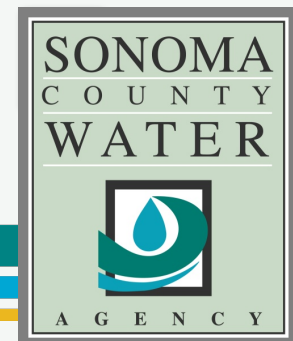
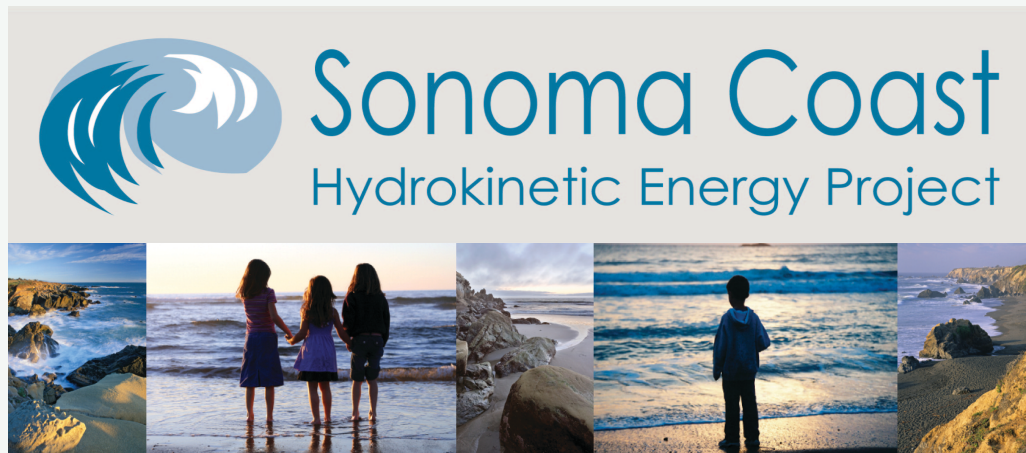


# Feasibility Studies for Hydrokinetic Energy in California

Cordel Stillman  
Deputy Chief  
Engineer

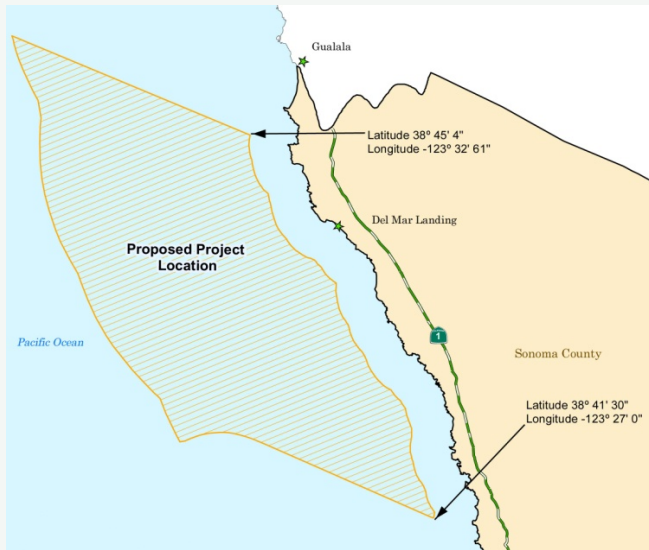


[www.sonomacountywater.org](http://www.sonomacountywater.org)   

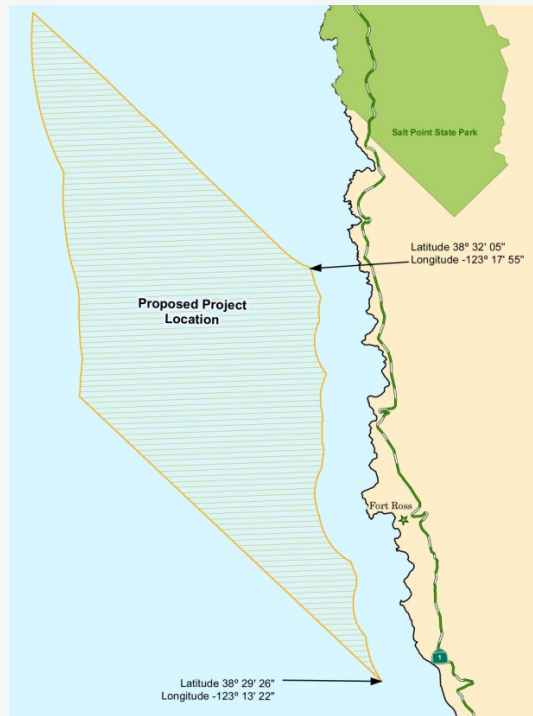


# Project Locations

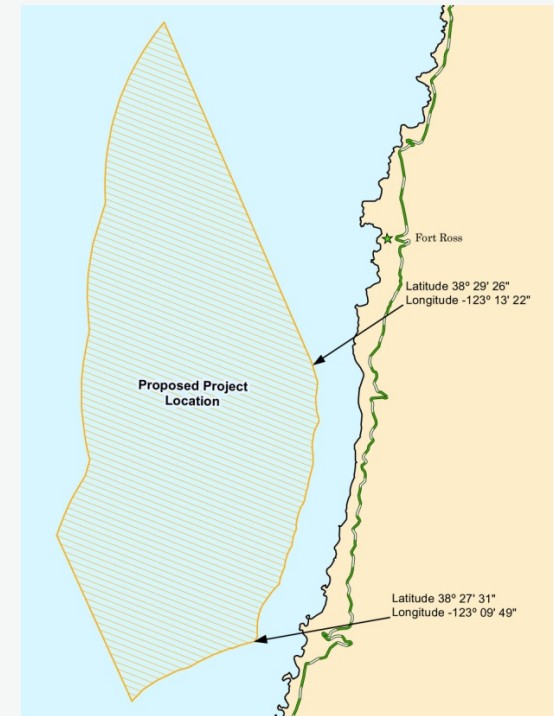
*Project Maps Are Not To Scale*



**Del Mar Landing**  
Proj. #13376-000



**Fort Ross (North)**  
Proj. #13378-000



**Fort Ross (South)**  
Proj. #13377-000

# Advisory Committee

---

---

- Members Include:
  - Mendocino & Sonoma Counties
  - PG&E
  - US Geological Services
  - UC Davis Bodega Marine Lab
  - Pacific Coast Federation of Fishermen
  - Surfrider Foundation
  - California Coastal Commission
  - NOAA
  - More...

# Emerging Technologies

---

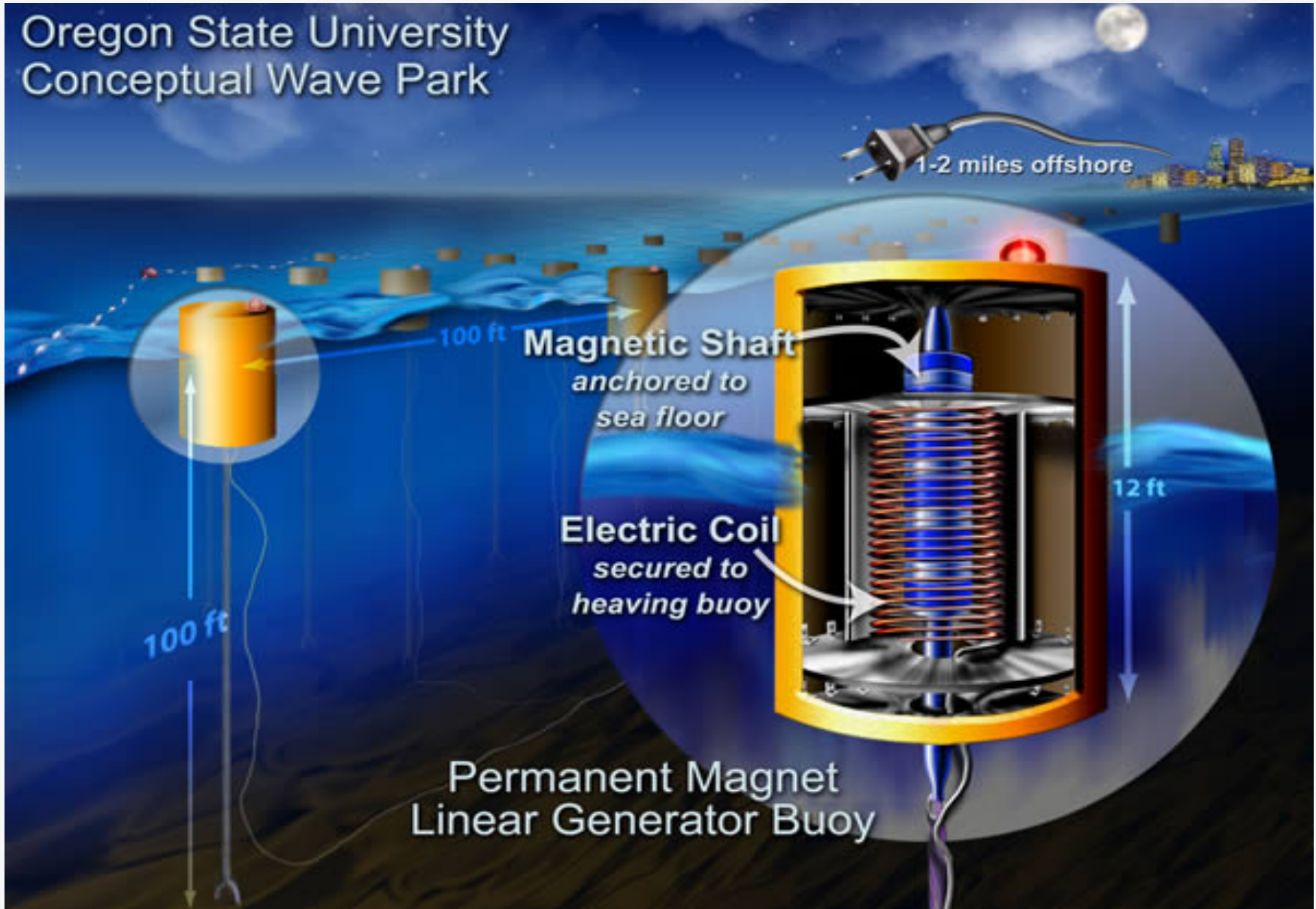
---

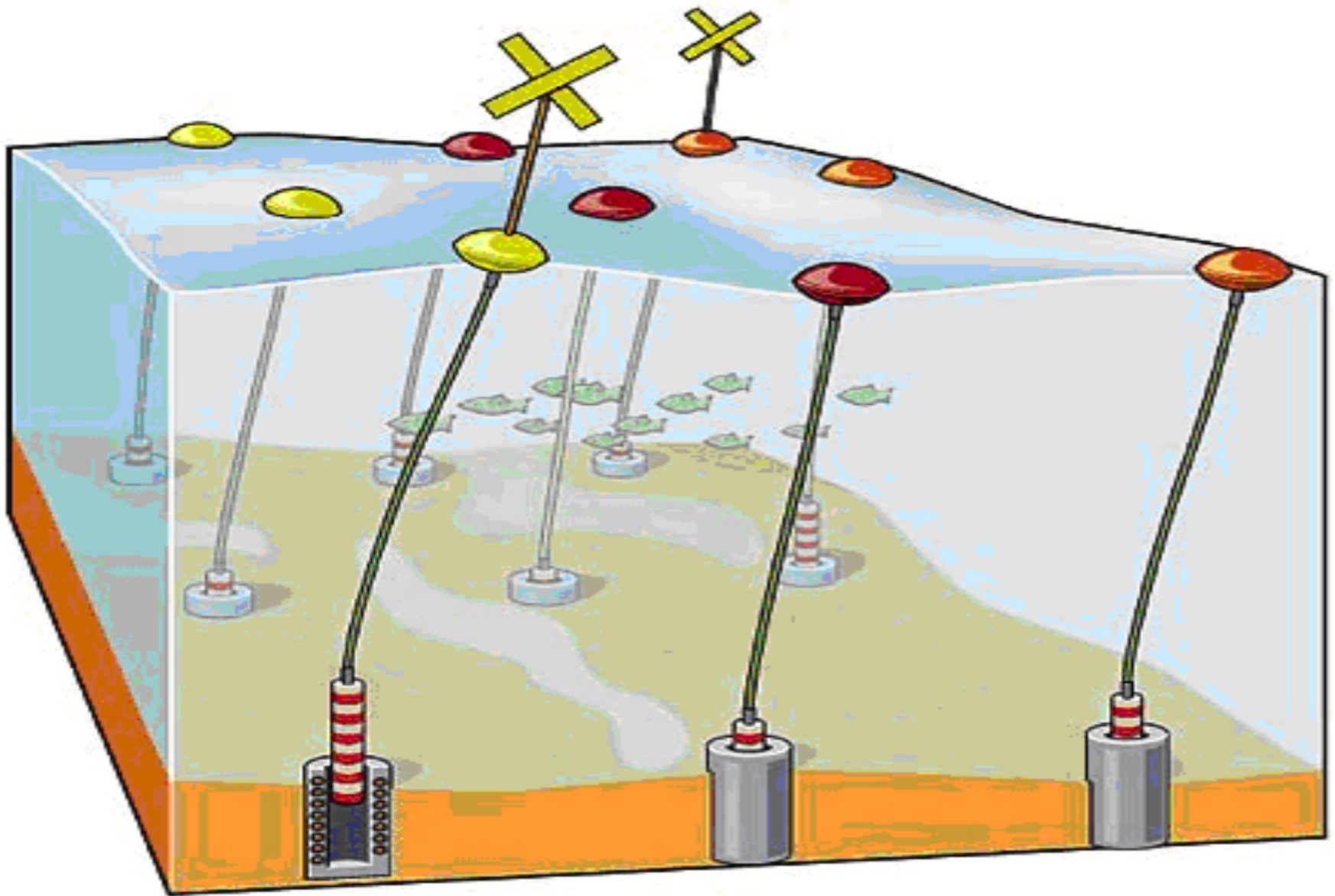
- Magnetic Generator Buoy
- Point Absorber
- Pelamis Wave Power Converter
- Other Technologies

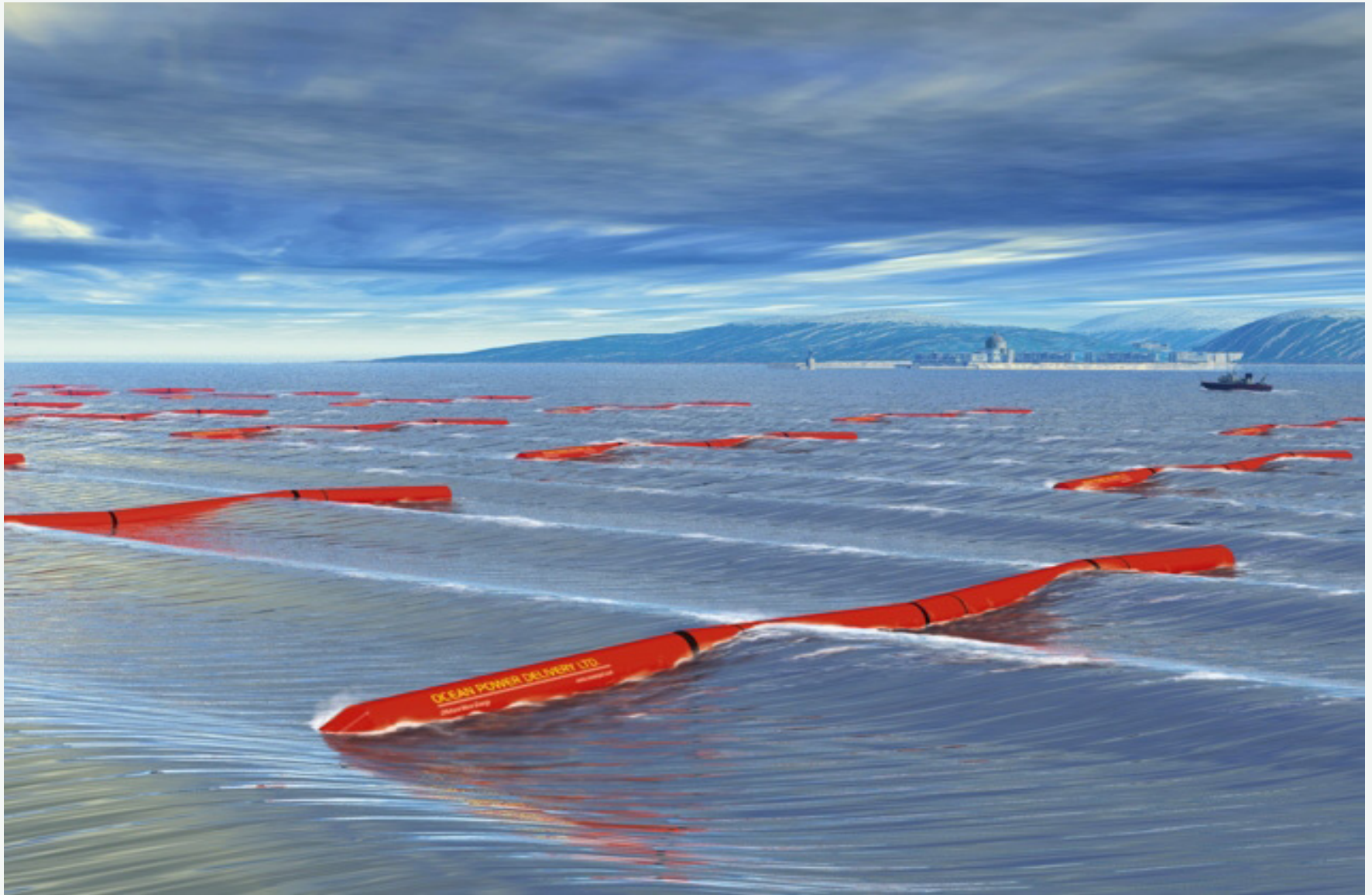




# Oregon State University Conceptual Wave Park









# Full Scale Pelamis

---

---



# Issues to be Considered

---

---

- Environmental Impacts
- Aesthetic Impacts
- Economic Impacts
- Power Transmission
- Cost



# Fisheries Issues

---

---

- Environmental
  - Habitat Conversion
  - EMFs
  - Noise
  - Entanglement
- Fishing
  - Restricted Access (de-facto reserve)
  - MLPA Cumulative Impacts

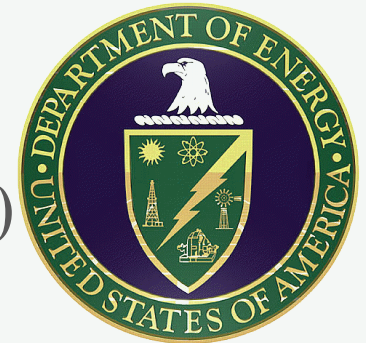


# Federal Agencies & Entities

---

---

- Federal
  - Bureau of Land Management
  - Federal Energy Regulatory Commission (FERC)
  - National Environmental Protection Agency (NEPA)
  - National Marine Fisheries Service
  - National Marine Sanctuaries
  - National Oceanic Atmospheric Administration (NOAA)
  - U.S. Army Corps of Engineers
  - U.S. Coast Guard
  - U.S. Department of Energy
  - U.S. Fish & Wildlife Services





# State Agencies & Entities

- State
  - California Coastal Commission
  - California Coastal Conservancy
  - California Department of Fish & Game
  - California Energy Commission
  - California Environmental Quality Act (CEQA)
  - California Marine Life Protection Act
  - California Ocean Protection Council
  - California Office of Historic Preservation
  - California Public Utilities Commission
  - California State Lands Commission
  - Central & Northern California Observing System
  - North Coast Regional Water Quality Control Board



# Closing Remarks

---

---



- Regulations
  - Many Agencies and Entities
- Funding
  - Marine Research Expensive
- FERC Process
  - 3-Year Permit Not Enough Time

# Feasibility Studies for Hydrokinetic Energy in California



Cordel Stillman  
Deputy Chief Engineer  
[Cordel.Stillman@scwa.ca.gov](mailto:Cordel.Stillman@scwa.ca.gov)

