

A biological assessment of whitefish species harvested during the spring and fall in the Selawik River delta, Selawik National Wildlife Refuge, Alaska

Abstract: Whitefish (Family: Salmonidae, Subfamily: Coregoninae) are important food resources for residents of the Selawik River delta in northwest Alaska. Several species have been identified in the region but very little is known about their life histories. A biological sampling study was conducted during June and September 2003 to examine age and size distribution, maturity and spawning condition, the incidence of anadromy, and relative seasonal abundance of whitefish species found in the delta. Broad whitefish *Coregonus nasus*, humpback whitefish *C. pidschian*, and least cisco *C. sardinella* were abundant throughout the delta, and inconnu (sheefish) *Stenodus leucichthys* were present but relatively rare. More than 70% of the whitefish of all three major species were mature and most were actively feeding. Few juvenile fish were captured despite the use of suitable fishing gear. Age distributions were well beyond minimum age of maturity, indicating that recent harvest levels have not been excessive. A large proportion of mature broad whitefish and humpback whitefish, and all mature least cisco were coming into spawning condition during the September sampling period. Otolith microchemical procedures indicated that most broad whitefish and humpback whitefish were anadromous, while most least cisco were freshwater residents. Fish were more abundant in June than in September, but fish were in better physical condition during September. These data indicate that the Selawik River delta serves as a feeding area for these fish populations, and suggest that they spawn and rear elsewhere.

Citation: Brown, R. J. 2004. A biological assessment of whitefish species harvested during the spring and fall in the Selawik River delta, Selawik National Wildlife Refuge, Alaska. U. S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program, Final Report (Study No. 03-016). U. S. Fish and Wildlife Service, Alaska Fisheries Technical Report Number 77, Fairbanks, Alaska.