

DOCKETED

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BOEM

New & Emerging Environmental Science Initiatives: Focus on marine mammal, bird, and deepwater habitat studies

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IEPR Commissioner Workshop on Offshore Wind

San Francisco, CA | October 3, 2019

What information does BOEM need?

BOEM's Environmental Studies Program is the primary mechanism through which BOEM funds studies to provide objective scientific information to inform agency decision-making.

1. Effects of Impacting Activities
2. Affected Resources
3. Monitoring
4. Cumulative Impacts
5. Compliance



Deepwater Habitat Information

Mapping Deep-Sea Corals, Sponges, and Fish Habitat Off the U.S. West Coast

This fall, a team of scientists from NOAA, USGS, and BOEM will embark on a 29-day expedition aboard the NOAA Ship Reuben Lasker along the California, Oregon, and Washington coasts, including sites within four National Marine Sanctuaries.

This expedition is part of the Expanding Pacific Research and Exploration of Submerged Systems, or EXPRESS, Initiative; a multi-year, multi-agency project to survey and map undersea habitat throughout the California Current Large Marine Ecosystem.



October 7, 2019 | Depart Newport OR

RL-19-05 Study Sites

Willapa Canyon head
North Daisy Bank
Sponge bycatch Oregon shell
Brush Patch
Humboldt & Mad River Rough Patch
Mendocino Ridge

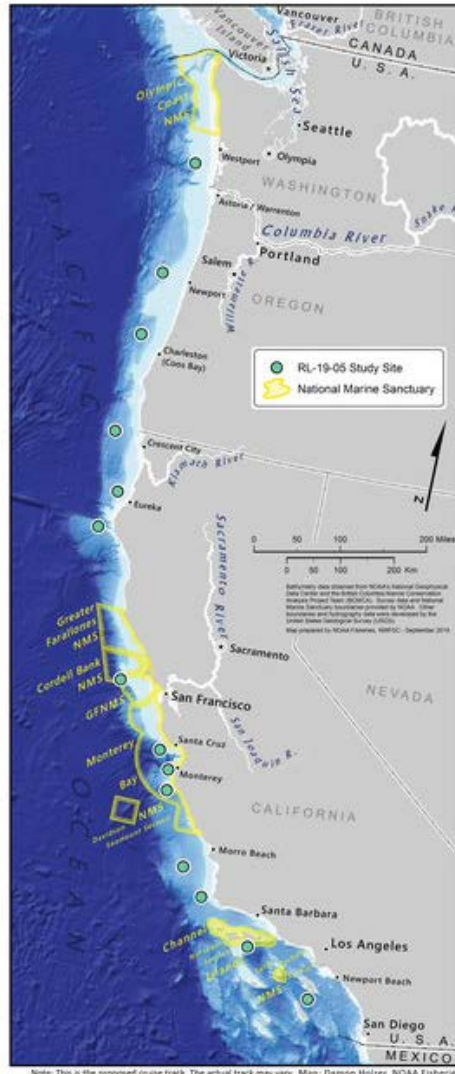


October 19, 2019 | Arrive San Francisco

October 22, 2019 | Depart San Francisco

Cordell Bank National Marine Sanctuary (CBNMS)/Farallones
Cabrillo Canyon
West of Carmel Canyon
Monterey Bay National Marine Sanctuary (MBNMS) Sur Canyon slot canyons
Potential offshore wind site
Santa Lucia Bank
Channel Islands National Marine Sanctuary (CINMS)
Catalina Basin

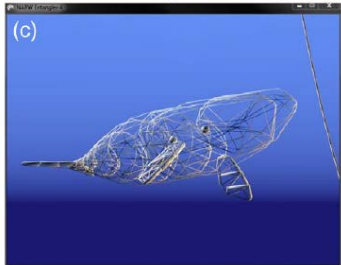
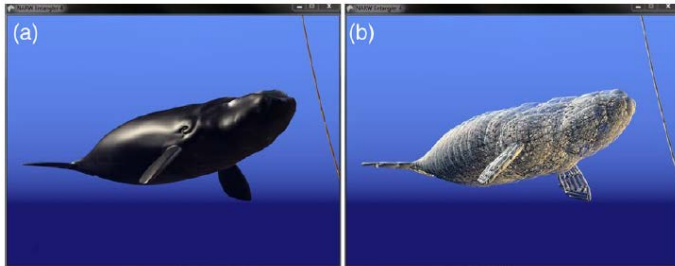
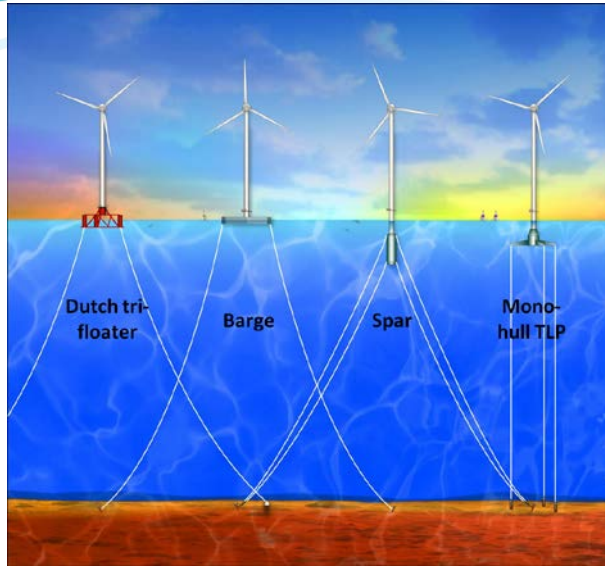
November 7, 2019 | Arrive San Diego



Note: This is the proposed cruise track. The actual track may vary. Map: Damon Holzer, NOAA Fisheries

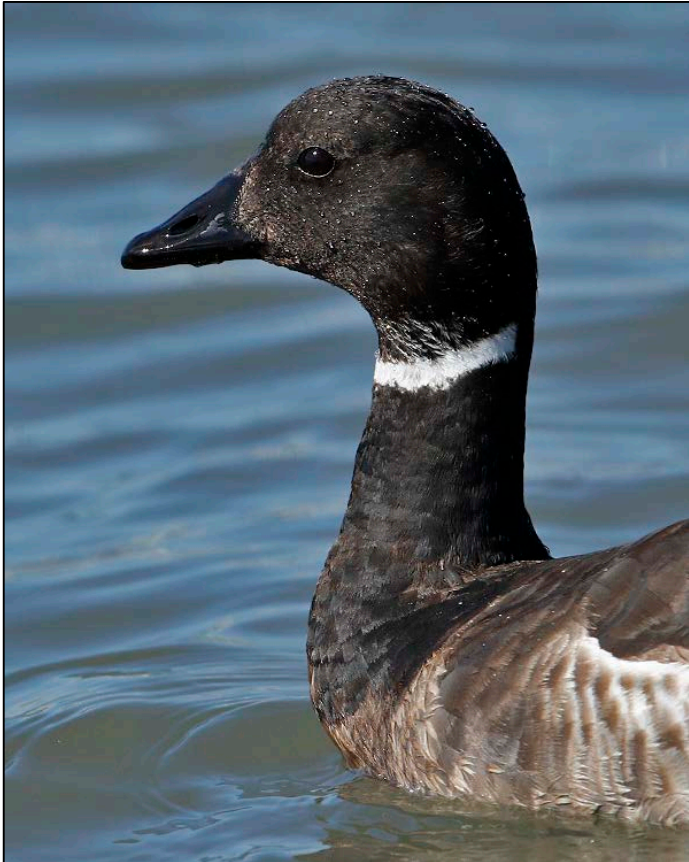
- Need – Identify and characterize sensitive deepwater biological communities (e.g., deepwater corals, cold seeps)
- Why?
 - Provide regional context in advance of potential renewable energy leasing activity
 - Wise use of living marine resources
 - Coastal/submerged hazard mapping and assessment
- How?
 - 22 expeditions to date – largely focused on high-resolution multibeam mapping; ground-truthing effort increasing
 - 29-day NOAA Ship *Lasker* expedition begins 10/7/2019
 - www.oceanexplorer.noaa.gov

Computer Simulations to Assess Entanglement Risk



- Need - Assess entanglement risk of whale and sea turtles with floating turbine mooring systems and associated derelict fishing gear
- How?
 - Develop morphologically accurate whale (fin, humpback) and leatherback sea turtle digital models
 - Construct digital model of floating turbines mooring systems and associated derelict fishing gear
 - Simulate dynamics of interactions (e.g., behaviors)
- Who?
 - NOAA and BOEM partnership enabled by complementary aquaculture work
 - 2023 estimated completion

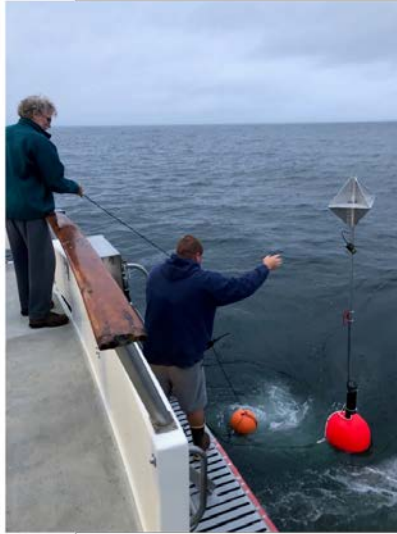
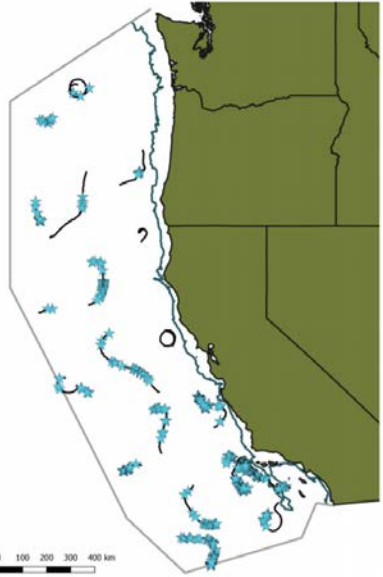
Over Water Migration Movements of Black Brant



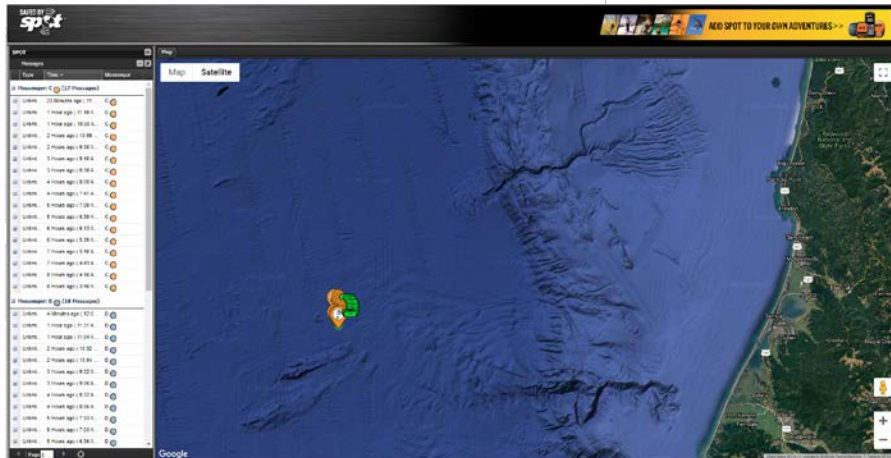
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- Need - Identify oversea migratory routes of Black Brant from Alaska to the U.S. Pacific coast to understand pathways, timing, and flight altitude
- Why?
 - Stakeholder interest for Northern California Call Area
 - Game species valued by waterfowl hunters
 - Black Brant (Pacific race) has declined recently
 - Dependent on eel grass beds in coastal lagoons
 - Limited wintering areas include Humboldt and Morro Bays
- How?
 - Outfit 50 Black Brant per year for 3 years with GPS/GSM collars prior to their southbound migration
 - Build off ongoing FWS tagging projects in Alaska

ADRIFT: Passive Acoustic Drifting Buoys to study marine mammals and ocean noise



- Need – Better understand spatial and temporal distribution of cetacean species
- Why?
 - Address both localized and broad-scale habitat use
 - Fill spatial and temporal data gaps
- How?
 - Drifting passive acoustic monitoring: Drifting Acoustic Spar Buoy Recorders (DASBRs)
 - Intend to engage coastal communities and research organizations in buoy deployment/recovery
- Two phases:
 - Phase 1: Northern California to begin in Spring 2020
 - Phase 2: Expansion to entire California Current Ecosystem
- Need funding partners to enable Phase 2



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Bureau of Ocean Energy
Management

Thank You . . .

<https://www.boem.gov/Pacific-Studies/>
<https://www.boem.gov/Pacific-Region-Renewable-Energy/>

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