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AQ = Air Quality

IM = Information Management

PO = Physical Oceanography

FE = Fates & Effects

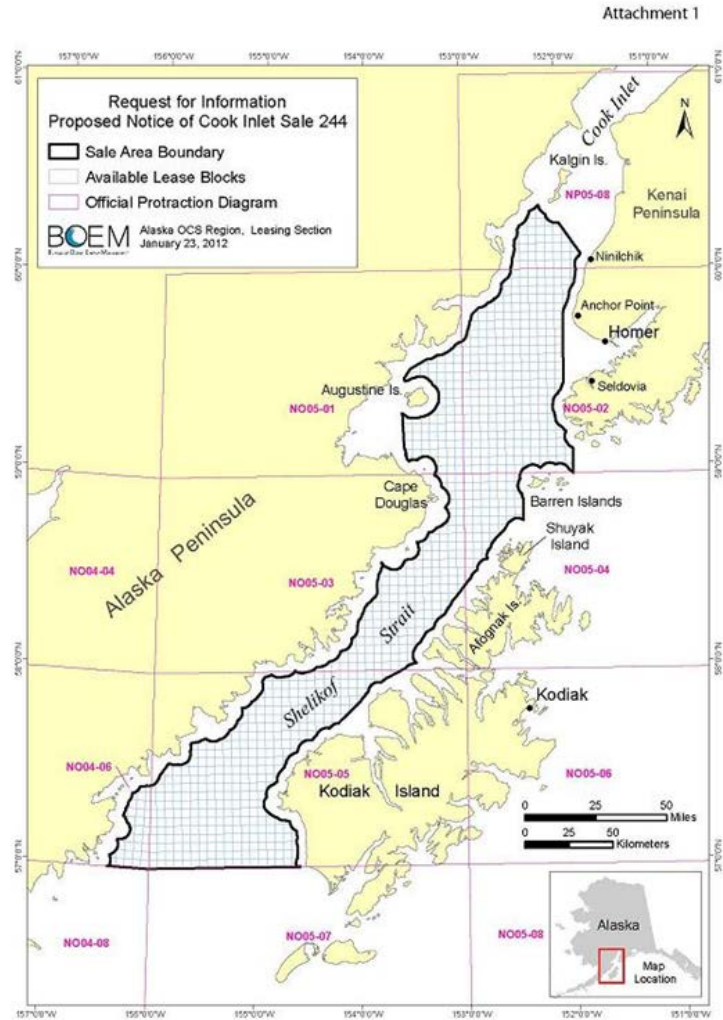
MM = Marine Mammals & Protected Species

SE = Social & Economic Sciences

HE = Habitat & Ecology



Ecological Processes in Lower Cook Inlet and Kachemak Bay: A Partnership in Monitoring

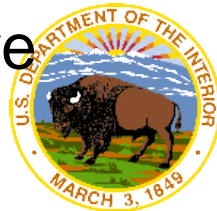


BOEM Information Need:

- Lease sale in the Cook Inlet Planning Area in 2016
- NEPA analysis hasn't been undertaken since 2003
- Updated information is needed regarding the physical and biological environment, including variability in oceanographic conditions and plankton communities, and additional data related to sensitive species.

Date Information is required:

- NEPA documents for 2016 Cook Inlet Lease Sale
- Exploration, G&G, Development Permits in future



Background:

A) Relationship with Previous Work/Efforts

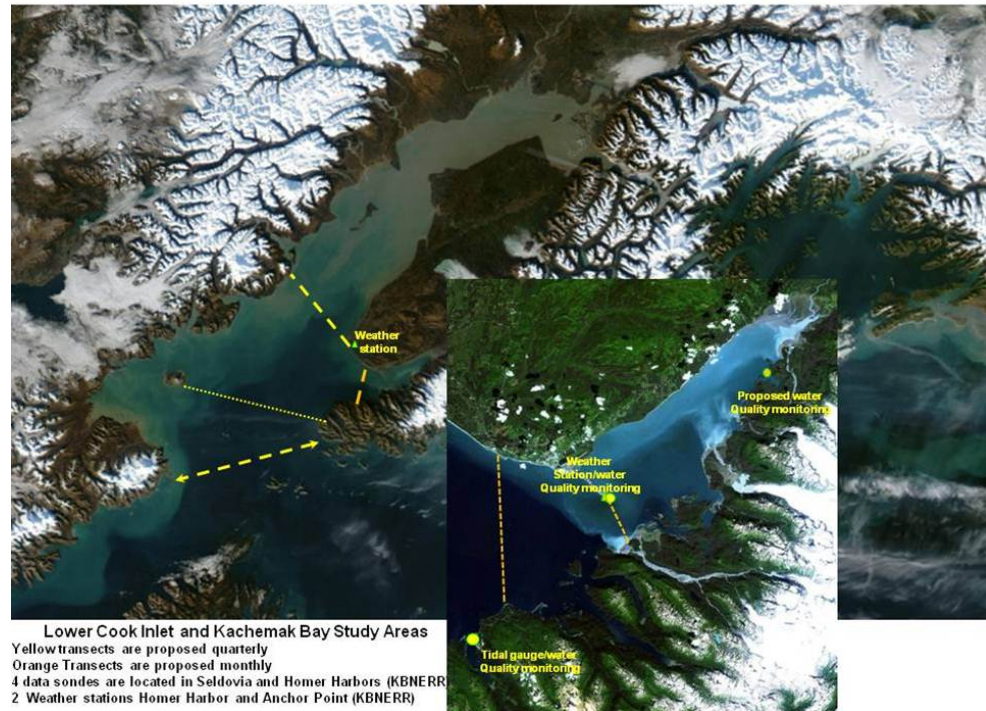
- BOEM hasn't funded science in the Cook Inlet since 2005.
- Currently compiling relevant literature for upcoming NEPA analysis. Some historic work would be relevant to this project.
- This project would tier off historic Cook Inlet sampling undertaken in as part of the Exxon *Valdez* Oil Spill research with a geographic range extension into lower Cook Inlet



Background:

B) Relationship with Concurrent/Future Efforts

This project would be a collaboration with Gulf Watch- a multi-partner monitoring program of the Exxon Valdez Oil Spill Trustee Council.



Lower Cook Inlet and Kachemak Bay Study Areas
Yellow transects are proposed quarterly
Orange Transects are proposed monthly
4 data sondes are located in Seldovia and Homer Harbors (KBNERR)
2 Weather stations Homer Harbor and Anchor Point (KBNERR)

Study's Objectives:

- Quantify seasonal and inter-annual variability in oceanographic conditions and plankton communities and provide information to assess long-term trends.
- Enhance monitoring of sensitive species (seabirds, sea otters) in conjunction with monitoring of environmental conditions.
- Improve understanding of water mass movement in lower Cook Inlet/Kachemak Bay for use in environmental analysis and circulation model validation.

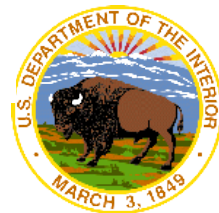
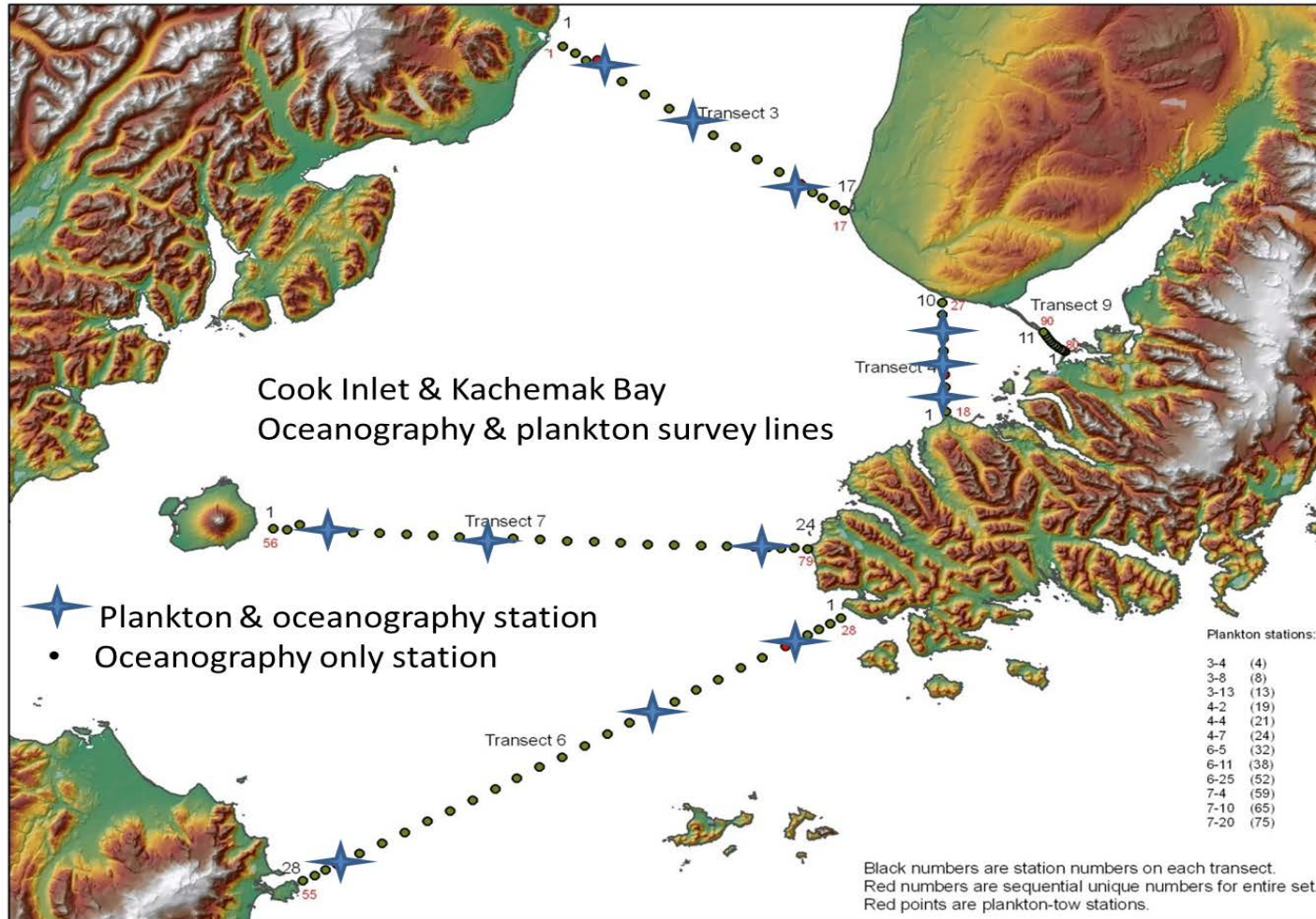


Methods:

- This study will collaborate with existing surveys that will include the following disciplines:
 - Oceanographic
 - Plankton
 - Near-shore benthic
 - Upper trophic level (marine mammals and birds)
- The study will improve assessments of seasonal conditions



Ecological Processes in Lower Cook Inlet and Kachemak Bay: A Partnership in Monitoring



Additional *Pertinent* Information

This project will integrate across multiple disciplines to address resource management questions:

- Is herring and forage fish overwintering success tied to spring and summer productivity and seasonal year-to-year differences in zooplankton community?
- Are variations in seabird abundance and distribution associated with zooplankton stocks and/or oceanographic conditions?

