

## MMS Alaska OCS Region

# Focus Sheet

### Arctic Cisco

The Minerals Management Service (MMS), Alaska Outer Continental Shelf Region, has long been interested in the potential effects of oil and gas development on Arctic cisco (*Coregonus autumnalis*). We have addressed and continue to address this issue in many ways.

**MITIGATION:** When offering offshore leases in the Beaufort Sea, we require oil companies to limit potential effects of oil and gas development on Arctic cisco. Mitigating measures for the Draft Liberty Development and Production Plan, and the Beaufort Lease Sales 144 and 170 include:

- Stipulation No. 1 (“Protection of Biological Resources”) may require additional protection identified in the lease area and modify operations to ensure that significant biological populations or habitats deserving protection are not adversely affected.
- Stipulation No. 5, (“Conflict Avoidance Mechanisms to Protect Subsistence Whaling and Other Subsistence Activities”) requires the oil industry to consult with potentially affected communities and the Alaska Eskimo Whaling Commission (AEWC) to prevent unreasonable conflicts.

The Beaufort Lease sale 170 also contains special mitigation advisories in Information to Lessees.

**MMS STUDIES:** The MMS has conducted a variety of Arctic cisco-related studies that directly or indirectly provide information useful to prediction, and understanding of potential effects of oil and gas development on Arctic cisco:

**2001-2002 (Ongoing):**

“Arctic Nearshore Impact Monitoring in Development Areas”

“Collection of Traditional Knowledge of Alaskan North Slope”

**1998:** “North Slope Amphidromy Assessment” (OCS Study MMS 98-0006)

**1993:** “Arctic Fisheries Database—User’s manual” (OCS Study MMS 93-0057)

“Fisheries Oceanography of the Northeast Chukchi Sea (OCS Study MMS 93-0051)”

**1992:** “Genetic Studies of the Arctic cisco in Alaska--Multiple Stocks?” (OCS Study MMS 92-0039)

**1990:** "Arctic Fish Habitat Use Investigations: Nearshore Studies in the Alaskan Beaufort Sea, Summer 1988." (OCS Study MMS 92-0011)

**1989:** "Nearshore Fish Survey in the Western Beaufort Sea: Harrison Bay to Elson Lagoon. (OCSEAP Final Reports 23:261-294)

**1987:** "Subsistence Fisheries at Coastal Villages in the Alaskan Arctic, 1970-1986" (Social and Economic Studies Program Technical Report No. 129).

**1984:** "Temperature Preference of Juvenile Arctic Cisco from the Alaska Beaufort Sea, in Relation to Salinity and Temperature Acclimation". (OCSEAP Final Reports 23:207-232)

"An Assessment of the Beaufort Sea Stock of Arctic Cisco Based Upon the Deriso Model Applied to the Catch and Effort Data from Modeling the Helmericks' Commercial Fishery". (OCSEAP Final Reports 23:233-260)

"Temperature/Salinity Regimes of the Beaufort Sea Near the Waterflood Causeway, Prudhoe Bay, Alaska". (OCSEAP Final Reports 23:261-294)

"Environmental Characterization and Biological Use of Lagoons in the Eastern Beaufort Sea. (OCSEAP Final Reports 24:129-579)

"Foodweb and Nutrient Dynamics in Nearshore Alaskan Beaufort Sea Waters". (OCSEAP Final Reports 25:327-495)

**RECENT PRESENTATIONS AT MMS SPONSORED MEETINGS:**

**2000:** "Arctic Cisco in the Mid-Beaufort Sea and Colville River Fisheries" (Beaufort Sea Information Update Meeting, MMS 00-023)

**1999:** "Overview of Current Research Activities of the North Slope Borough Department of Wildlife Management Related to Marine Research". (Seventh Information Transfer Meeting, MMS 99-0022)

**1997:** Fish Ecology in Arctic North America (American Fisheries Society Symposium 19) "Fish Resources of Northeastern NPRA" (NPR-A Symposium Proceedings MMS 97-0013)

**OTHER PUBLICATIONS:** Other important literature exists on arctic cisco:

**1999:** "The epipelagic fish community of Beaufort Sea coastal waters, Alaska." (Arctic 52:80-94)

"Prudhoe Bay Causeways and the summer coastal movements of arctic cisco and least cisco" (Arctic 52:139-151)

**1997:** "The 1996 Colville River Fishery" (BPXA 1997 Endicott Development Fish Monitoring Program Vol. II)

**1993:** "Effects of Salinity and Temperature on the Growth of Yearling Arctic Cisco

(*Coregonus autumnalis*) of the Alaska Beaufort Sea” (J of Fish Biology 43:463-474)

**1990:** “Effect of Wind on the Recruitment of Canadian Arctic Cisco (*Coregonus autumnalis*) into the Central Alaskan Beaufort Sea” (Can J of Fish Aquat Sci 47:2164-2171)  
September 2001

**For More Information**

**Minerals Management Service Alaska OCS Region  
949 E. 36th Avenue, Room 308, Anchorage, Alaska 99508-4363; Public Affairs Officer  
(907) 271-6070, Public Information (907) 271-6621; FAX (907) 271-6805;  
akwebmaster@mms.gov; email [www.mms.gov/alaska](http://www.mms.gov/alaska).**