

North Slope (Kaktovik) subsistence Fish harvest assessment

ABSTRACT This two-year domestic fishery harvest study in Kaktovik, Alaska, a small arctic non-road connected Inupiat community, was undertaken in response to local and government concerns regarding lack of current resource management information available to manage a small but economically and culturally important fishery. Records of annual community fish catches for Kaktovik are scarce, but those available show that community fishers produce significant annual catches of *Dolly Varden* (*Salvelinus malma*) and *Arctic cisco* (*Coregonus autumnalis*) and to a lesser degree Arctic grayling, Lake trout, salmon and Arctic cod.

A community-based, household interview study from October 2000 through September 2002 produced seasonal (“Winter” and “Summer”) and annual community, household and per capita harvest estimates for all reported fish species, as well information on community fishing effort and sharing of harvested fish between households. Information on catches of marine *Dolly Varden* was of special interest to agencies, and whenever possible those catches are identified in this report.

In 2000-2001 the estimated community fish harvest was 5,970 lbs, comprised of Dolly Varden (82%), Arctic cisco (16%) and lake trout (2%). The estimated community per capita harvest was 27.2 lbs and mean household harvest 74.6 lbs. Eight individual harvest locations were reported for the harvest period, with two reported locations (inland) being used during “Winter” and four coastal locations reported for the “Summer” season.

The 2001-2002 estimated community fish harvest was an estimated 9,418.3 lbs comprising Dolly Varden (79%), Arctic cisco (17%) and lake trout (4%). Per capita harvest for the 12-month period was estimated at 42.9 lbs and the estimated mean household harvest was 117.7 lbs. Eleven individual harvest locations were reported used in the study period with five being reported for the “Winter” 2001-2002 and six for the “Summer” 2002.

“Summer” was the most productive season for Dolly Varden harvests in both study years with estimated community harvests of 4,847.4 lbs in 2000-2001 and 6,906.7 lbs in 2001-2002. Inland “Winter” harvest estimates of Dolly Varden were very low in comparison, 22.4 lbs and 511 lbs respectively.

Harvest sites on Barter Island and in the lagoon system immediately east of Barter Island were the most productive “Summer” sites. Of the two recorded inland “Winter” Dolly Varden harvest sites in the study period, the 1st Fish Hole located in the lower reaches of the Hulahula River, was the most productive.

The majority of Dolly Varden reported harvested in the “Summer” fishery were caught in beach- set nets whereas all reported “Winter” harvests of Dolly Varden were taken by jigging through holes drilled in river ice.

One to three households in Kaktovik reported undertaking “Winter” fishing in the study period whereas in “Summer” up to 47 households reported successful fish harvests at Barter Island and adjacent coastal lagoon system fishing sites.

Use and sharing of locally harvested fish was common among community households in the study period. For instance, though only 16 percent of households harvested fish in “Winter” 2001-2002, an estimated 69 percent of community households used fish from that harvest, and in “Summer” 2002 an estimated 79 percent of community households harvested fish with 83 percent using locally harvested fish.

Though estimated community fish harvests in the study period were comparatively low, they were still within the range observed in previous studies. Inclement winter and summer weather in the two study years, reducing fishing opportunity, especially in Study Year 1, rather than low fish abundance was reported as the main reason for the comparatively low fish harvest observed in this study.

This study has confirmed that fish, and in particular Dolly Varden, continue to play a significant role in the annual subsistence economy in Kaktovik and that fishing as a traditional seasonal round of activity among Kaktovik households remains intact.

Local participation in and contribution to this study demonstrates that local capacity exists to effectively participate in resource monitoring and the documentation of local knowledge, both of which are key areas in shaping effective resource management and planning.

Vulnerability of the community fishery to disturbance, global warming and more conservative regulation due to limited information on the stocks being harvested are expressed local concerns. In addition, limited availability of temporal, quantitative and descriptive (TEK) subsistence harvest information in the face of increased government effort to encourage energy resource exploration within the community’s subsistence use area, also are voiced as community concerns.

In light of environmental uncertainties, community concerns, and potentially increasing industrial activity within the community subsistence use area, it is recommended that efforts be made to implement a longitudinal community subsistence fishery harvest assessment project, to update local ethnographic (descriptive) information on the fishery, and to significantly improve area fish stock management information. Ideally recommended projects would build on local project participation capacity developed in the course of this study and thus allow for increased local participation in local fish studies, stock management and planning efforts.

Citation: Pedersen, S. and A. Linn, Jr. 2005. North Slope (Kaktovik) subsistence fish harvest assessment. U. S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program, Final Report (Study No. 01-101). Alaska Department of Fish and Game, Division of Subsistence, Fairbanks, Alaska.