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North Coast Offshore Wind Study: Environmental Considerations



Integrated Energy Policy Report Workshop—Offshore Wind
October 3, 2019

Presented by Sharon Kramer, Ph.D.

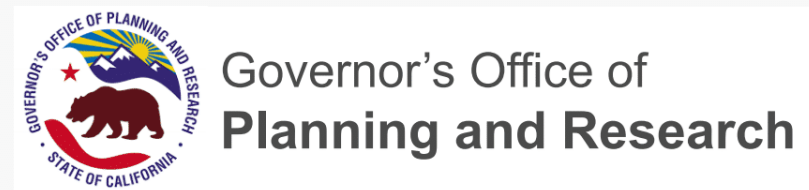


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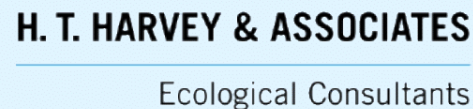
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Acknowledgments

Project Funders



Major Partners



Research Topics

Funded by Bureau of Ocean Energy Management (BOEM)

Resource
assessment

Grid
compatibility

Subsea
cable

Economic
analysis

Funded by California Ocean Protection Council (OPC)

Environmental
impact

Port
infrastructure

Stakeholder
engagement

Policy
analysis

Funded by California Governor's Office of Planning and Research (OPR)

Military
compatibility

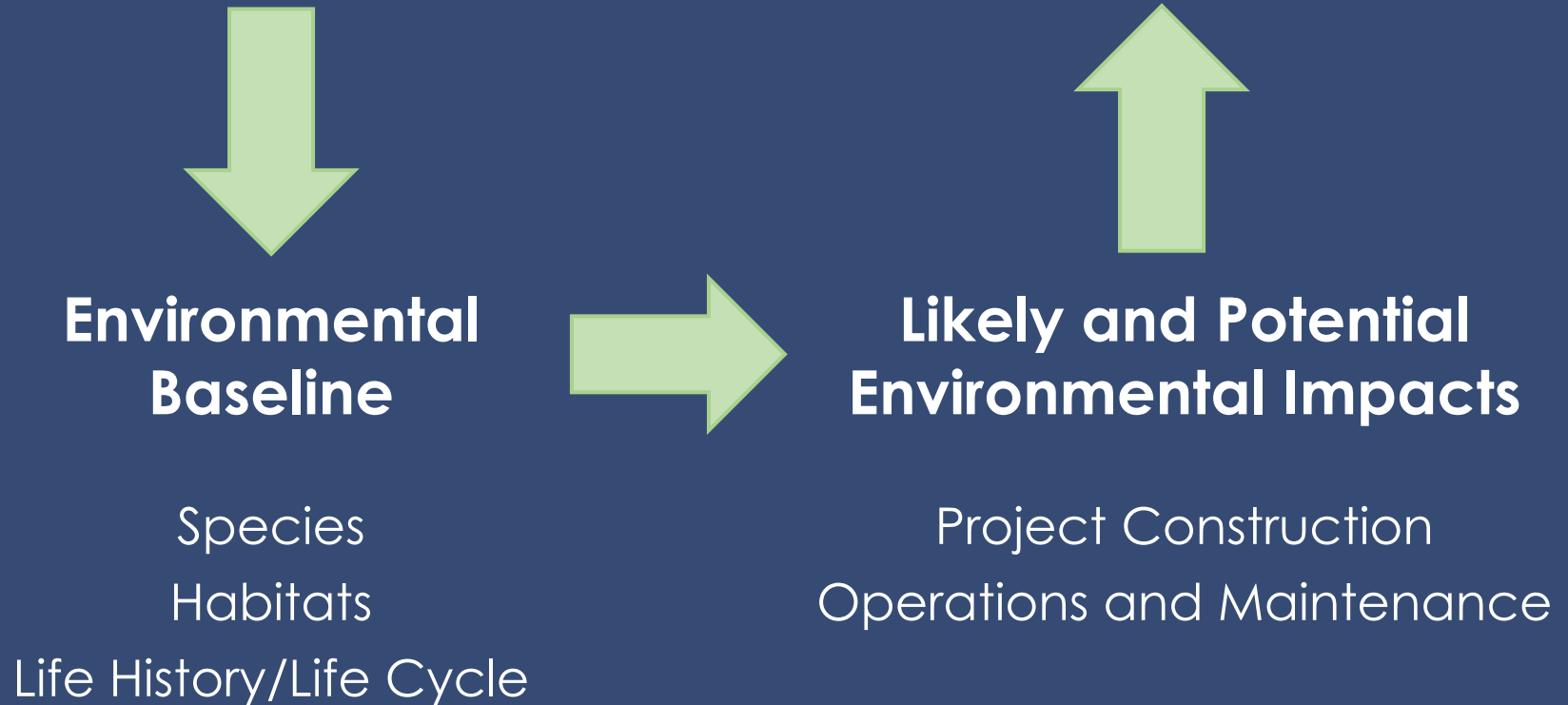
Geologic /
seismic

Subsea cable
environmental



Regulatory Framework

Information needed to satisfy permitting requirements



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Environmental Regulatory Considerations

Federal: BOEM OCS Lease

- Endangered Species Act
- National Environmental Policy Act
- Clean Water Act
- Clean Air Act
- Corps Rivers and Harbors Act
- Magnuson-Stevens Act
- Marine Mammal Protection Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act

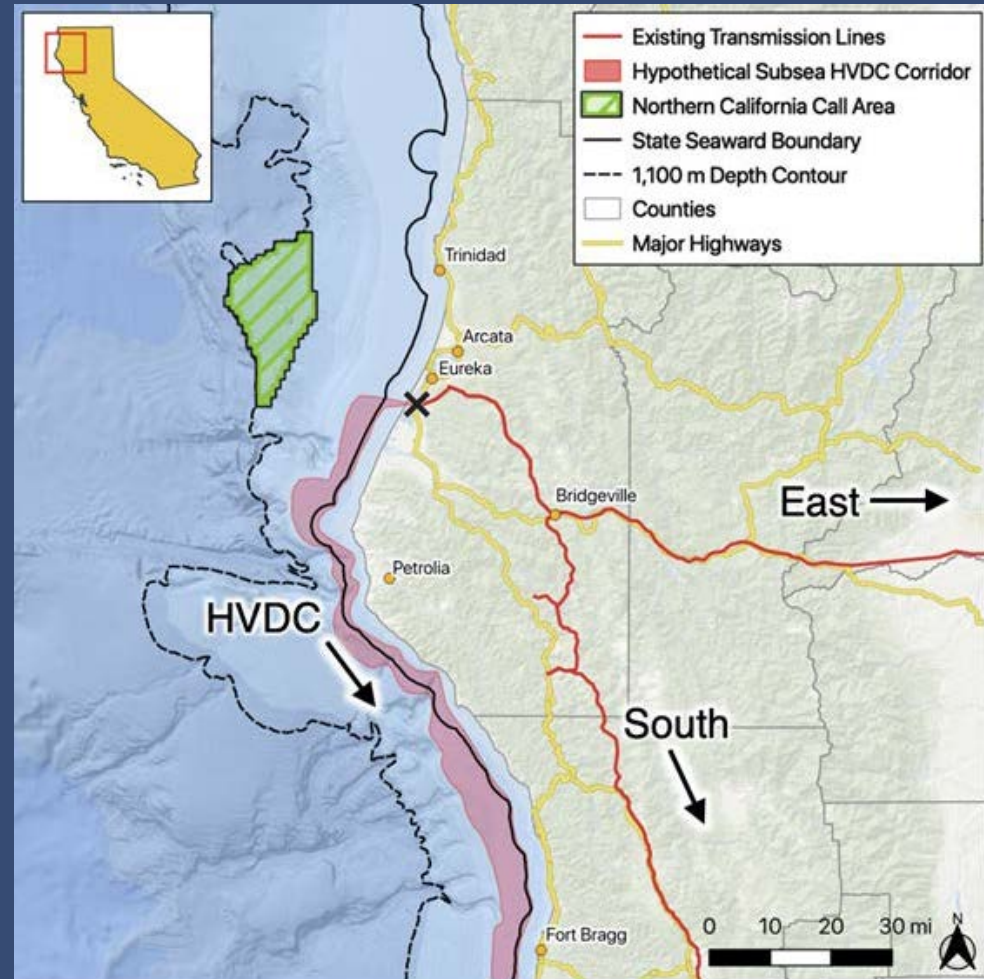
California

- California Environmental Quality Act
- Submerged Lands Act
- Coastal Zone Management Act
- Endangered Species Act



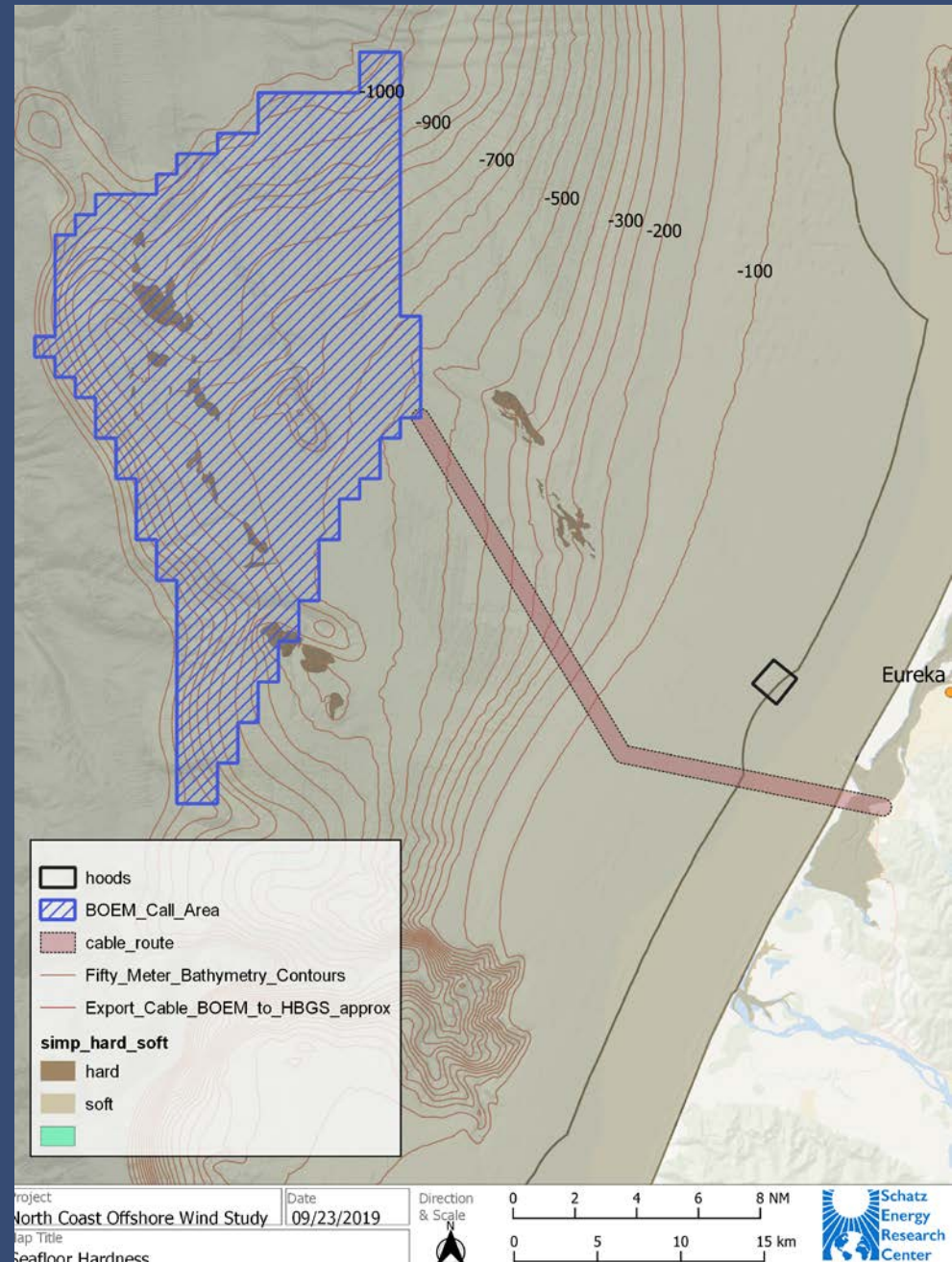
Areas Addressed

- **Offshore Call Area**
Project size scenarios
- **Cable Route**
- **Cable Landing**
- **Port Infrastructure**
- **Terrestrial Transmission**
- **Hypothetical HVDC**



Environmental Considerations

- Bathymetry
- Geology/geophysics
- Project size and siting
- Construction details
 - Timing/phasing
 - Type and level of disturbance



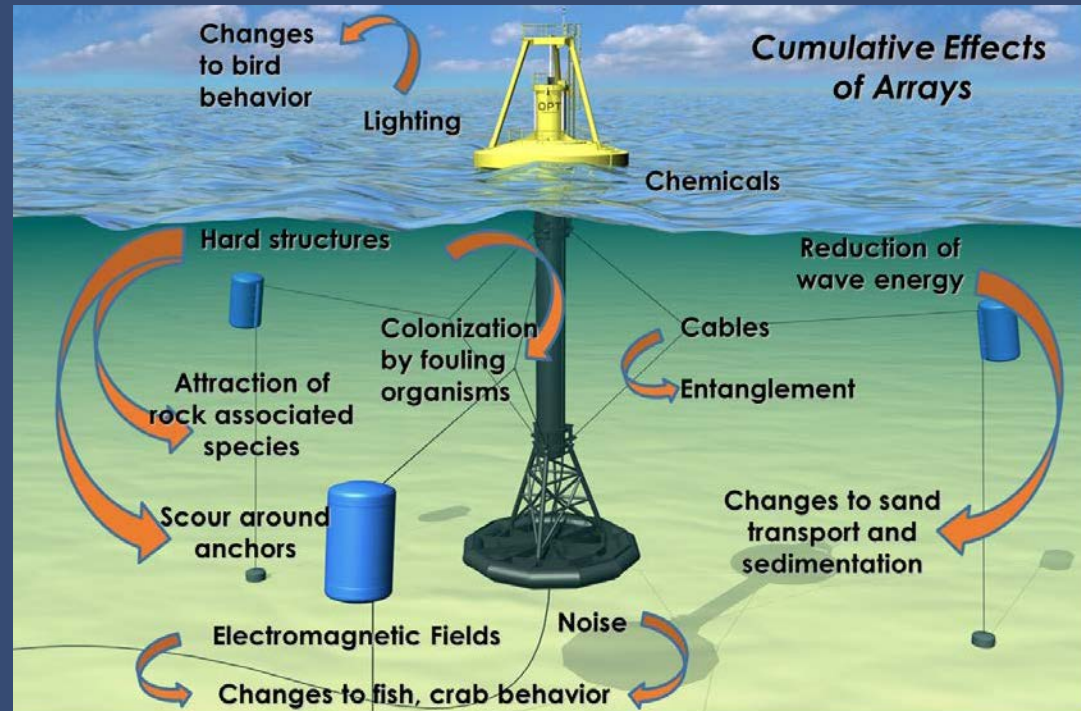
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Environmental Considerations

- **Animal Interactions**
 - Collision
 - Displacement
- **Habitat**
 - Benthos
 - Structure in the water and on the surface
- **Acoustic**
- **EMF**
- **Lighting**
- **Fishing/navigation**
- **Contaminants**



Slide provided by NNMREC/OSU



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