

# HydroKinetics Conference

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## VI.B. Environmental Concerns

- **OPT Has Successfully Completed the Permitting Process for Hawaii Demonstration Project**
  - Marine Corps Base Hawaii – Kaneohe Bay
  - Environmental Assessment (EA) completed by Environmental Assessment Division of the Office of Naval Research (ONR).
  - ONR consulted with National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (USFWS). They concurred with Navy findings.
  - Navy issued Finding of No Significant Impact (FONSI)
- **OPT has successfully obtained permit for PowerBuoy™ demonstration in Australia.**

# Hawaii Environmental Assessment: Legal Requirements

- National Environmental Policy Act
- Clean Water Act Rivers and Harbors Act
- Coastal Zone Management Act
- Fish and Wildlife Coordination Act
- Magnuson-Stevens Fisheries Act
- Marine Mammal Protection Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Native American Graves Protection Act
- Coral Reef Protection EO
- Responsibilities of Federal Agencies to Protect Migratory Birds
- Environmental Justice EO
- Protection of Children from Environmental Health Risks EO
- Greening the Government through Efficient Energy Management

# Hawaii Environmental Assessment: Conclusions

- **Oceanographic Conditions**
  - **No** impacts on oceanographic conditions
  - **No** affect on wave scattering and energy absorption.
- **Entanglement.**
  - **Minimal** risk of entanglement during installation
  - **No** risk of entanglement once the cable is rock-bolted to the seafloor.
- **Entrapment.**
  - **Minimal** potential for entrapment of marine mammals or sea turtles.

# Hawaii Environmental Assessment: Conclusions

- **Marine Biological Resources**
  - **Avoids** areas of rich biological diversity and high percentages of coral coverage.
  - **No** impact on Habitat Areas of Particular Concern (HAPC)
  - **Not Likely** to adversely affect threatened and endangered species
  - **Unlikely** that any impact will occur to marine mammals protected under the Marine Mammal Protection Act (MMPA)
  - **Beneficial Impact** on the potential growth of benthic organisms such as corals on the subsea cables and anchor.
- **Shoreline Conditions.**
  - **Minimal** impacts would occur to shoreline conditions.
  - **No** alteration to currents or wave directions.
  - **No** adverse effects on shoreline erosion or change in sand deposition patterns.

# Hawaii Environmental Assessment: Conclusions

- **Electromagnetic Radiation (EMR)**
  - **Minor** and Temporary impact from EMR on marine organisms in the vicinity of the transformer and cables.
- **Electrical Leakage**
  - **Mild** Discomfort on marine organisms and divers (mild discomfort) could occur in the unlikely event that damage to the cable causes an electrical fault.
- **Heat Release.**
  - **No** impacts to marine life from potential heat release.

# Hawaii Environmental Assessment: Conclusions

- **Noise**
  - **Localized, intermittent and short** duration noise during installation.
  - **Similar** acoustic output to that of ship traffic during continuous operation.
  - **Unlikely** that noise from system installation or operation would have adverse effects on humpback whales, dolphins, and green sea turtles.
- **Terrestrial Biological Resources.**
  - No impact on Federally listed threatened or endangered terrestrial species.

## Hawaii Environmental Assessment: Conclusions

- **Land and Marine Resource Use Compatibility.**
  - **No** incompatibilities on land use are anticipated
  - **No** interference with mission operations.
- **Cultural Resources.**
  - **No** affect on historic properties even though the land based segment of system is sited within the Mokapu Burial Areano effect.
- **Infrastructure.**
  - **No** adverse impacts to existing infrastructure.



# Hawaii Environmental Assessment: Conclusions

- **Public Safety.**
  - **No** impacts on public safety within the 500-yd (457-m) buffer zone.
  - **Potential** impacts to public safety outside the 500-yd (457-m) buffer zone
  - **However**, these will be mitigated by providing appropriate markings on the buoys, implementing a plan to respond to system failures, and implementing communication procedures to increase public awareness.
- **Visual Resources.**
  - **Minimal** impacts on scenic views.
  - **Only** the Navigational aids extend 30 ft (9 m) above sea level.
  - **Only** safety lights on the navigational aids would be visible in the distance at night.