Strategic Plan for Research of Whitefish Species in the Yukon and Kuskokwim River Drainages in Alaska; Summary and Recommendations

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Abstract

This planning document was developed to guide research activities with whitefish species in the Yukon and Kuskokwim River drainages during the next 10 to 20 years. Whitefish species in these two large drainages are subject to intensive subsistence fisheries everywhere they occur, commercial fisheries in certain places, and limited sport fisheries. Information about whitefish biology comes primarily from studies of the same or similar species in other places, although some biological studies have taken place locally. Whitefish fisheries in the Yukon and Kuskokwim River drainages in Alaska have been documented in numerous anthropological and social science publications and in subsistence harvest surveys, but usually without species distinctions. Scientific sampling work since the 1960s has been reasonably effective at describing species that are present and their distributions within the two drainages, but documentation of populations, migrations, and demographic distribution among habitats is more recent and incomplete. Major spawning migrations into upstream reaches of the drainage are now known to occur each summer and fall. Juvenile and non-spawning fish are most common in the lower reaches of both rivers and the coastal areas, while mature and spawning fish are most common in the upper reaches. A small number of whitefish spawning areas have been identified in gravel substrate reaches of main stem and tributary rivers in both turbid and clear water. Genetics work with whitefish species has focused more on taxonomy and biogeography issues than management applications. With two exceptions in the entire Yukon and Kuskokwim River drainages, population abundance data is absent. The ability of management agencies to protect essential habitats for whitefish populations is growing with the improved understanding of spawning destinations, migrations, and life histories. By contrast, the ability of fisheries biologists and managers to monitor whitefish population trends and to make effective harvest regulations is very limited. The goal of this planning document is to improve understanding of whitefish populations such that they can be managed for long-term sustainability. To that end, this preliminary strategic plan provides guidelines for whitefish research so the most critical issues are addressed in a systematic way using appropriate methodologies. A more complete review of whitefish fisheries, biology, management, geography, development, climate change, and other related issues will be available in spring 2011.