

Age, Sex and Length Composition of Chinook salmon from the 2003 Kuskokwim River Subsistence Fishery

Abstract: Age, sex, and length (ASL) data were collected from Chinook salmon harvested during the 2003 Kuskokwim River subsistence fishery to characterize the composition of harvest from the lower, middle, and upper river reporting areas. Data collections were coordinated by the Alaska Department of Fish and Game (ADF&G), Orutsararmiut Native Council (ONC), Kuskokwim Native Association (KNA), and McGrath Native Village Council (MNVC). Thirty-six subsistence fishers, from seven communities, collected most of the samples. The information for each Chinook salmon included scales used for age determination, length, sex, date and location of capture, and gear type used for capture. A total of 2,360 Chinook salmon were sampled in 2003 (1,974 lower Kuskokwim River, 269 middle Kuskokwim River, and 117 upper Kuskokwim River samples), which is an increase over the 1,170 fish sampled in 2001 and similar to the 2,228 fish sampled in 2002. Ages were determined for 2,035 of the fish (86%) in 2003. Samples were collected from a variety of gear types and gillnet mesh sizes, but most fish were caught in gillnets with a mesh size 8 inches or larger (i.e., large mesh gear). Age-1.2 male Chinook salmon accounted for 6.4% of the 2003 subsistence harvest, which was less than the 22.7% average from escapement projects. Conversely, older aged Chinook salmon (age 1.4 and 1.5) accounted for 48.8% of the subsistence harvest, compared to an average of 35.5% at escapement projects. Female Chinook salmon comprised 37.6% of the harvest, which was slightly higher than the 31.5% average from escapement projects. This was the first year of the project that age 1.3-Chinook salmon was the most abundant in the subsistence harvest (44.2%). Findings from 2003 provide the second complete year of baseline data available to assess changes in the ASL composition in response to the subsistence fishing schedule, which was instituted as a management tool in 2001 after Kuskokwim River Chinook salmon were identified as a stock of concern by the Alaska Board of Fisheries. As in 2002, preliminary comparison between samples collected in the lower and middle river shows comparable percentages of older age fish (49.1% and 50.6%) and females (38.2% and 35.1%). The relative age and sex composition of the subsistence harvest with large mesh gear was uniform over time in the lower river; however, in the middle river, the percentage of older age fish and females decrease as the season progressed. The subsistence sampling program should be continued in the current design in order to allow for replicate sampling with increased sample sizes to verify the preliminary patterns described above. Furthermore, assessment of the influence of the subsistence fishing schedule requires collecting comparable data sets when the subsistence fishing schedule is not invoked. Finally, the numbers of samples collected from the middle and upper river, and the number of participants from those areas, should both be increased in order to better represent the subsistence harvest from those reporting areas.

Citation: DuBois, L., D. Molyneaux, G. Roczicka, W. Morgan, and T. Williams. 2004. Age, Sex and Length Composition of Chinook salmon from the 2003 Kuskokwim River Subsistence Fishery. U. S. Fish and Wildlife Service, Office Of Subsistence, Fisheries Resource Monitoring Program, 2003 Annual Report (Study No. 01-132). Alaska Department of Fish & Game, Commercial Fisheries Division, Artic-Yukon-Kuskokwim Region, Regional Information Report No. 3A04-13, Anchorage, Alaska.