

POTENTIAL CMI STUDIES, MMS ALASKA ENVIRONMENTAL STUDIES PROGRAM

Region: *Alaska*

Planning Area(s): *Beaufort Sea*

Title: *Baseline fish pathology in the Central Beaufort Sea*

MMS Information Need(s) to be Addressed: A baseline of marine and anadromous fish pathology types and rates could address information needs identified in the MMS Alaska Fisheries Studies Strategy. It would provide a more sensitive measure of potential development effects on the anadromous and marine fish populations in areas of increasing oil and gas activities along the Alaskan Arctic coastline. New information will support NEPA analyses and documentation and development of related mitigation for Beaufort Sea Lease Sales as well as for future Draft Production Plans, and permitting.

Period of Performance: Two years

Description:

Background

Non-lethal effects of offshore oil and gas development on fish are more likely than lethal effects. They are also likely to occur earlier than lethal effects. This has been amply demonstrated with Herring in Prince William Sound (PWS) after the Exxon Valdez Oilspill. PWS herring exhibited lesions and other pathology years before the stock collapsed due to viral infections.

Little is known about the prevalence of disease, disease outbreaks and other pathology in Arctic fish. With climate change, we anticipate seeing more herring, Pacific cod, pollock, and salmon in Arctic waters. With movement into the arctic they are likely to bring with them viruses, fungal diseases, and parasites that could infect arctic fish populations. Without a current Beaufort Sea fish pathology baseline it will be impossible to rule out effects from other anthropogenic activities, climate change, or other natural causes from possible oil and gas development impacts.

Samples could be taken during a planned 2008 marine fish survey and archived in order to complete the study at minimal cost.

Objectives

1. Develop monitoring baseline pathology rate for marine fish
2. Recommend future methodologies

Methods

1. Develop matrix of expected pathologies to search for and preservation methods required for various pathology tests.
2. Obtain 10 archived specimens of each keystone and/or most abundant marine fish species of the central Beaufort Sea.

3. Obtain any available archived specimens with evidence of pathology in US and Canada
4. Obtain specimens from subsistence fishers.
5. Opportunistic sampling piggybacked onto other Chukchi or Beaufort marine fish surveys
6. Obtain estimate of visually evident pathology from MMS sponsored 2008 open-water marine fish survey and potential 2010 Under-ice marine fish survey.
7. Develop Preliminary estimate of pathology types.
8. Recommend future sampling requirements and pathology methodologies.

Date information is required: Interim report on the species detected will be available for writing the Affected Environment in first year. Final report due at end of project for use in subsequent NEPA analyses.