

Amanda Lefton, Director, BOEM Wade Crowfoot, Secretary, CNRA Karen Douglas, Commissioner, CEC Ron Tickle, Deputy Assistant Secretary of Defense, DOD Eric Poncelet, K&W





8

INTRODUCTIONS





9

Introductions – BOEM Staff

Amanda Lefton, BOEM Director

Pacific Region

- Thomas Liu, Acting Regional Director
- Doug Boren, Regional Supervisor, Office of Strategic Resources
- Richard Yarde, Regional Supervisor, Office of the Environment
- Necy Sumait, Chief, Renewable Energy Section
- Jean Thurston-Keller, California Task Force Coordinator
- Sara Guiltinan, Regional Tribal Liaison
- John Romero, Office of Public Affairs





Introductions – Tribal Nations

- Bear River Band of the Rohnerville Rancheria
- Blue Lake Rancheria
- Campo Kumeyaay Nation
- Cher-Ae Heights Indian Community of the Trinidad Rancheria
- Coyote Valley Band of Pomo Indians
- lipay Nation of Santa Ysabel
- Jamul Indian Village
- Manchester Point Arena Band of Pomo Indians

- Pechanga Band of Luiseño Indians
- Resignini Rancheria
- Santa Ynez Band of Chumash Indians
- Soboba Band of Luiseño Indians
- Sycuan Band of the Kumeyaay Nation
- Tolowa Dee-ni' Nation
- Viejas Band of Kumeyaay Indians
- Wiyot Tribe
- Yurok Tribe





Introductions – State and Federal Task Force Members

State Agencies

- CA Coastal Commission
- CA Dept of Conservation
- CA Dept Fish and Wildlife
- CA Dept of Water Resources
- CA Energy Commission
- CA Environmental Protection Agency
- CA Fish & Game Commission
- CA Natural Resources Agency
- CA Ocean Protection Council
- CA Public Utilities Commission
- CA State Historic Preservation
 Office
- CA State Lands Commission
- CA State Parks
- CA State Water Resources Control Board

- CA Work Force Development Board
- Governor's Office of Planning & Research
- Office of Governor Gavin Newsom

Federal Agencies

- Bureau of Land Management
- Bureau of Ocean Energy Management
- Bureau of Safety and Environmental Enforcement
- Dept of Defense
- Dept of Energy
- Federal Aviation Administration
- Federal Communications
- Commission
- Federal Energy Regulatory

Commission

- National Aeronautics and Space Administration
- National Oceanic & Atmospheric Administration
- National Park Service
- U.S. Army Corps of Engineers
- U.S. Bureau of Indian Affairs
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Fish & Wildlife Service
- U.S. Geological Survey

Introductions – Elected Officials & Representatives

U.S. Congress

1. Jared Huffman – Congressman, U.S. House of Representatives, 2nd Congressional District of California

Local Jurisdictions

- 1. Bruce Gibson County Supervisor, District 2, San Luis Obispo County Board of Supervisors
- 2. John Hartmann County Supervisor, Santa Barbara County 3rd District Supervisor
- 3. Linda Hillman Santa Barbara County Workforce Development Board
- 4. Jeff Hunerlach Humboldt County Workforce Development Board
- 5. Jamie Irons Mayor, Morro Bay City Council
- 6. Richard Marks Commissioner, Humboldt Bay Harbor District
- 7. Dawn Ortiz-Legg County Supervisor, District 3, San Luis Obispo County Board of Supervisors
- 8. Sarah Schaefer Council Member, City of Arcata
- 9. Mike Wilson County Supervisor Humboldt County District 3



Meeting Objectives

- 1. Update Task Force members on progress since the March 2020 Task Force meeting.
- 2. Discuss next steps for offshore wind off California's Central and North Coasts.
- 3. Outline next steps to provide input into the process.
- 4. Receive public input on Task Force items.





Time (PT)	Agenda Item
9:05 a.m.	Webinar Instructions & Guidance
9:05 a.m.	Welcome, Opening Remarks & Introductions
9:30 a.m.	Agenda Review, Purpose of Meeting
9:35 a.m.	Outer Continental Shelf (OCS) Wind Energy Leasing in California
10:05 a.m.	Task Force – Clarifying Questions and Discussion
10:50 a.m.	Break – Adjourn Task Force Meeting
11:05 a.m.	Public Clarifying questions and Answers
11:35 a.m.	Task Force Members Update
12:15 p.m.	Lunch Break



15

Time (PT)	Agenda Item
12:15 p.m.	Lunch Break
1:15 p.m.	Task Force Members Update (cont.)
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3:25 p.m.	Task Force – Clarifying Questions and Discussion
3:50 p.m.	Overview of Action Items and Closing Remarks
3:55 p.m.	Adjourn Task Force Meeting
4:00 p.m.	Public Input Opportunity
5:00 p.m.	Adjourn





BOEM Bureau of Ocean Energy Management

Outer Continental Shelf Wind Energy Leasing in California

July 13, 2021

Jean Thurston-Keller

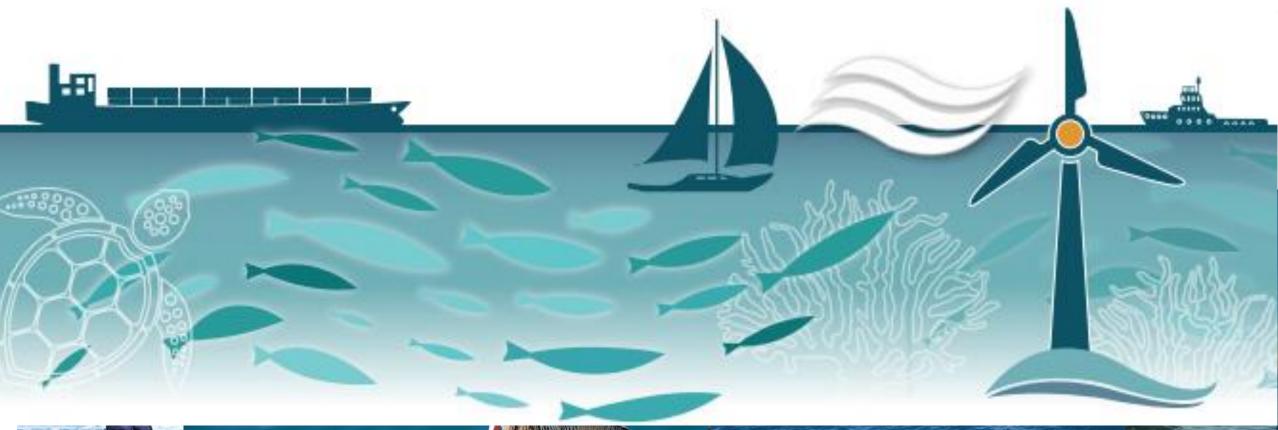
BOEM California Intergovernmental Renewable Energy Task Force Coordinator

- BOEM's Responsibilities
- Approach of Offshore Wind Energy Planning in California
- BOEM Offshore Wind Energy Authorization Process
- Environmental Assessment of Offshore Wind Energy Leasing
- North Coast Status Update
- Central Coast Status Update
- Next Steps
- Proposed and Final Lease Sale Notices
- Lease Sale















Approach for Offshore Wind Energy Planning in California

- Established the BOEM California Intergovernmental Renewable Energy Task Force
- Created Offshore Wind Energy Gateway for data collection in publicly accessible website: www.caoffshorewind.databasin.org
- Conducted extensive outreach and engagement with stakeholders
- Published Call for Information and Nominations in the Federal Register in October 2018: 118 comments, 14 nominations
- Coordination, outreach and engagement with Tribal Governments, State of California, Federal agencies, State agencies
- Employing scientific studies and analyses to support informed decisionmaking

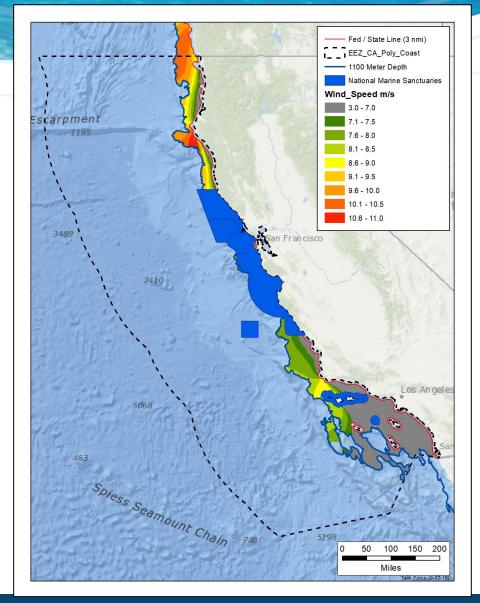




Approach for Offshore Wind Energy Planning in California

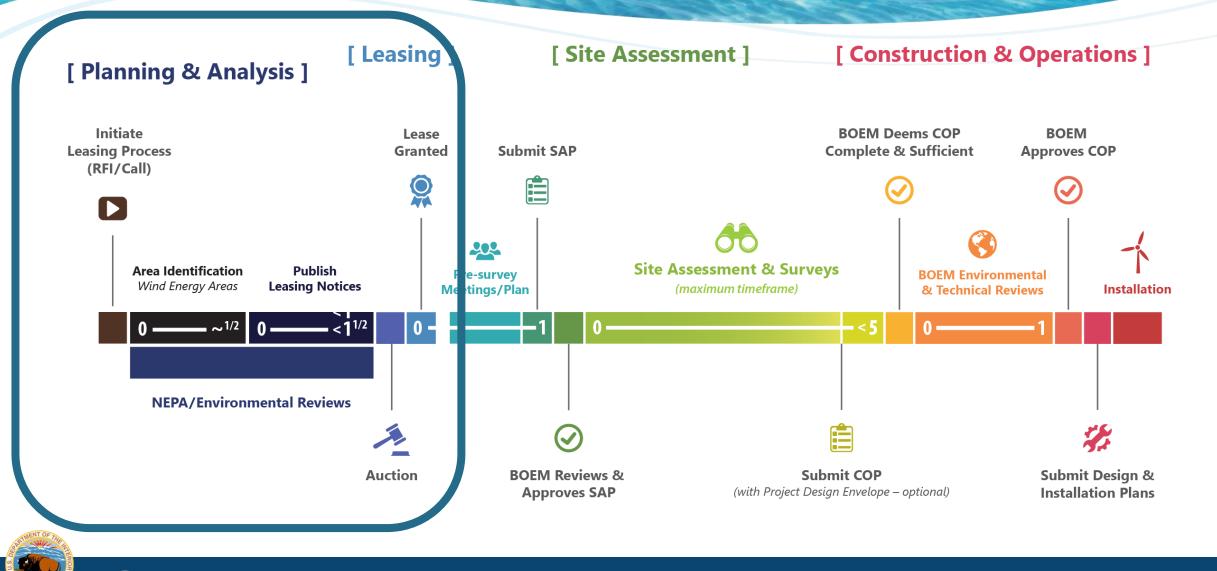
• Started with technology and resource

- Where is the wind resource?
- In what water depths can the turbines be installed with available technology?
- Does BOEM have authority?
- Where are interconnection locations to the electrical grid?
- Approximately 6 percent of federal waters offshore California is feasible for floating wind energy development



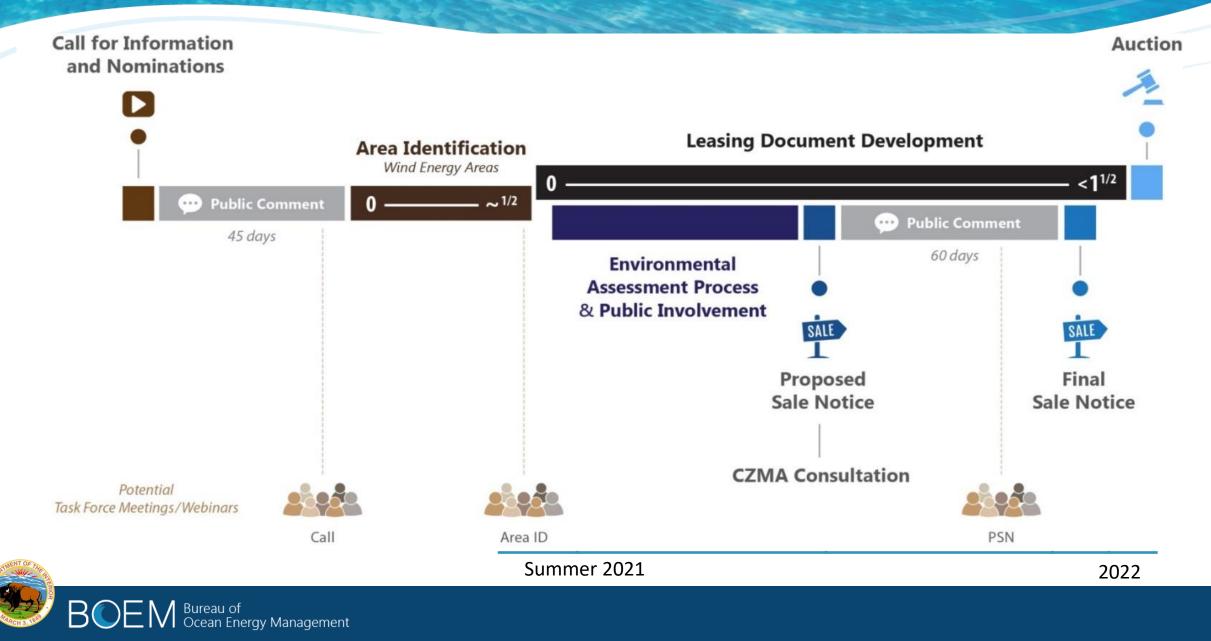


BOEM's Offshore Wind Energy Authorization Process



BOEM Bureau of Ocean Energy Management

Current California Status in BOEM's Authorization Process



Environmental Assessment of Offshore Wind Leasing

Designation of Wind Energy Area marks the beginning of the National Environmental Policy Act (NEPA) process

• Environmental Assessment (EA) for Offshore Wind Leasing:

- Analyzes Potential Site Characterization Activities biological, geological, geotechnical, and archaeological surveys
- Analyzes Potential Site Assessment Activities meteorological and oceanographic buoy deployment
- Along with the Wind Energy Area Identification documentation, provides the information needed to determine the most prospective areas for potential lease sales

*** This is the first of two NEPA processes ***

the second is during review of Construction and Operations Plans



Environmental Assessment of Offshore Wind Leasing

• How to Comment during the Environmental Assessment

$_{\rm O}$ Scoping

- Comments received during BOEMs offshore wind planning process will be considered
- When a Wind Energy Area (WEA) has been designated, BOEM will issue notification of the initiation of an Environmental Assessment, immediately followed by a scoping period of 45 days
- Scoping comments are most useful when they focus on potential environmental impacts of site assessment and site characterization, and other uses of the OCS within the WEA

Review of the Environmental Assessment

- Approximately 2-3 months after scoping concludes, an Environmental Assessment will be released for public review and comment
- Once comments have been considered and addressed over the next 2-3 months, an Environmental Assessment will be released (roughly 6 months after it was initiated)



Renewable Energy Process: Calls, Wind Energy Areas and Lease Areas

Call for Information and Nominations

- Calls for formal public comment about the area, uses and concerns
- Requests nominations of interest for development

Wind Energy Area

- An area within a Call Area identified by BOEM for environmental review
- Basis for a lease area(s)

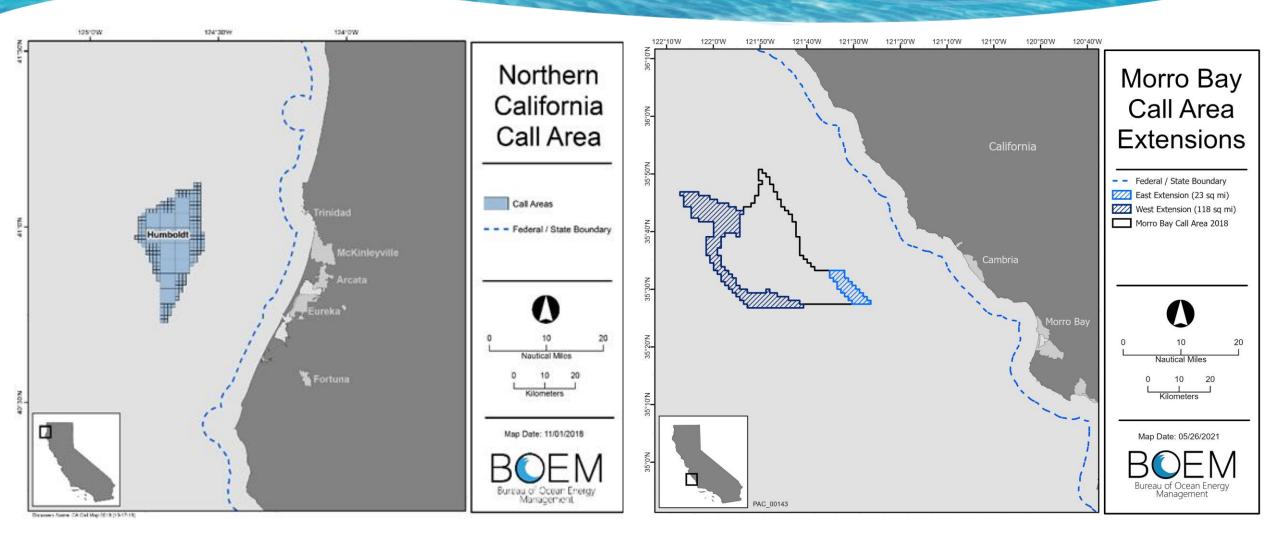
• Lease Area

 Areas BOEM offers for lease during a Lease Sale





Northern California and Central California Areas





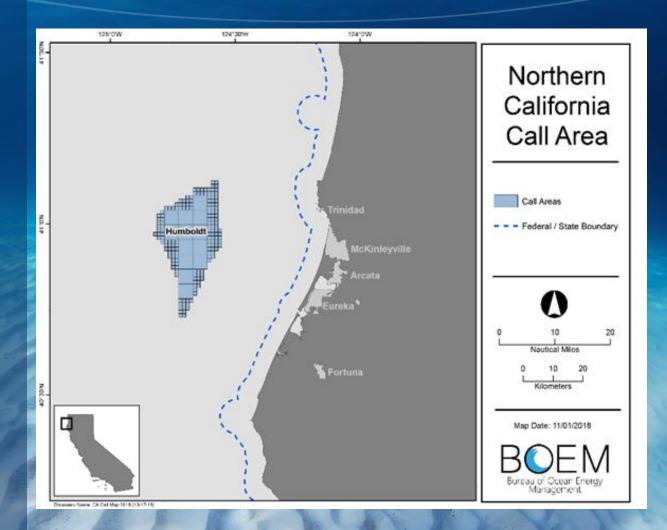
North Coast Status Update: Humboldt

Humboldt Call Area

- Size: 132,369 acres (206 square miles)
- Distance to Shore: ~20 miles
- Published in Call for Information and Nominations in October 2018

Humboldt Wind Energy Area

Will be focus of environmental assessment



North Coast Road Ahead – Outlook and Next Steps

- Announcement of Humboldt Wind Energy Area
- Conduct Environmental Assessment
- Publish Proposed Sale Notice
 - Humboldt and Morro Bay areas will be combined into one Proposed Sale Notice for a single California lease sale that would include both areas and move forward together
 - 60-day comment period
 - Last opportunity for developers to provide interest
 - Publish Final Sale Notice Lease Sale (2022)



Central Coast Status Update: Morro Bay and Diablo Canyon

Central Coast Call Areas in 2018:

- Morro Bay
 - Size: 199,266 acres (311 square miles)
 - Nearest distance to shore: ~20 miles

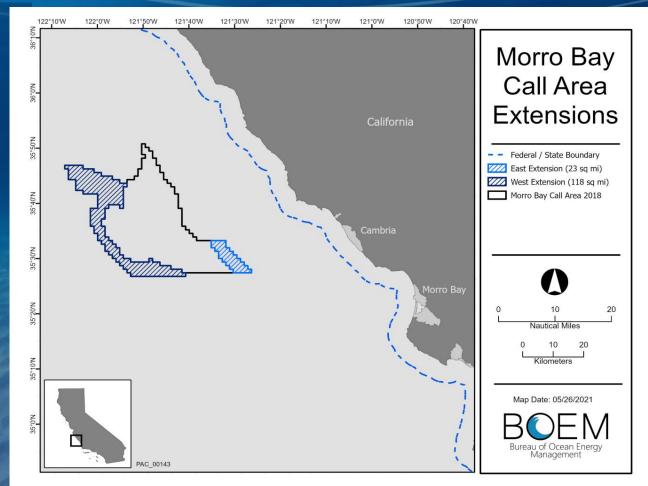
Additional Areas for Consideration

White House Announcement

- May 25, 2021
- Includes 399 square mile area
- Nearest distance to shore: ~17 miles

Morro Bay Call Area Extensions

- East Extension: 14,589 acres (23 square miles)
- West Extension: 75,436 acres (118 square miles)



Central Coast Road Ahead – Outlook and Next Steps

Publish Call for Information and Nominations

- East and West Extensions
- 45-day comment period

Determine Morro Bay Wind Energy Area

- Extensions will be considered with the 399 Area to determine
 Wind Energy Area for environmental assessment
- Conduct Environmental Assessment

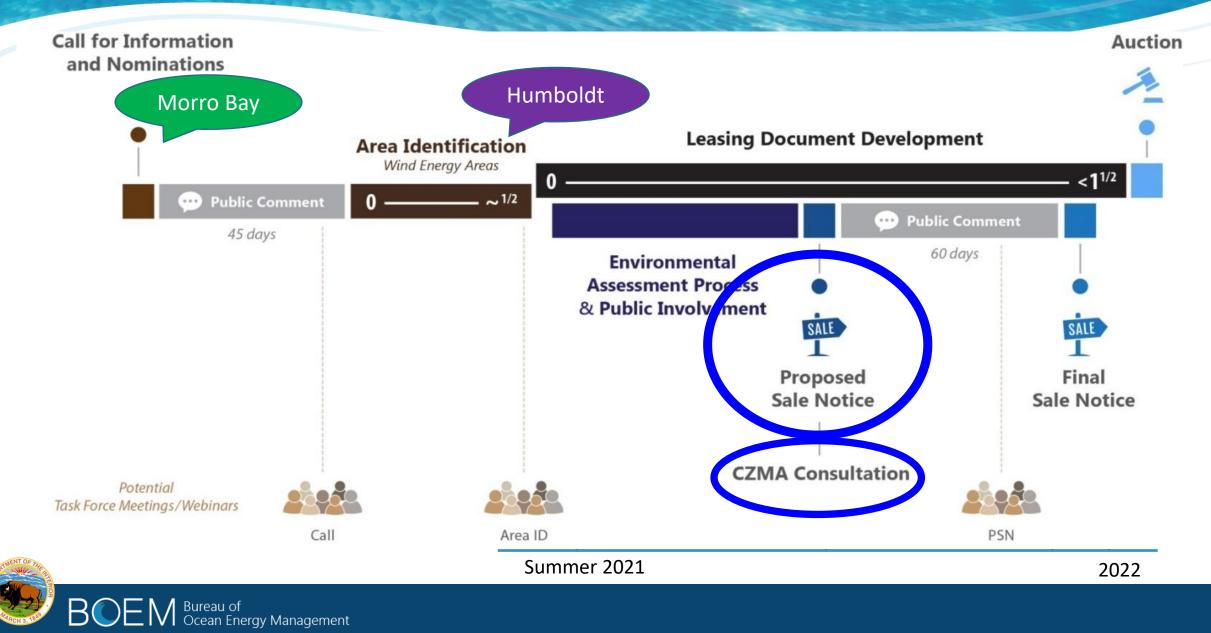
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- Humboldt and Morro Bay areas will be combined into one Proposed Sale Notice for a single California lease sale that would include both areas and move forward together
- 60-day comment period
- Last opportunity for developers to provide interest
- **Publish Final Sale Notice**





Authorization Process



Contents of a Proposed Sale Notice

- Published in the Federal Register for a 60-day comment period
- Identifies proposed areas for potential sale and auction methodology
- Invites potential bidders to qualify
- Includes proposed lease provisions and conditions
- Auction details
- Questions for stakeholders



Examples of Lease Provisions and Conditions in a Proposed Sale Notice (PSN)

- Fisheries Communication Plan (FCP) must include discussion with fishers regarding any planned facilities within 120 days of lease execution
- Native American Tribes Communication Plan (NATCP) where lessee would designate a Tribal Liaison responsible for communicating with federally recognized tribes
- Protected Species considerations
- Site Characterization pre-survey meetings requirements
- Workforce considerations for construction
- Lessee's Stakeholder and Ocean User Engagement Summary



Inputs From Stakeholders on Other Considerations for PSN

• Number, size, orientation and location of the proposed lease areas

Project layout considerations

- Potential Lease Stipulations
 - Workforce development and training, under-served communities
 - Supply chain planning
 - Engagement with Tribes, ocean users, and stakeholders post-lease
- Potential auction formats



Contents of a Final Sale Notice



- Published in the Federal Register a minimum of 30 days prior to the Auction
- $_{\odot}\,$ Includes the date the Auction will occur
- $_{\odot}\,$ Specifies the final areas for sale
- Identifies final auction format selected for the Lease Sale
- Lists eligible bidders
 - Does not guarantee participation



The Lease Sale and Auction

- $_{\odot}\,$ Begins with a minimum bid amount
- Bids are entered electronically over the internet
- There are multiple rounds Auction could take 1 or 2 days depending on demand
- Auction ends when there is no more than one bidder for any of the lease areas in a round







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Jean Thurston-Keller, jean.thurston-keller@boem.gov

Task Force Clarifying Questions and Discussion





Task Force - Webinar Options



 Click the "raise hand" icon in the top of the webinar window to enter the discussion queue; click again to lower your hand after speaking



Click the mute and unmute button to speak



• You can also share comment and questions using the chat pod in the bottom of the webinar window





Task Force Coordinator: Jean.Thurston-Keller@boem.gov (805) 384-6303



Public Clarifying Questions and Answers



Task Force Coordinator: <u>Jean.Thurston-Keller@boem.gov</u> (805) 384-6303



Insert Q&A Directions for Zoom Webinar Attendees



- Click on the Q&A button at the bottom of the screen to ask a clarifying question.
- All questions will be visible to Task Force Members and presenters, but not attendees.
- The facilitator will read a number of questions for the technical team to answer.
- **o** All questions will be recorded as part of the summary.

Reminder: There is a public input opportunity at the end of the meeting today.

Task Force Member Updates

Nakia Zavalla, Santa Ynez Band of Chumas Indians Jana Ganion, Blue Lake Rancheria Shirley Laos, Cher-Ae Heights Indian Community of the Trinidad Rancheria Other Tribal Task Force Representatives Sara Guiltinian, BOEM Thomas Gates, CEC





Nakia Zavalla, Santa Ynez Band of Chumash Indians





Jana Ganion, Blue Lake Rancheria Tribe





Shirley Laos

Trinidad Rancheria

Solar Microgrid Management System

We have NREL solar and wind generation data for all potential installation locations. First step is to install the parking lot microgrid.



Next step is to optimize configuration of solar plus wind to achieve balanced generation during summer and winter.





Other Tribal Task Force Representatives Invited





Tribal Engagement Activities

Bureau of Ocean Energy Management, Pacific Region: Sara Guiltinan, Leasing Specialist/Regional Tribal Liaison (805) 233-5020 sara.guiltinan@boem.gov

California Energy Commission: Thomas Gates, Tribal Liaison (916) 956-9048 thomas.gates@energy.ca.gov





Task Force Member Updates

Clarifying Questions









Task Force Coordinator: <u>Jean.Thurston-</u> <u>Keller@boem.gov</u> (805) 384-6303





BOEM California Intergovernmental Renewable Energy Task Force Meeting

July 13th, 2021



Jean Thurston-Keller | California Task Force Coordinator BOEM Pacific Office



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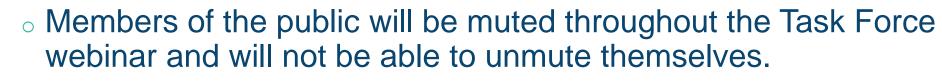
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Task Force Member Updates (cont.)

Kate Huckelbridge, *California Coastal Commission* Justine Kimball, *Ocean Protection Council* Eli Harland, *California Energy Commission* Chris Potter, *California Department of Fish & Wildlife*





Coastal Zone Management Act and Federal Consistency Review



Kate Huckelbridge, Deputy Director California Coastal Commission

July 13, 202

California Coastal Commission



- Mission: protecting and enhancing California's Coast
- Regulate development in the Coastal Zone
- Implement the federal Coastal Zone Management Act (CZMA)



Coastal Zone Management Act (CZMA)

- Creates a federal and state partnership for management of coastal resources
- Describes process for state review of federal projects or federally permitted projects for consistency with a state's Coastal Management Program (CMP).
- Enforceable policies of CA's CMP = Chapter 3 policies of the Coastal Act



NERGY. OCEAN RESOURCES AND FEDERAL CONSISTENCY

Federal Consistency Review

- Consistency Determination (federal projects) vs. Consistency Certification (federally permitted or funded project)
- Applicable if a project results in spillover effect into the Coastal Zone
- Effect, not location, is key



Offshore Wind and Federal Consistency

<u>Two</u> opportunities for state review of activities in federal waters:

- 1. CD prior to leasing
- 2. CC prior to BOEM approval of a COP for a specific project





Federal Consistency Review Prior to Leasing

Scope: Siting-level analysis of impacts to coastal resources

- How were the proposed lease areas determined?
- What impacts can we anticipate from offshore wind development in these lease areas?
- Are these the right areas to site offshore wind development in CA?
- What can we do to avoid or minimize impacts?



Federal Consistency Review

- Marine Resources and Water Quality
- Commercial and Recreational Fishing
- Tribal and Cultural Resources
- Scenic and Visual Resources
- Public Access and Recreation
- Coastal Hazards
- Air Quality

- Assessment of existing resources
- Impact identification
- Identification of potential mitigation needs and approaches
- Consistency with Coastal Act & other CCMP policies
- Analysis of data gaps
- Expectations for information needed for project-level analysis



Next Steps:

- Continued coordination with state & federal agencies
- Outreach
 - Fisherman
 - Impact assessment
 - Design a process for working with fisherman and industry to develop a comprehensive mitigation strategy
 - Tribes Tribal consultation
 - Ports
- Schedule hearings







CALIFORNIA COASTAL COMMISSION

For more information, contact: Kate Huckelbridge, Kate.Huckelbridge@coastal.ca.gov

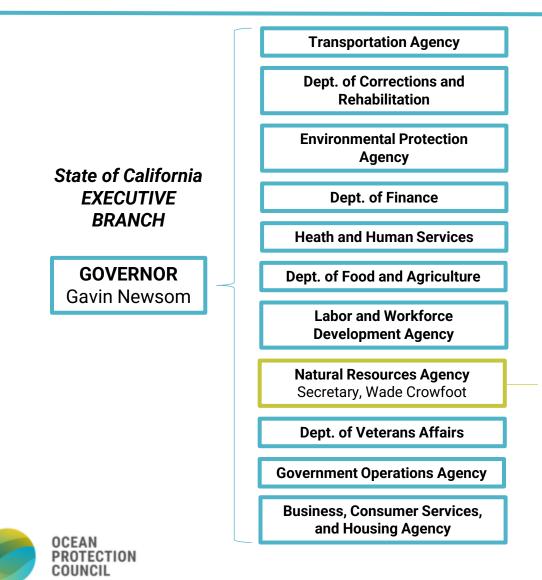
Ocean Protection Council (OPC) Activities

Justine Kimball, OPC





Ocean Protection Council's role



California Ocean Protection Act, 2004:

Ensuring healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations. Committed to basing decisions and actions on best available science and promoting the use of science among all entities involved in the management of ocean resources.



CALIFORNIA OCEAN PROTECTION COUNCIL

Key OPC Investments and Next Steps



https://caoffshorewind.databasin.org/

OCEAN PROTECTION COUNCIL • Feasibility analysis of offshore wind development in the North Coast region (completed)

- Mapping ocean fishing grounds west of the California coastal counties of Del Norte, Humboldt and Mendocino (in progress; complete Dec. 2021)
- Identifying offshore wind energy least-conflict areas and incorporation of marine environmental data into existing online planning tools (in progress; complete Sept. 2021)
- Analysis of existing marine environmental data in relation to BOEM Call Areas (in progress; complete Oct. 2021)
- \$2M appropriated in 2021-22 Budget to support additional environmental and port studies





OCEAN PROTECTION COUNCIL

Thank You

Mark Gold, Executive Director, Ocean Protection Council Mark.Gold@resources.ca.gov

Justine Kimball, Senior Climate Change Program Manager Justine.Kimball@resources.ca.gov



Public and Stakeholder Outreach and Fishing Industry Engagement Presentation to BOEM California Intergovernmental Renewable Energy Task Force

Eli Harland, Advisor to Commissioner Karen Douglas July 13, 2021



2016 through 2018 BOEM Call for Information and Nominations

- Collaboration with BOEM on an outreach strategy
- 79 meetings with interested groups
- Developed the California Offshore Wind Energy Gateway
- Interagency coordination in collaboration w/ BOEM
- Executed MOUs with international partners to exchange key information

2019 and 2020

- Additional Areas for Consideration off the Central Coast
 - Tribal government informational webinars
 - Local community webinars
 - Fishing industry webinar
 - Public workshop
- Integrated Energy Policy Report workshop and Pacific Rim Offshore Wind Conference
- Senate Bill 100 Joint Agency Report



California State Budget (\$20 million)

- \$6.5 million environmental studies and data synthesis
- \$2.2 million for outreach and technical studies
- \$11 million for Humboldt Bay offshore wind port improvements

Outreach and Engagement

- \$1.4 million to support outreach, engagement, and technical studies
- Fishing industry: building from input to date and increased engagement
- Ports, workforce, and supply chain: leverage existing work and increased engagement
- Local communities and tribal governments
- Ocean users and coastal stakeholders
- Outreach to support environmental studies and data synthesis
- Interagency approach in collaboration with BOEM

Additional Budget Investments and Other Activities

North Coast Activities

- \$0.8 to accelerate energy storage coupled with offshore wind
- \$11 million for Humboldt Bay offshore wind port improvements
- Pursuing Department of Defense grant opportunity to study transmission opportunities

Contact information: Eli.Harland@energy.ca.gov

Fisheries Data and Environmental Review

Chris Potter, California Department of Fish & Wildlife





Task Force Member Updates

Clarifying Questions





Federal / State Studies and Other Updates

Rick Yarde, BOEM Frank Pendleton, BOEM Tyrone Conner, US Coast Guard Steve Chung, Department of Defense David Withrow, California Public Utilities Commission Jeffrey Billinton, California Independent System Operator Rizaldo Aldas, California Energy Commission







BOEM Bureau of Ocean Energy Management

Environmental Studies and Analysis Update

July 13, 2021

Rick Yarde, Regional Supervisor, Office of Environment, BOEM Pacific Region

Environmental Studies Regarding Offshore Wind Leasing

- BOEM's robust environmental studies program continuously identifies data needs and procures new studies to create best available information for decisions
- All studies information is available on our website – at <u>www.boem.gov</u>, navigate to Pacific Region environmental studies page



Biological Studies	PAGE 1
Cultural & Archaeological Studies	PAGE 6
Information Synthesis Studies	PAGE 7
Physical Oceanography & Geology Studies	PAGE 8
Resource, Technology & Infrastructure Studies	PAGE 9
Socioeconomic Studies P	AGE 10

Biological Studies

Ongoing (2014–2022) — Potential Impacts of Submarine Power Cables on Crab Harvest

This two-part research effort is to learn more about whether the electromagnetic fields (EMF) emitted from subsea powertransmission cables may affect the movement and harvest of commercial crab species. The first part was conducted by the University of California, Santa Barbara, which collected data on red rock crab in the Santa Barbara Channel and Dungeness crab in Puget Sound. The second part is collecting and analyzing additional data

https://www.boem.gov/sites/default/files/documents/renewable-energy/Selected-BOEM-Research-Renewable-CA_0.pdf



Environmental Studies Regarding Offshore Wind Leasing

Additional Ongoing Studies Focused on California Offshore Wind

- Seabird and Marine Mammal Surveys Near Potential Renewable Energy Sites Offshore Central and Southern California (expected completion 2022)
- Development of Computer Simulations to Assess Entanglement Risk to Whales and Leatherback Sea Turtles in Offshore Floating Wind Turbine Moorings, Cables, and Associated Derelict Fishing Gear Offshore California (expected completion 2022)
- Offshore Acoustic Bat Study along the California Coastline (expected completion 2023)
- Over Water Migration Movements of Black Brant (expected completion 2023)



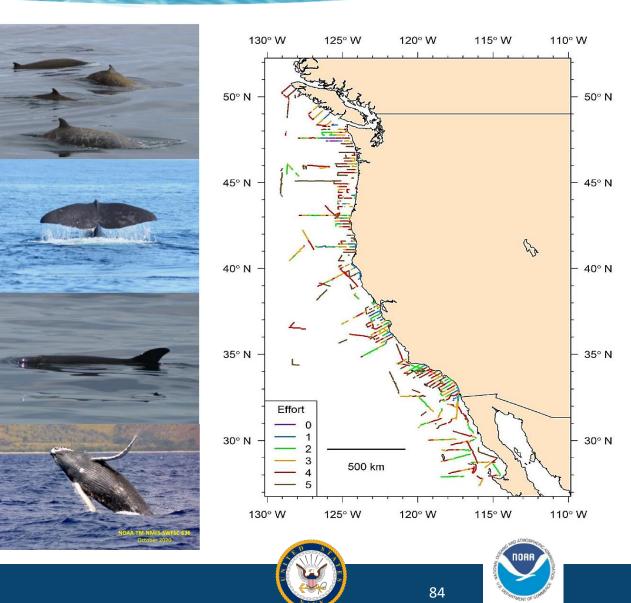
Pacific Marine Assessment Partnership for Protected Species

(PacMAPPS)

Final report of the California Current Ecosystem Survey (CCES) 2018: a PacMAPPS study

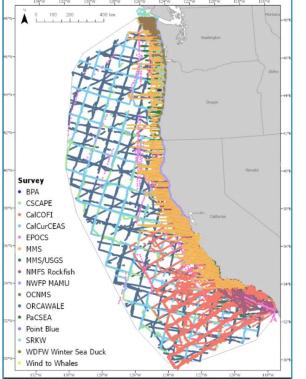
CA Current Cruise Report: June 26-December 4, 2018

- 12,857 km of transect line
- 24 cetacean species and 133 bird species
- 328 biopsy samples, 396 oceanographic measurements
- Habitat-based density estimates for cetaceans in the California Current Ecosystem based on 1991–2018 survey data
 - Habitat-based density models for 14 cetacean species and one beaked whale guild





Marine Bird Data Synthesis and Predictive Modeling

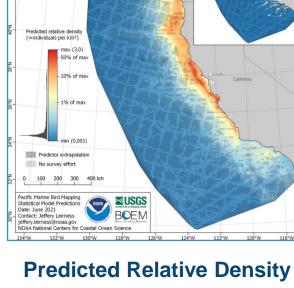


Spatial Extent of Surveys

ВC



Bureau of Ocean Energy Management



≥USGS

Rhinoceros Auklet Fall (Sep/Oct/Nov)

Objective

Improved species-specific distributions and density estimates of seabirds that can be extended to nonsurveyed areas to provide critical information for renewable energy siting

Data Synthesis

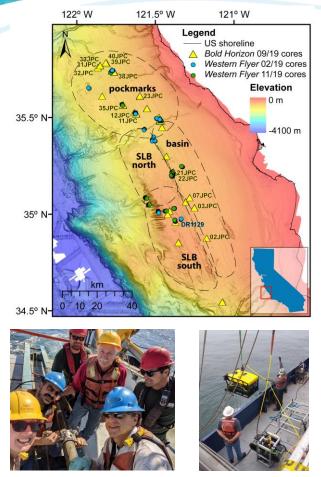
- Twenty-one (21) at-sea survey datasets
 - 1980-2017
 - Aerial and boat-based transects

Habitat-based Spatial Models

- 33 species
- 13 taxonomic groups
 - 135 species/groups-season combinations
- 2 km resolution
- Related to environmental variables



Benthic Habitats and Geohazards on the West Coast



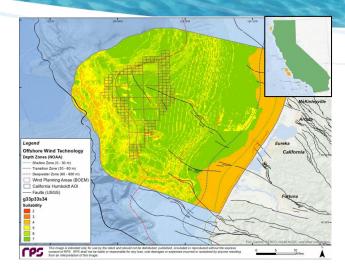
https://www.usgs.gov/centers/pcmsc/science/ ocean-ecosystems, Ecosystems: Express

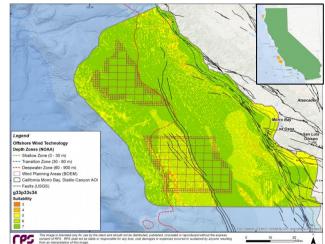
M Bureau of Ocean Energy Management



BOH

MBARI





Expanding Pacific Research and Exploration of Submerged Systems (EXPRESS, left)

A multi-year, multi-institution cooperative research campaign in deep sea areas of California, Oregon, and Washington, including the continental shelf and slope. BOEM supported survey work offshore central and northern CA.

Potential Earthquake, Landslide, Tsunami and Geohazards for the US Offshore Pacific Wind Farms (right)

Publicly available data.

Suitability analysis with weighted inputs.





BOEM.gov f 🔊

Rick Yarde, Richard.yarde@boem.gov 805-384-6379



BOEM Bureau of Ocean Energy Management

Vessel Monitoring Data and Lidar Buoy Update

July 13, 2021

Frank Pendleton | California OSW Task Force Meeting

Vessel Monitoring System (VMS)

GPS for tracking fishing vessels

Federally-managed groundfish

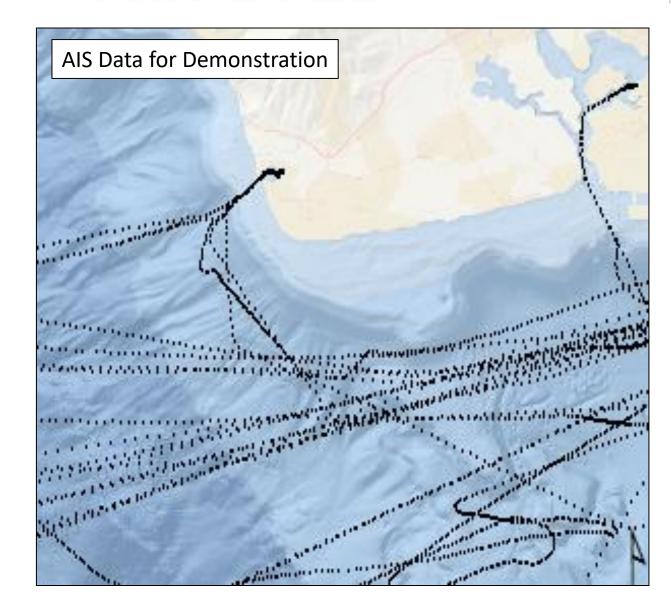
NOAA Office of Law Enforcement

Non-Disclosure Agreement "Rule of 3"

Our Dataset = 2010 – 2017

Data

Vessel ID Declaration code Date Time, Lat/Long



Fisheries Datasets

We have spoken with:

CA Dept of Fish and Wildlife

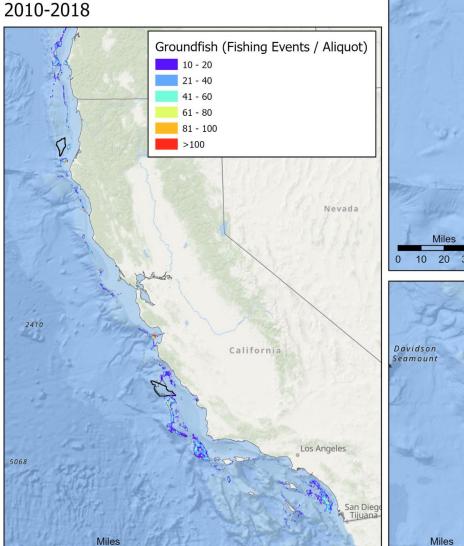
OR Dept of Fish and Wildlife

NOAA

NW Fisheries Science Center Office of Law Enforcement Aquaculture Team

Pacific Fisheries Management Council

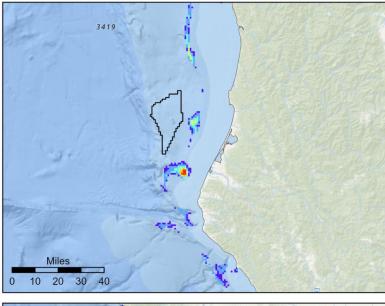
Pacific States Marine Fisheries Commission

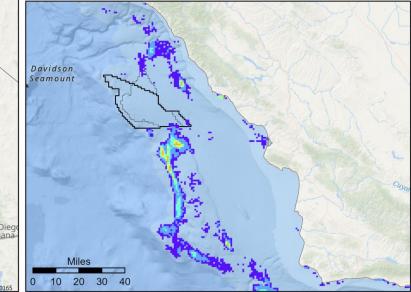


300

LE Groundfish 210-211

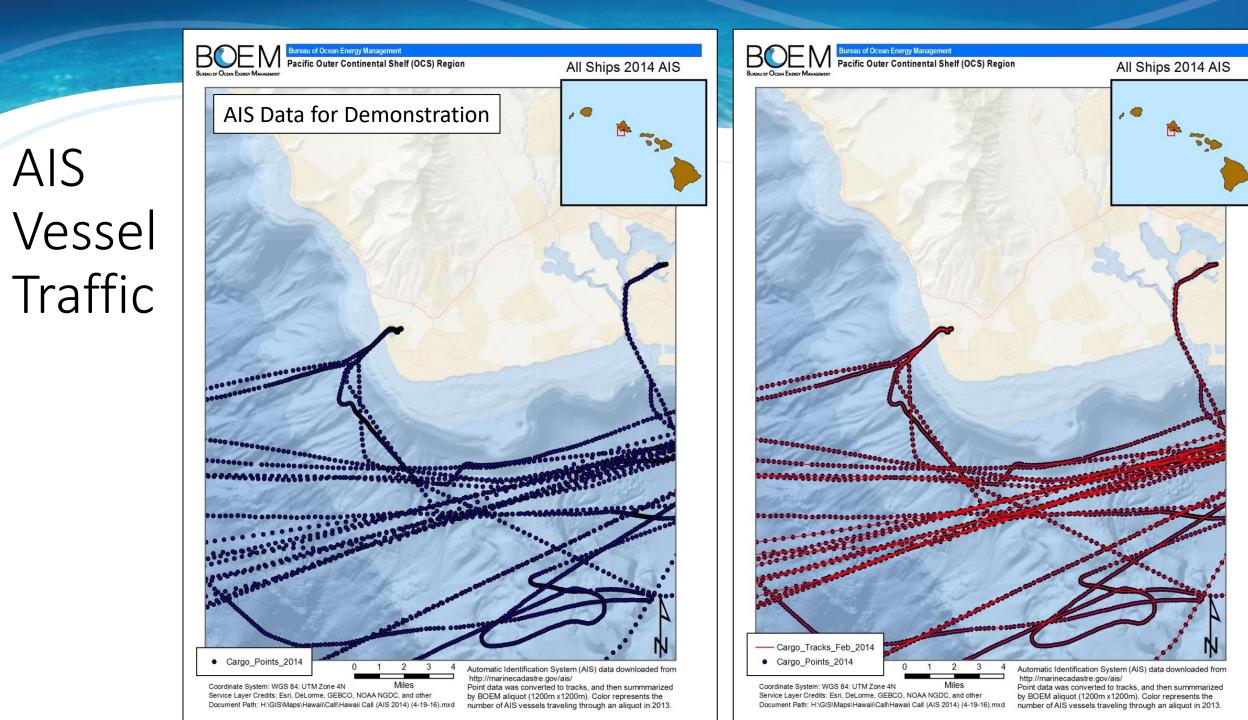
150

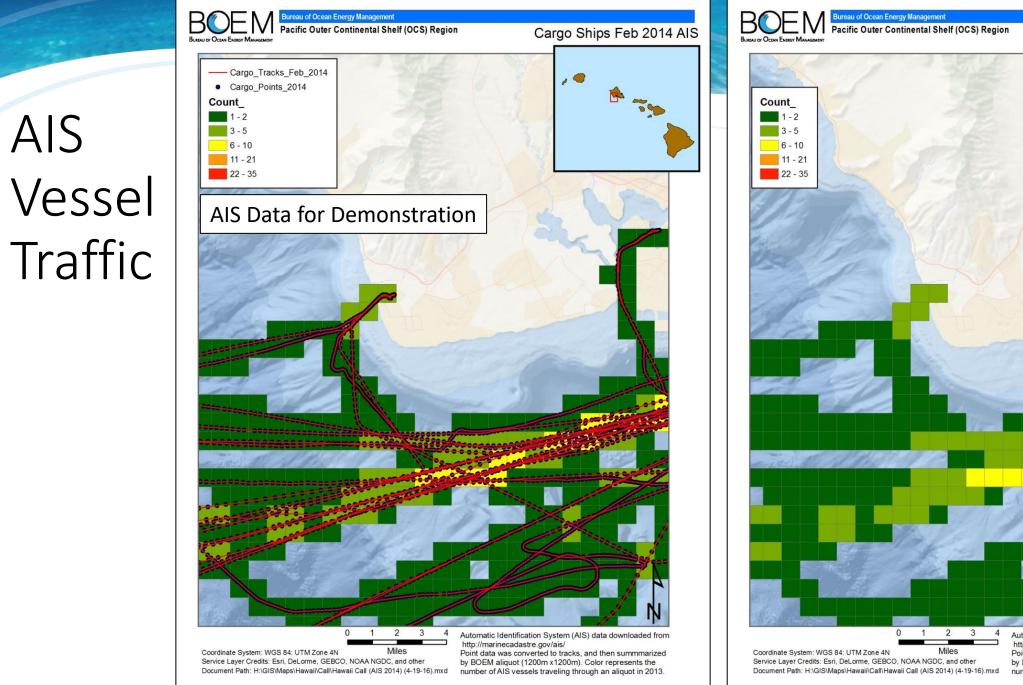




VMS
Declaration
Codes
(West Coast)

Declaration ID	Description
210	Limited entry fixed gear, not including shorebased IFQ
211	Limited entry groundfish non-trawl, shorebased IFQ
220	Limited entry midwater trawl gear, non-whiting shorebased IFQ
221	Limited entry midwater trawl, Pacific whiting shorebased IFQ
222	Limited entry midwater trawl, Pacific whiting catcher/processor sector
223	Limited entry midwater trawl, Pacific whiting mothership sector (catcher vessel or mothership)
230	Limited entry bottom trawl, shorebased IFQ, not including demersal trawl
231	Limited entry demersal trawl, shorebased IFQ
233	Open access longline gear for groundfish
234	Open access groundfish trap or pot gear
235	Open access line gear for groundfish
240	Non-groundfish trawl gear for ridgeback prawn
241	Non-groundfish trawl gear for pink shrimp
242	Non-groundfish trawl gear for California halibut
243	Non-groundfish trawl gear for sea cucumber
250	Tribal trawl gear
260	Open access prawn trap or pot gear,
261	Open access Dungeness crab trap or pot gear
262	Open access Pacific Halibut longline gear
263	Open access salmon troll gear
264	Open access California halibut line gear
265	Open access sheephead trap or pot gear
266	Open access Highly Migratory Species line gear
267	Open access Coastal Pelagic Species net gear
268	Open access California gillnet complex gear





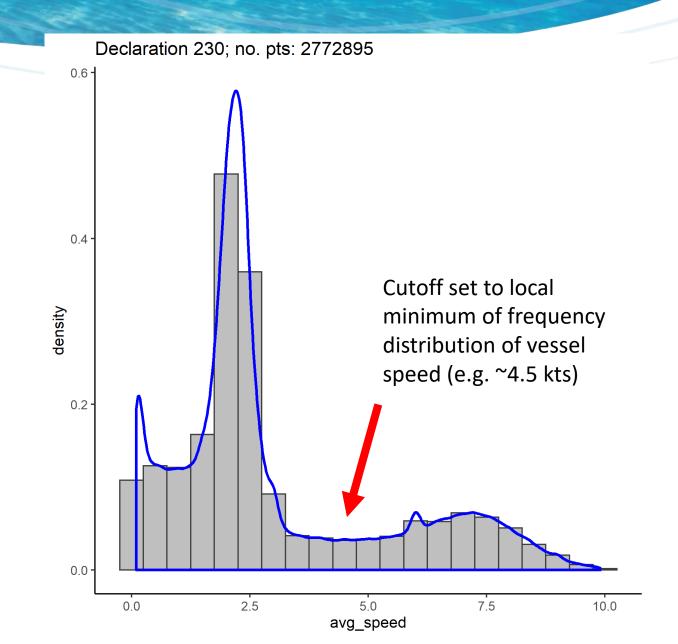
Automatic Identification System (AIS) data downloaded from http://marinecadastre.gov/ais/ Point data was converted to tracks, and then summmarized by BOEM adjugt (1200m x1200m) Color represents the

by BOEM aliquot (1200m x1200m). Color represents the number of AIS vessels traveling through an aliquot in 2013.

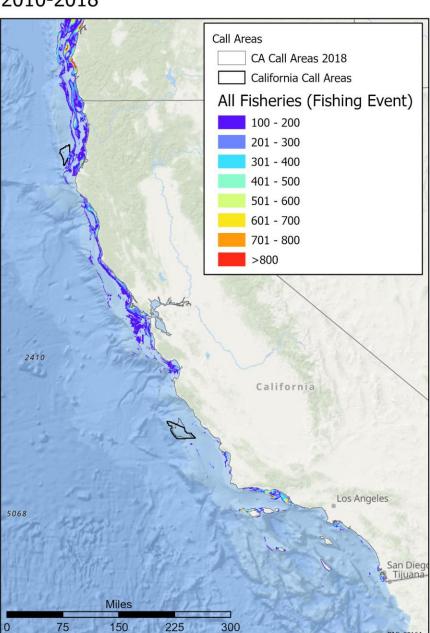
Cargo Ships Feb 2014 AIS

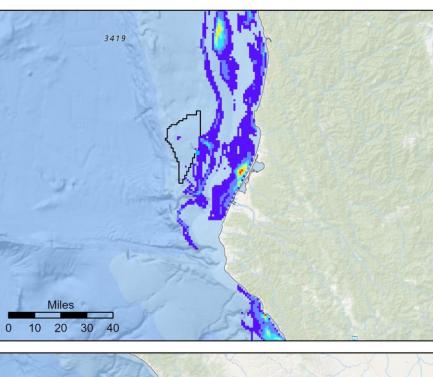
Vessel Monitoring System (VMS)

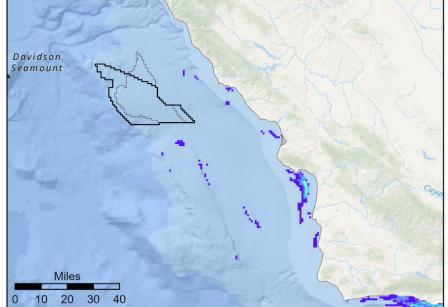
Fishing or Transit



VMS All Fisheries (> 100 Events) 2010-2018

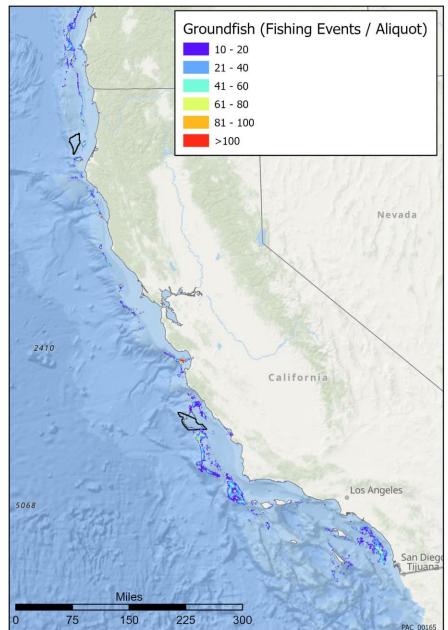


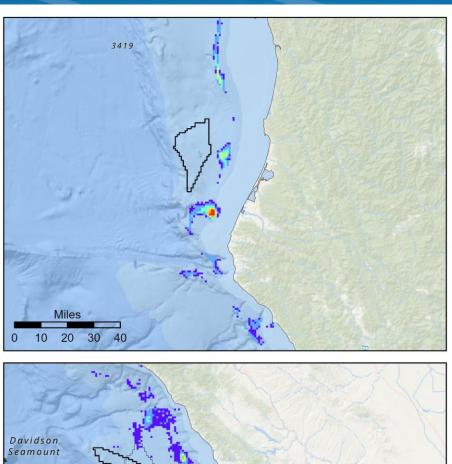






LE Groundfish 210-211 2010-2018





Miles

0 10 20 30 40

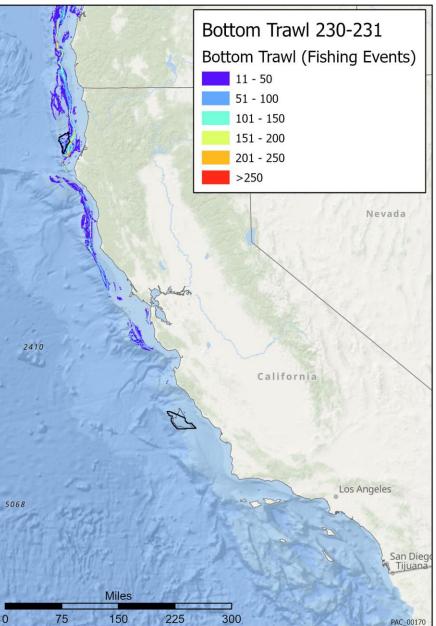


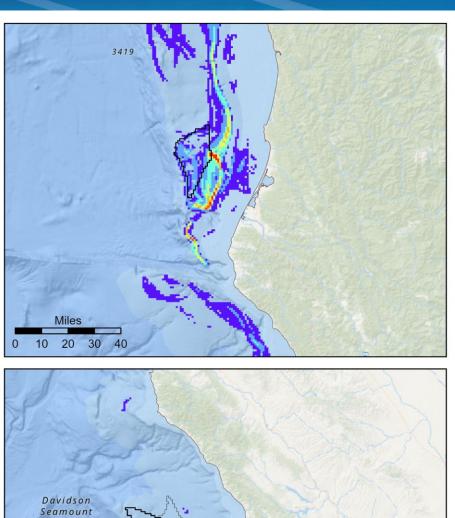
Cur

- F



Bottom Trawl 230-231 2010-2018



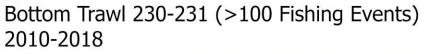


Miles

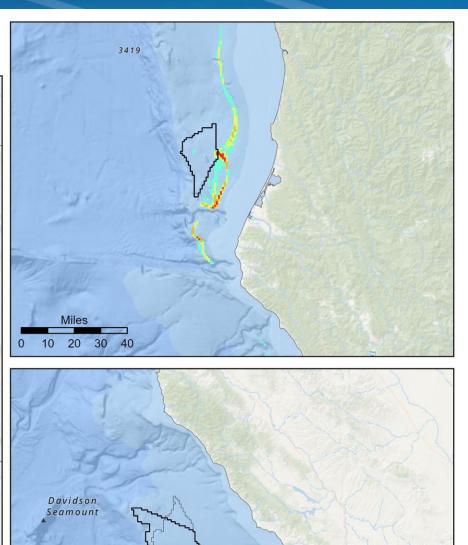
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10 20 30 40









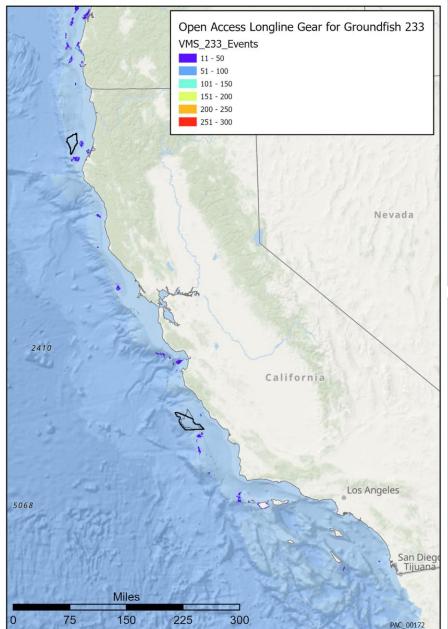
Miles

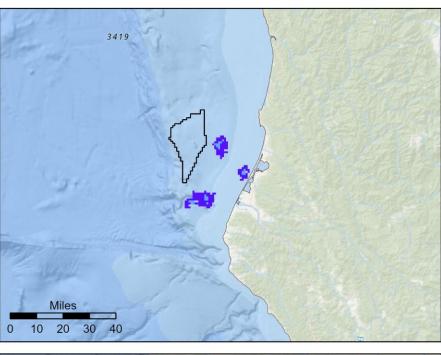
0

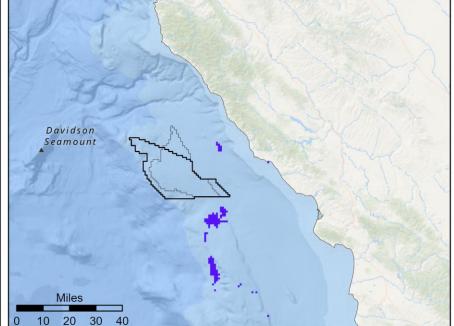
10 20 30 40



233_Open Access Longline Gear for Groundfish

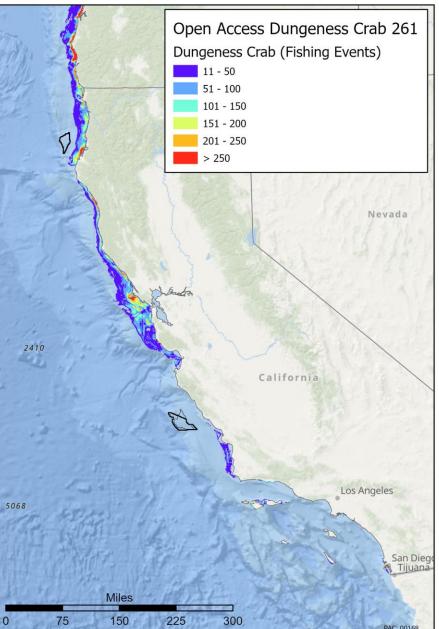


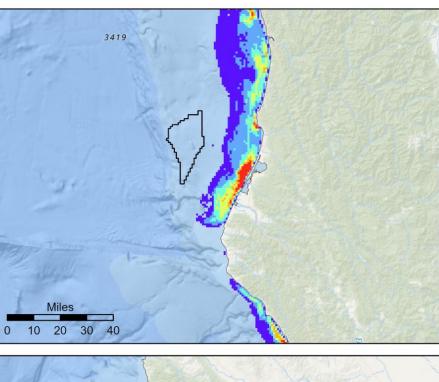






261_Open Access Dungeness Crab Trap or Pot Gear

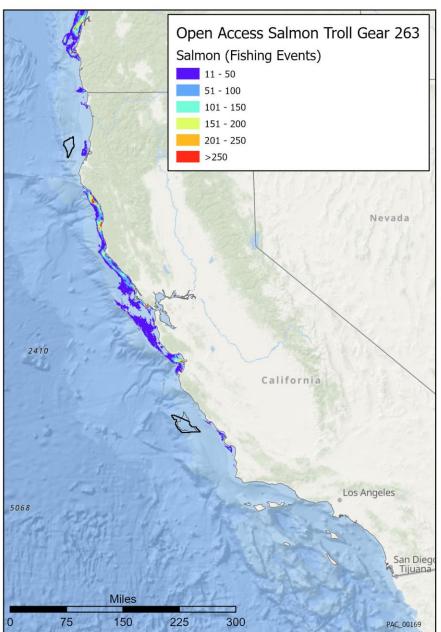


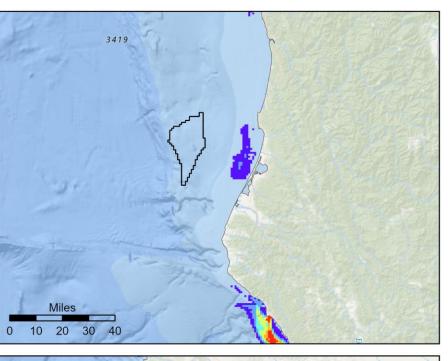


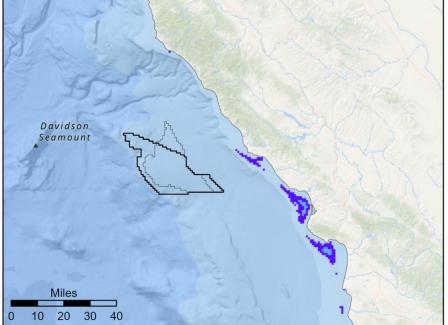




263_Open Access Salmon Troll Gear









Lidar Buoy

DOE / PNNL / BOEM

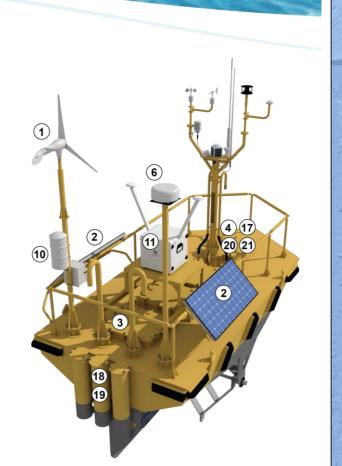
Humboldt / Morro Bay

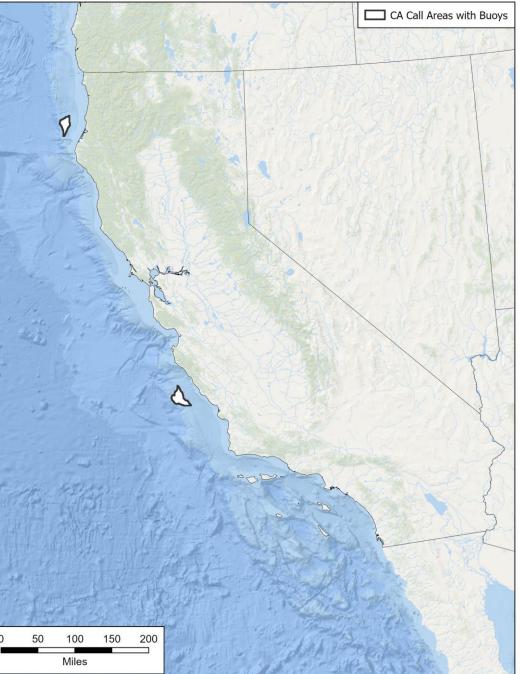
1 Year Deployments

Wind Profile

Validate Datasets

Test Other Devices





https://www.pnnl.gov/projects/lidar-buoy-program

https://a2e.energy.gov/data



BOEM.gov f У

frank.pendleton@boem.gov





Pacific Coast – Port Access Route Study PAC-PARS

U.S. Coast Guard District Eleven

Mr. Tyrone Conner

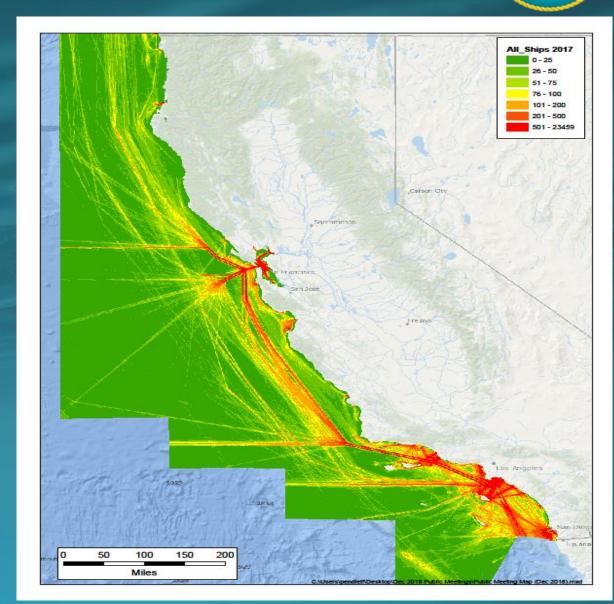
Deputy Chief, Waterways Management



What is a PARS?

(Port Access Route Study)

- Ports and Waterways Safety Act (PWSA)
 - P.L. 95-474; 33 U.S.C. 1223
- Requirement:
 - Required before establishing new or adjusting existing fairways or traffic separation schemes (TSS).
 - Coordinate with stakeholders for safe routes.
- Coast Guard responsible:
 - Federal Regulations manage routes with:
 - Fairways
 - Traffic Separation Schemes
 - Channels
 - Aids to Navigation
 - Navigation Safety Risk Assessment





Waterways Activities

- Potential TSS Extension.
- NOAA proposed Area to be Avoided expansion around Channel Island.
- CA offshore wind area
- Proposed 2,000 acres Aquafarm
- BOEM Call Areas
- Proposed Chumash Heritage National Marine Sanctuary

PARS Product

- Collect and analyze data of major traffic separation schemes, fairways, and Historic Routes.
- Collect Federal, State, Commercial, and Private stakeholder information.
- Analyze Data
- Formulate action items and recommendation for HQ
- Final report with recommendation for HQ implementation strategy.
 - Recommendations will be made to create, alter, maintain, or remove routing measures for the region.





PACPARS Proposed Timeline



Preparation

- Solicit Working Group Members (04/21)
- Develop Study Objectives (06/21)
- Create Project Management Plan (06/21)
- Initiate Federal, State, and Indian Tribe partner agencies to promote participation in the study (07/21)
- Solicit Funding for GIS Technical Expertise needed for Study (07/ 21)

Data Gathering

- Request NAVCEN Heat Maps
- Determine traditional shipping routes along the Pacific (7/21)
- Initiate stakeholder outreach (7/21)
- Define best approach to achieving a geospatial shipping route map. Engage Shipping Industry (9/21)
- Outreach to federal agencies for MTS information (9/21)
- Gather info through public comment to ID existing and future waterway usage (9/21 – 03/23)
- Solicit Funding for public outreach program (9/21 annually)

Modeling & Analysis

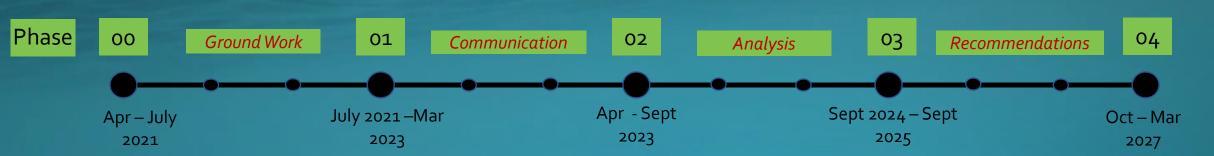
- Assess navigational risks associated with potential wind, aquaculture, and space recovery areas (02/23)
- Analyze potential mitigating scenarios that encompass new routing or navigational safety measures (03/23)
- Develop coastal GIS to predict traffic density and patterns (04/23)
- Evaluate options for coastwise routing measures (09/23)

Apply Suitability Criteria

- Utilized gathered data and apply best available guidance to determine if certain areas within the study are not suitable for potential wind/aquaculture farms or space recovery ops. Determine if mitigation measures would reduce navigation risk to tolerable levels (09/23–07/24)
- Draft/Route PACPARS Final Report (Internal)(08/24–09/25)
- Deliver Draft PACPARS Final Report (09/25)

Implementation of Study Recommendations

- PACPARS Final Report with PAC, HQ, Federal Partners to ensure no further edits. (10/25)
- Issue Notice of Study Results (11/25)
- Initiate regulatory process (12/25)
- Initiate HQ for IMO in establishing regulatory measures. (o6/26)
- HQ present to IMO (02/27)
- Publish Final Rule (03/27)





U.S. Coast Guard Eleventh District Waterways Management Branch

Mr. Tyrone Conner / Tyrone.L.Conner@uscg.mil / 510-437-2968

Task Force Member Updates

Clarifying Questions





Department of Defense Studies

Steve Chung, Department of Defense





Integrated Resource Planning and Transmission

David Withrow, California Public Utilities Commission Jeffery Billinton, California Independent System Operator







Offshore Wind in the CPUC's Integrated Resource Planning (IRP) Process



BOEM California Intergovernmental Renewable Energy Task Force July 13, 2021

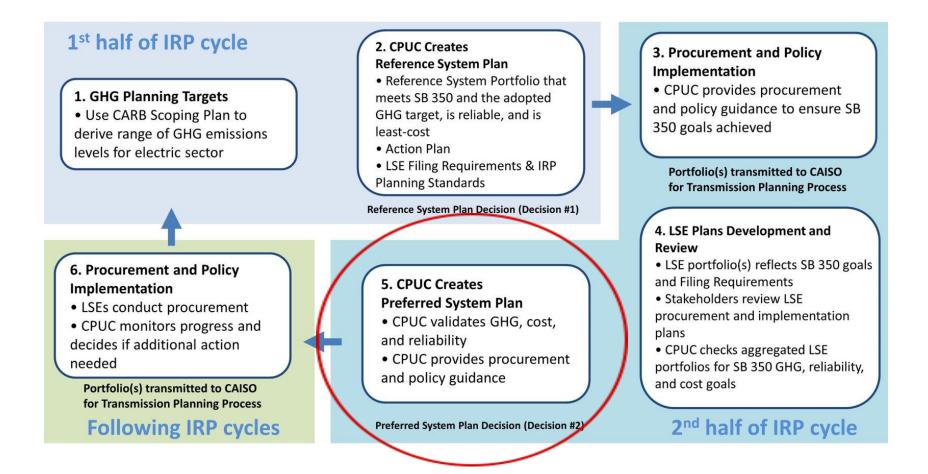
Integrated Resource Planning

- SB 350 (De León, 2015) directed the CPUC to develop an integrated resource planning (IRP) process to act as the California electric sector's long-term electric resource planning process to ensure that California's electric sector meets its GHG reduction goals while maintaining reliability at least cost.
 - Reduce economy-wide GHG emissions 40% from 1990 levels by 2030 and explore how achievement of SB 100 2045 goals could inform IRP resource planning in the 2020 to 2030 timeframe.
- IRP provides analytical foundation for CPUC action enabling multiple load-serving entities to procure electricity from diverse generating resources to achieve California's goals.

How IRP Analysis and Planning Impacts Offshore Wind

- IRP modeling is based upon a GHG target, identified in consultation with California Air Resources Board (CARB), adopted by CPUC Commission order:
 - Currently 46 MMT in 2030, anticipated to move to 38 MMT target by end of this IRP cycle.
- Transmission planning and development:
 - California Independent System Operator (CAISO) analyzes and authorizes transmission needs based on resource portfolios generated by IRP.
- IRP Planning Track informs actions within IRP Procurement Track if future resource needs are identified.
 - CPUC-jurisdictional load-serving entities (LSEs) can be given procurement requirements with timing and resource attribute specificity.
- Monitor LSE procurement milestones, manage need allocation, ensure LSE compliance through enforcement, if necessary.

Next Steps: IRP Cycle Status



Recent CPUC Actions for Offshore Wind

- **2019-2020:** IRP analysis modeled OSW for the first time.
- NREL/BOEM Collaboration: Analysis of OSW Floating Costs and webinar for IRP stakeholders in summer 2020.
- **CAISO Transmission Planning Process (TPP):** CPUC transmitted portfolio for analysis of transmission impacts of 8 GW of OSW in 2021-22 TPP.
- **2020 LSE Integrated Resource Plans:** Three Community Choice (CCAs) entities signaled interest in OSW.
- 2019 IRP Procurement Order: Requires procurement of 3,300 MW between 2021 and 2023. (D.19-11-016)
- 2021 CPUC Decision: Requires LSEs to procure 11,500 MW of new net qualifying capacity to come online between 2023 and 2026. (D.21-06-035)

➢ OSW is eligible resource for which LSEs could contract.

Next Steps:

How CPUC Can Facilitate OSW Development

- **2021 IRP Preferred System Plan:** Proposal due in summer 2021, which will include modeling results for resources in the post-2030-2035 timeframe.
- **CAISO's 2021-2022 TPP Sensitivity Study:** Results in Q1 2022 will inform future IRP portfolios by establishing transmission limits and upgraded transmission costs for modeling OSW.
- **2022-2023 IRP Cycle:** Will develop an updated Reference System Plan (RSP) in 2022 based upon an updated GHG planning target.
 - Solve will likely be a default candidate resource eligible for selection in IRP modeling analysis for the first time.



California Public Utilities Commission

IRP Planning and Procurement Information

https://www.cpuc.ca.gov/irp/

Nathan Barcic, Program and Project Supervisor, IRP <u>Nathan.Barcic@cpuc.ca.gov</u>

Neil Raffan, Senior Regulatory Analyst, IRP <u>Neil.Raffan@cpuc.ca.gov</u> Cheryl Cox, Senior Policy Analyst, Renewable Procurement & Market Development <u>Cheryl.Cox@cpuc.ca.gov</u>

David Withrow, Senior Regulatory Analyst, IRP <u>David.Withrow@cpuc.ca.gov</u>





Transmission Planning Process Offshore Wind Study

Jeff Billinton Director, Transmission Infrastructure Planning

July 31, 2021 BOEM California Intergovernmental Renewable Energy Task Force Webinar

California ISO Public

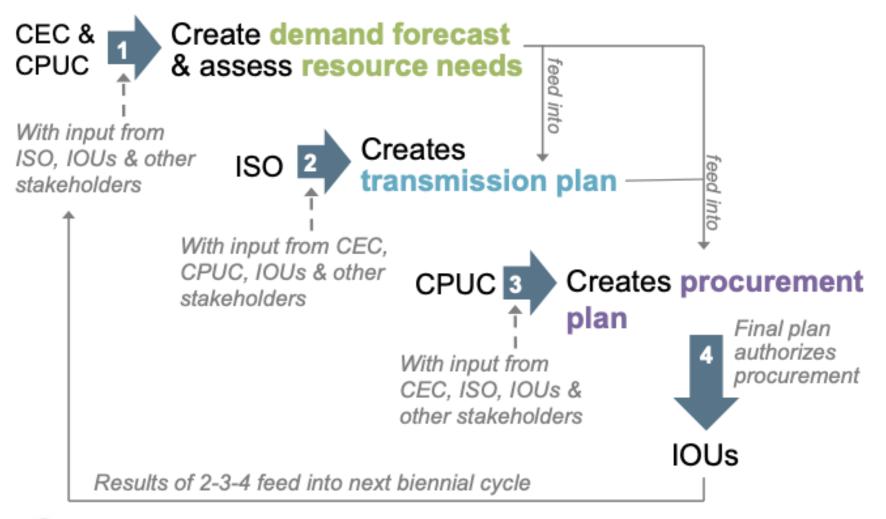
The ISO currently conducts an Annual Transmission Planning Process

- 10 year horizon
- Tariff based process (section 24 CAISO tariff)
- Approval of transmission projects based on:
 - Reliability driven need
 - Policy driven need
 - Economic driven need
- Additional studies are conducted within each planning cycle
 - Other reliability studies (such as frequency response, flexible deliverability)
 - 10 year local capacity technical study (every 2 years)
 - Interregional transmission planning (2 year cycle)
 - Informational special studies

http://www.caiso.com/planning/Pages/TransmissionPlanning/Default.aspx



The process is coordinated with state agency activities



nifornia ISO 🎯

California ISO Public

2021-2022 Transmission Planning Process CPUC Portfolios

- For the 2021-2022 planning cycle, the CPUC provided:
 - a "base" 46 MMT portfolio for reliability, policy and economic study purposes – for potential transmission upgrade approval purposes
 - Sensitivities for informational studies
 - Sensitivity 1 38 MMT portfolio
 - Sensitivity 2 Offshore wind portfolio

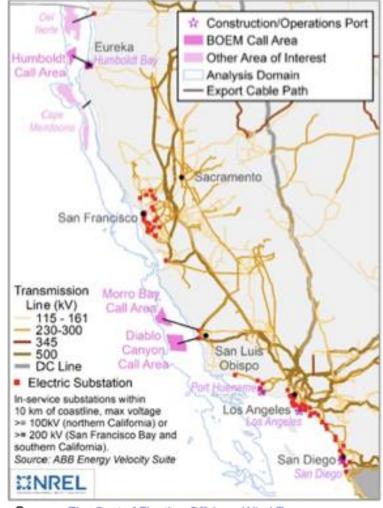


Page 4

Sensitivity 2 – Offshore Wind Portfolio

- Sensitivity 2 includes the following OSW resources:
 - Humboldt: 1.6 GW
 - Diablo Canyon: 4.3 GW
 - Morro Bay: 2.4 GW
- Detailed studies will be performed to identify the transmission needs for the above 8.3 GW
- In addition, an outlook assessment will be performed to accommodate an additional 12.8 GW of offshore wind (totaling 21.1 GW)
 - Del Norte: 6.6 GW
 - Cape Mendocino: 6.2 GW





Source: The Cost of Floating Offshore Wind Energy in California Between 2019 and 2032 (nrel.gov) (Page 39) Page 5 This year, the ISO has introduced a new 20-Year Transmission Outlook initiative

- To explore longer term grid requirements and options for meeting the State's greenhouse gas reduction and renewable energy objectives reliably and cost-effectively,
- To run in parallel with the 2021-2022 annual tariffbased10-year transmission planning process.
- To engage in meaningful discussion without focusing on specific project approvals



Transmission Planning Milestones

- SB100 Workshop Transmission Projects on July 22
- 2021-2022 Transmission Plan Update Stakeholder Call Week of July 26
- Additional ISO Transmission Planning and SB100 stakeholder engagements in August
- Update at 2021-2022 TPP Stakeholder call on September 27 and 28
 - Comments to be submitted by October 12
- Update at 2021-2022 TPP Stakeholder call on November 18
 - Comments to be submitted by December 6
- Draft 20 Year Transmission Outlook as standalone document together with draft 2021-2022 Transmission Plan to be posted on January 31, 2022
- Stakeholder meeting in February



Research and Development

Rizaldo Aldas, California Energy Commission







CEC Offshore Wind Research and Development Updates

Rizaldo Aldas

BOEM-California Intergovernmental Renewable Energy Task Force Meeting July 13, 2021

R&D Projects

- NextWind Real-Time Monitoring System (Aker Solutions, Inc.)
- Integrated Distributed Fiber Optic Sensing for Real-Time Monitoring of OWT Gearbox and Tower Operation and Marine Animal Activities (Lawrence Berkeley National Laboratory)
- A Risk Assessment Framework to Evaluate Effects of Offshore Wind Farms on the California Upwelling Ecosystem (Integral Consulting Inc.)
- Seabird 3D Distribution and Relative Risk from California Offshore Wind (Humboldt State University Sponsored Programs Foundation)
- On-site 3D Concrete Printing for Next-Generation Low-Cost Wind Plants (RCAM Technologies, Inc.)

Workshops

 Scoping Workshop - Offshore Wind Energy R&D Opportunities for EPIC 2021-2025 Investment Plan





AkerSolutions

NextWind Real-Time Monitoring System

Twin data tool to perform advanced condition and data monitoring that includes both floating platform and wind turbine condition monitoring, and wildlife data.



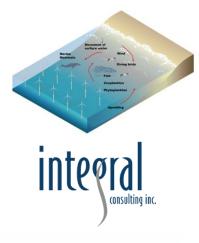
Integrated Distributed Fiber Optic Sensing for Real-Time Monitoring of OWT Gearbox and Tower Operation and Marine Animal Activities

Fiber optics sensors to monitor gearboxes and towers for offshore wind turbines and monitor marine animal life activities near offshore structures.



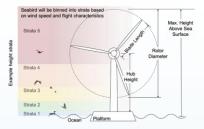
- On-site 3D Concrete Printing for Next-Generation Low-Cost Wind Plants
- Wind tower sections using an onsite three-dimensional concrete printed (3DCP) manufacturing process and design.

CEC Offshore Wind Research and Development Updates



A Risk Assessment Framework to Evaluate Effects of Offshore Wind Farms on the California Upwelling Ecosystem

Potential impacts of large-scale offshore wind farms on wind stress reduction and subsequent changes in coastal upwelling, and ecosystem dynamics off the California coast.





Seabird 3D Distribution and Relative Risk from California Offshore Wind

Three-dimensional spatial distribution of seabird density, species composition, and flight height for the entire California coast.



- Electric Program Investment Charge 2021-2025 Investment Plan Scoping Workshop - Offshore Wind Energy R&D Opportunities for EPIC 4
 - Date: July 14, 2021
 - Time: 1:00 PM
 - Additional details: <u>https://www.energy.ca.gov/event/workshop/2021-07/electric-program-investment-charge-2021-2025-investment-plan-scoping-0</u>

To stay involved in EPIC 4, visit <u>www.energy.ca.gov/epic4</u> Please use CEC's e-commenting system to submit written comments: <u>https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-EPIC-01</u> See notice for e-mail and U.S. Mail commenting instructions: <u>https://efiling.energy.ca.gov/getdocument.aspx?tn=238093</u> Workshop comments are due July 21, 2021.







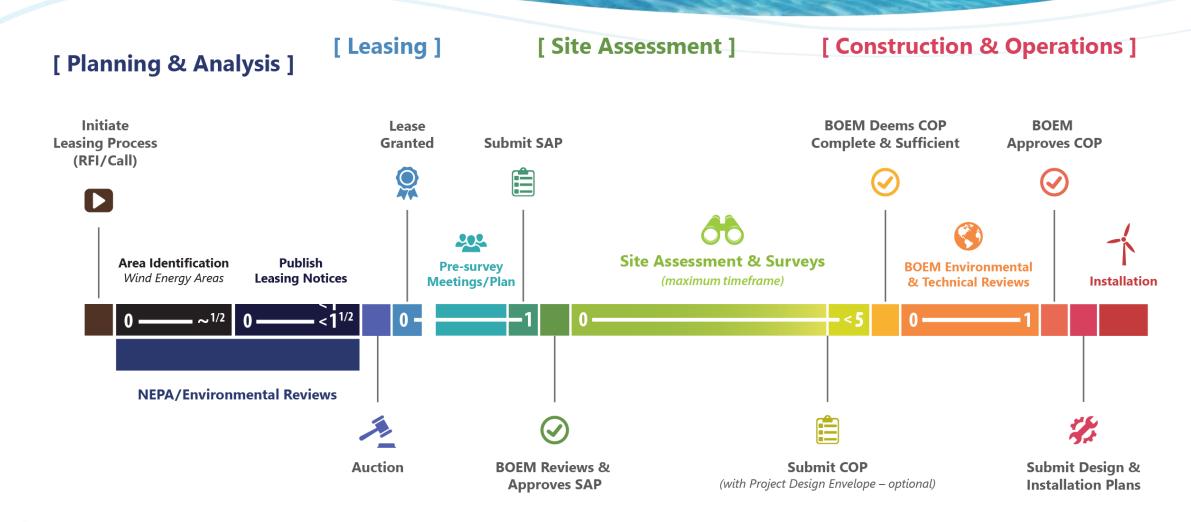
Next Steps in the Process

Jean Thurston-Keller, BOEM





BOEM's Offshore Wind Energy Authorization Process





Task Force Clarifying Questions & Discussion





Overview of Action Items & Closing Remarks

Karen Douglas, CEC Doug Boren, BOEM





Adjourn Task Force Meeting





Public Input Opportunity

Interested members of the public are encouraged to provide input on the topics discussed today





Process Guidelines for Public Input Opportunity

- Raise your hand to join the public input queue
- The facilitator will call on you when it is your turn to speak. You will then be unmuted
 - If you are a phone call-in user, dial *9 on your phone to Speak in order; facilitator will mind the queue
- Provide your name and affiliation before you speak
- Can share a comment or ask a question (1-3 minutes TBD); please be respectful of everyone's time and opportunity to speak
- To enter into the discussion queue:
 - Click the "raise hand" icon in the top of the webinar window; click again to lower your hand after speaking
 - $_{\circ}\,$ If needed, use the chat pod in the bottom left of the webinar window









Task Force Coordinator: <u>Jean.Thurston-</u> <u>Keller@boem.gov</u> (805) 384-6303

