

**2022**

**DRAFT KUSKOKWIM REGION**

- Impacts of climate change in continued harvest and use of fish; and impacts of climate change on fish, for example fish migration, spawning, and life cycle.
- Knowledge of population, reproduction, and health of spawning habitat for declining Humpback Whitefish populations.
- Documentation of oral histories describing salmon harvest methods in the Kuskokwim River drainage, specifically the period before the development of the modern commercial fishery.
- ~~Documentation of local knowledge concerning how salmon subsistence harvest restrictions have affected people's uses of fish and other resources in the Kuskokwim River drainage.~~

(This Information Need was addressed in recent research by Alaska Department of Fish and Game's Division of Subsistence "*Patterns and Trends of Subsistence Salmon Harvest and use in the Kuskokwim River Drainage, 1990–2016.*" We suggest removing it from the list.)

- Reliable quantitative and/or qualitative estimates of salmon run size, escapement, and harvest in the Kuskokwim River drainage including Kuskokwim Bay tributaries.
- Explore new and cost effective methods for conducting in-season salmon run and harvest assessments in the Kuskokwim River drainage, with an emphasis on community-based monitoring.
- Estimates of "quality of escapement" measures to help inform salmon stock assessments, for example potential egg deposition, age, sex, and size composition of spawners; and advancing genetic baselines.
- Improved Kuskokwim River drainage-wide and sub-stock specific salmon run size and timing forecasts.
- Distribution, abundance, condition, and survival of juvenile and out-migrating salmon in the Kuskokwim River drainage.
- Traditional ecological knowledge of fishes.
- Information sharing between stakeholders and agencies concerning salmon conservation in the Kuskokwim River drainage, for example outreach to villages using the media and other methods.

*Fisheries Resource Monitoring Program—Priority Information Needs*

- ~~A spatially robust indexing method for estimating species-specific whitefish harvests on an annual basis and/or geographic distribution and abundance of whitefish species.~~

(This Information Need was in the Kuskokwim and Yukon River Drainages Whitefish Strategic Plan and it was a goal of Alaska Department of Fish Game's Division of Subsistence, but no longer is. We suggest removing it from the list.)

- ~~Traditional ecological knowledge of whitefish species. Groups of communities might include Kalskag, Lower Kalskag, Aniak, and Chuathbaluk, or Red Devil, Sleetmute, and Stony River.~~

(This Information Need was also in the Kuskokwim and Yukon River Drainages Whitefish Strategic Plan. Anthropologist Dr. Ann Fienup Riordan and Calista Elders Council have received funding through the National Science Foundation to do this research with upper Kuskokwim residents. We suggest removing it from the list).

- The meaning and significance of sharing, barter, and/or customary trade of subsistence foods in the context of the social, cultural, and economic life of people in the lower Kuskokwim drainage.
- Effects of environmental stressors, such as heat stress, on salmon mortality during adult upriver migration and/or pre-spawn mortality within spawning tributaries.
- Effects of Ichthyophonous infection on Chinook and Chum Salmon mortality and spawning success.
- Assessment of incidental Chinook Salmon mortality with gillnets, with particular consideration for delayed mortality from entanglement or direct mortality from drop-outs (for example, loss of Chinook Salmon from 6-inch mesh nets).
- ~~Reliable in-season estimates of salmon harvested in subsistence fishery.~~

(We combined this Information Need with one above.)

- Collect baseline information on the resident fish community to better understand potential impacts and to assess impacts of proposed development projects.

**2020**

**KUSKOKWIM REGION**

The 2020 Notice of Funding Opportunity identified the following priority information needs in the Kuskokwim Region:

- Documentation of oral histories describing salmon harvest methods in the Kuskokwim River drainage, specifically the period before the development of the modern commercial fishery.
- Documentation of local knowledge concerning how salmon subsistence harvest restrictions have affected people's uses of fish and other resources in the Kuskokwim River drainage.
- Reliable quantitative and/or qualitative estimates of salmon run size, escapement, and harvest in the Kuskokwim River drainage including Kuskokwim Bay tributaries.
- Estimates of "quality of escapement" measures to help inform salmon stock assessments, for example potential egg deposition, age, sex, and size composition of spawners, advancing genetic baselines.
- New methods for conducting in-season salmon run assessments in the Kuskokwim River drainage, for example community-based harvest monitoring, sonar, and village test fisheries
- Improved Kuskokwim River drainage-wide and sub-stock specific salmon run size and timing forecasts.
- Distribution, abundance, condition, and survival of juvenile and out-migrating salmon in the Kuskokwim River drainage.
- Improved methods to estimate Chinook Salmon sub-stock specific run abundance, run timing, and harvest in the Kuskokwim River drainage.
- Traditional ecological knowledge of salmon.
- Information sharing between stakeholders and agencies concerning salmon conservation in the Kuskokwim River drainage, for example outreach to villages using the media and other methods.
- A spatially robust indexing method for estimating species-specific whitefish harvests on an annual basis and/or geographic distribution and abundance of whitefish species.
- Traditional ecological knowledge of whitefish species. Groups of communities might include Kalskag, Lower Kalskag, Aniak, and Chuathbaluk, or Red Devil, Sleetmute, and Stony River.
- The meaning and significance of sharing, barter, and/or customary trade of subsistence foods in the context of the social, cultural, and economic life of people in the lower Kuskokwim drainage.

**2018**

**KUSKOKWIM REGION**

The 2018 Notice of Funding Opportunity identified the following priority information needs in the Kuskokwim Region:

- Reliable quantitative and/or qualitative estimates of salmon escapements and/or harvests.
- Methods for including “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat utilization) in establishing Chinook Salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements.
- Estimate the size and future growth of the sport fishery and impacts of the sport fishery on cultural values and social systems.
- An understanding of the meaning and significance of sharing in the context of the social, cultural, and economic life of people in the lower Kuskokwim Area.
- Traditional ecological knowledge or other knowledge of whitefish in the Kuskokwim River drainage, especially in lower and middle Kuskokwim communities. Groups of communities might include Kwethluk, Akiachak, and Tuluksak, or Kalskag, Lower Kalskag, Aniak, and Chuathbaluk, or Red Devil, Sleetmute, and Stony River.
- A spatially robust indexing method for estimating species-specific whitefish harvests on an annual basis for the Kuskokwim drainage.
- Origin of Chinook Salmon harvested for subsistence in marine waters of Etolin Strait.