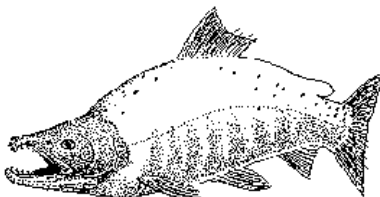

PRIORITY INFORMATION NEEDS

FEDERAL SUBSISTENCE FISHERIES



2022 Fisheries Resource Monitoring Program

Office of Subsistence Management
U.S. Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

1-800-478-1456 or 907-786-3888 Voice
907-786-3612 Fax

The Office of Subsistence Management (OSM) invites the submission of proposals for fisheries study plans and research designs to be initiated under the 2022 Fisheries Resource Monitoring Program (Monitoring Program). Funding may be requested for projects of up to four years in duration. The **Notice of Funding Opportunity** is accessible at the Monitoring Program webpage at <https://www.doi.gov/subsistence/frmp/funding> or by visiting [GrantSolutions.gov](https://www.grantsolutions.gov) or [Grants.gov](https://www.grants.gov) and searching for CFDA (Catalog of Federal Domestic Assistance) Program **15.636 Alaska Subsistence Management**.

Although all proposals addressing subsistence fisheries on Federal public lands may be considered, the 2022 Notice of Funding Opportunity is focused on priority information needs identified for each Monitoring Program region. The Monitoring Program is administered in six regions: Northern Alaska, Yukon, Kuskokwim, Southwest Alaska, Southcentral Alaska, and Southeast Alaska. In 2005, strategic plans developed by workgroups of Federal and State fisheries managers, researchers, Regional Advisory Council members, and other stakeholders were completed for four of the six regions, [Southeast, Southcentral \(excluding Cook Inlet Area\), and Southwest Alaska, and for Yukon and Kuskokwim whitefish](#) (accessible at the Monitoring Program webpage). An independent strategic plan was completed for Kuskokwim Region salmon in 2006, the [Kuskokwim Area Salmon Research Plan](#), accessible at the Alaska-Yukon-Kuskokwim Sustainable Salmon Initiative website at Aykssi.org.

This document summarizes priority information needs for 2022 for all six regions and a multi-regional category that addresses priorities that extend over two or more regions. Investigators preparing proposals for the 2022 Monitoring Program should use this document, relevant strategic plans, and the Notice of Funding Opportunity, which provides foundational information about the Monitoring Program, to guide proposal development. While Monitoring Program project selections may not be limited to priority information needs identified in this document, proposals addressing other information needs must include compelling justification with respect to strategic importance.

Monitoring Program funding is not intended to duplicate existing programs. Agencies are discouraged from shifting existing projects to the Monitoring Program. When a long-term project can no longer be funded solely by an agency, and the project provides direct information for Federal subsistence fisheries management, a request to the Monitoring Program of up to 50% of the project cost is encouraged. For Monitoring Program projects for which additional years of funding is being requested, investigators should justify continuation by placing the proposed work in context with the ongoing work being accomplished.

Because cumulative effects of climate change may fundamentally affect the availability of subsistence fishery resources, as well as their uses, and how they are managed, investigators are encouraged to consider examining or discussing climate change effects as a component of their project. Investigators conducting stock status projects may be required to participate in a standardized air and water temperature monitoring program.

Projects with an interdisciplinary emphasis are encouraged. The Monitoring Program seeks to combine ethnographic, harvest monitoring, traditional ecological knowledge, and biological data to aid in

management. Investigators are encouraged to combine interdisciplinary methods to address information needs and to consider the cultural context of these information needs.

Collaboration and cooperation with rural communities is encouraged at all stages of research planning and implementation of projects that directly affect those communities. The Notice of Funding Opportunity describes the collaborative process in community-based research and in building partnerships with rural communities.

To be considered for funding under the Monitoring Program, a proposed project must have a linkage to Federal subsistence fishery management. This means that a proposed project must have a direct association to a Federal subsistence fishery, and that either the subsistence fishery or fish stocks in question must occur in or pass through waters within and adjacent to Federal public lands in Alaska.

PRIORITY INFORMATION NEEDS BY REGION

Northern Alaska Region

The Monitoring Plan for the Northern Alaska Region is directed at information needs identified by the three northern Regional Advisory Councils (Seward Peninsula, Northwest Arctic, and North Slope). For the Northern Alaska Region, the 2022 Notice of Funding Opportunity is focused on the following priority information needs:

- Chinook, Chum and Coho Salmon abundance estimate for Boston, Fish, Pargon and Wagon Wheel Rivers.
- Summer and Fall Chum Salmon abundance estimates for the Agiapuk River drainage including American River and Igloo Creek.
- Chinook Salmon abundance estimate for the Unalakleet River.
- Chinook, Chum and Coho abundance estimate for the Pikmiktalik River.
- Changes in Grayling, Dolly Varden and Sheefish populations related to Climate Change.
- Inventory and baseline data of fish assemblages in major rivers tied to subsistence use in Northwest Alaska. When possible, applicants are encouraged to include fisheries proximal to the communities of Shishmaref, Buckland, Deering, Kivalina, Point Hope and villages along Kobuk and Noatak rivers.
- Changes in species compositions, abundance, migration timing, especially of Dolly Varden, Lake Trout and whitefish species in the Northwest Arctic, to address changing availability of subsistence fishery resources.
- Evaluate changing salmon distribution, abundance, migration, and timing in river drainages of Kotzebue Sound (the Noatak and Kobuk River Drainages).

- Identifying spawning areas, critical habitat and range expansion in major rivers tied to subsistence for Broad Whitefish, Least Cisco, Northern Pike, salmon, Grayling, Dolly Varden and Sheefish in the Northwest Alaska Region.
- Evaluate changes in water temperature in major river systems associated with subsistence fishery resources in the Northwest Arctic Region and how these changes will effect subsistence resources.
- The effects of expanding beaver populations and range on subsistence fisheries in the Northwest Arctic Region. Include effects of dams on fish migration and effects of changes to water quality on fish health.
- Using traditional ecological knowledge and harvest monitoring, document new fish species and changes in abundance, size, timing, and distribution of existing fish species, and impacts of new or expanding species on other fish that are important to subsistence in the North Slope Region.
- Document and investigate the possible causes of mold, disease, and discoloration on Broad Whitefish in the Colville River. Investigators are encouraged to draw on both stock status and trends and traditional ecological knowledge research methods.
- Effects of climate change, including late freeze-up on subsistence access, practices, and fish preservation, and the impact of these changes on continuity of traditions and food security for communities on the North Slope. Studies including Ikpikpuk River are of particular interest.
- Monitoring and documentation of changing subsistence fish harvest and consumption, as well as subsistence user concerns, in the community of Nuiqsut.
- Baseline fish habitat and water quality monitoring (especially temperature, dissolved oxygen, and silt) on the rivers and tributaries important to subsistence fishing for communities of the North Slope Region. Investigators are encouraged to include overwintering areas.

Yukon Region

The Monitoring Plan for the Yukon Region is directed at information needs identified by the three Yukon Regional Advisory Councils (Yukon-Kuskokwim Delta, Western Interior Alaska, and Eastern Interior Alaska). For the Yukon Region, the 2022 Notice of Funding Opportunity is focused on the following priority information needs:

- Impacts of climate change in continued harvest and use of fish; and impacts of climate change on fish, for example, impacts to fish migration, spawning, and life cycle.
- 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 Ichthyophonus infection on Chinook Salmon mortality and spawning success.
- Knowledge of population, reproduction, and health of spawning habitat for Bering Cisco and Humpback Whitefish.
- Reliable estimates of Chinook, Summer Chum, Fall Chum, and Coho Salmon escapements and/or harvests, particularly sub-stocks in District 5 that are large contributors to the total run, for example in the Chandalar and Sheenjek Rivers.
- Distribution, abundance, condition, and survival of juvenile and out-migrating salmon in the Yukon River drainage.
- Estimates of “quality of escapement” measures for Chinook Salmon, for example, potential egg deposition, age, sex, and size composition of spawners, percentage of females, percentage of jacks, and spawning habitat utilization, with an emphasis on Canadian-origin stocks.
- Reliable in-season estimates of salmon harvests in the lower, middle, and upper Yukon River subsistence fisheries.
- Reliable estimates of age-sex-length and genetic composition of salmon harvested in the subsistence fishery, with emphasis on Chinook and Fall Chum Salmon.
- In-season estimates of genetic stock composition of Chinook, Summer Chum, and Fall Chum Salmon runs and harvests.
- Reliable methods of forecasting Chinook, Summer Chum, Fall Chum, and Coho Salmon run abundance.
- Assessment of incidental mortality with gillnets, dip nets, and seines, with particular consideration for delayed mortality from entanglement from drop-outs and live release of Chinook Salmon (for example, loss of Chinook Salmon from 6-inch mesh nets during Chum Salmon fisheries and the live release of Chinook Salmon from dip nets and seines).
- Traditional ecological knowledge of fishes.

Kuskokwim Region

The Monitoring Plan for the Kuskokwim Region is directed at information needs identified by the two Kuskokwim Regional Advisory Councils (Yukon-Kuskokwim Delta and Western Interior Alaska). For the Kuskokwim Region, the 2022 Notice of Funding Opportunity is focused on the following priority information needs:

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

Southwest Alaska Region

The Monitoring Plan for the Southwest Alaska Region is directed at information needs identified by the two Southwest Regional Advisory Councils (Bristol Bay and Kodiak/Aleutians). For the Southwest Alaska Region, the 2022 Notice of Funding Opportunity is focused on the following priority information needs:

- Reliable estimates of escapement, quality of escapement, and environmental impacts addressing Chinook and Sockeye salmon stock declines in the Chignik River area and associated impacts to subsistence harvest opportunities.
- Reliable estimates of Chinook Salmon escapement and evaluation of quality of escapement in Alagnak River, Big Creek, Meshik River, Naknek River, and Togiak River, including egg deposition, sex and size composition of spawners, and spawning habitat quality and utilization for determining the reproductive potential of spawning stocks.
- Using scale analyses of fresh and saltwater growth patterns over multiple years, examine how recent changes in the Gulf of Alaska affect growth and survival of Sockeye Salmon within their range and habitats of the Kodiak/Aleutian drainages (Buskin and McClees drainages) and/or the Bristol Bay/Alaska Peninsula drainages (Chignik, Nushagak, Naknek, and Togiak drainages). The Chignik drainage is of particular concern.
- Reliable estimates of subsistence harvest and uses. Of particular interest are harvest trends in the Bristol Bay communities of Manokotak and Nondalton, the Chignik area, and the Kodiak area communities of Ouzinkie, the settlement Aleneva on Afognak Island, and Port Lions, and the Aleutians and Alaska Peninsula area communities of Adak, Akutan, Atka, False Pass, Nelson Lagoon, Nikolski, St. Paul, and St. George.
- Abundance and assessment of critical subsistence salmon stocks in priority areas such as the Buskin River.

Southcentral Alaska Region

The Monitoring Plan for the Southcentral Alaska Region is directed at information needs identified by the Southcentral Alaska Regional Advisory Council. For the Southcentral Alaska Region, the 2022 Notice of Funding Opportunity is focused on the following priority information needs:

- Reliable estimates of abundance, run timing, spawning site fidelity, timing, and age, sex, and length composition for Chinook Salmon that stage or spawn in waters of Kenai Peninsula drainages under Federal subsistence fishery jurisdiction.
- Reliable estimates of Chinook, Coho, and Sockeye salmon escapements (for example projects utilizing weir, sonar, and/or mark-recapture methods) into the Copper River drainage and delta systems.

- Develop, test, and implement methodologies for monitoring escapement and/or mortality of Sockeye Salmon in the Copper River drainage and delta systems, including assessment of predation (for example by seals, bears, and eels/lampreys).
- In-season estimates of salmon harvest in the Copper River drainage through a harvest reporting/collection system.
- Estimates of Copper River Sockeye Salmon smolt out migration and ocean survival.

Southeast Alaska Region

The Monitoring Program for the Southeast Alaska Region is directed at information needs identified by the Southeast Alaska Regional Advisory Council. For the Southeast Alaska Region, the 2022 Notice of Funding Opportunity is focused on the following priority information needs:

- Reliable estimates of Sockeye Salmon escapement and in-season harvest and estimates of stream discharge in the following systems: Kanalku, Klawock, Hetta, Falls Lake, Sarkar, Kook, Neva, Karta, Hatchery, Eek, Kah Sheets, Klag, Gut, Kutlaku, Salmon Bay, Sitkoh, Hoktaheen, Alecks Creek, Lake Eva and Lake Leo.
- Escapement indexes for Eulachon at the Unuk River and Yakutat Forelands.
- Population assessment for Eulachon for northern Southeast Alaska.
- Traditional ecological knowledge of how each community distributes harvest between Sockeye Salmon systems available to them.
- Reliable estimates of salmon populations and harvests in the sport and subsistence fisheries at Kah Sheets and Alecks Creek.
- Ethnographic study of the Yakutat subsistence salmon fishery.
- Reliable estimates of subsistence Sockeye Salmon harvest in the Klawock River drainage.
- Develop escapement goals for Sockeye Salmon systems with long term escapement data sets.
- Update community household fish harvest surveys.

Multi-Regional

The Multi-regional category is for projects that are applicable in more than one region. For the Multi-Regional category, the 2022 Notice of Funding Opportunity is focused on the following priority information need:

- Impacts of climate change on salmon and the environment.