FISHERIES RESOURCE MONITORING PROGRAM
YUKON REGION OVERVIEW

Since the inception of the Fisheries Resource Monitoring Program (Monitoring Program) in 2000, a total of 131 projects have been funded in the Yukon Region at a cost of $26.5 million (**Figure 1**). The U.S. Department of the Interior agencies have had the most projects funded in the region, followed by the State of Alaska, other organizations, and Alaska rural organizations (**Figure 2**). See **Appendix 1** for more information on Yukon Region projects completed since 2000 and a list of all organizations that have received funding through the Monitoring Program.

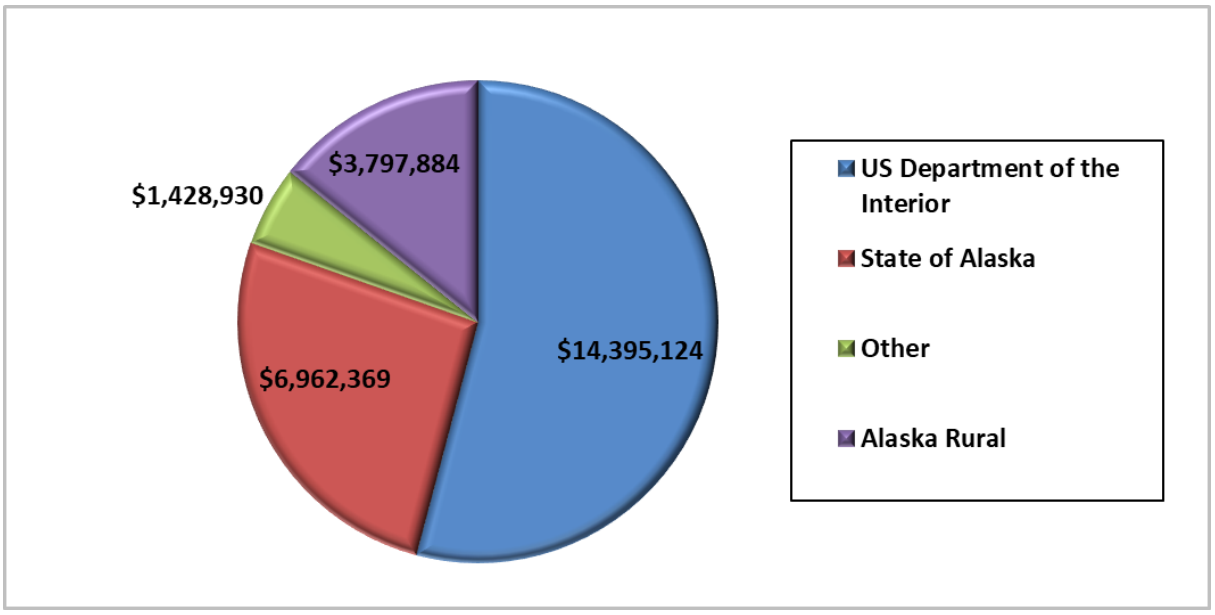

Figure 1. Monitoring Program fund distribution since 2000 in the Yukon Region.

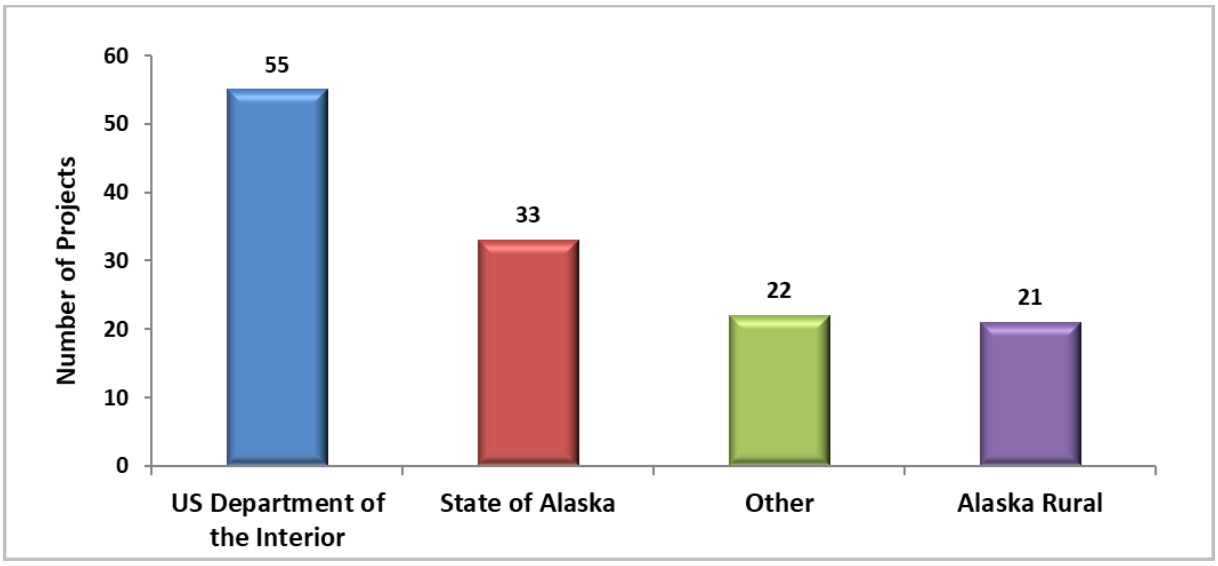

Figure 2. Number of Monitoring Program projects funded since 2000 in the Yukon Region.

PRIORITY INFORMATION NEEDS

The 2026 Notice of Funding Opportunity for the Yukon Region contained the following 14 priority information needs developed by the Yukon-Kuskokwim Delta, Western Interior, and Eastern Interior Regional Advisory Councils:

- Impacts of climate change on harvest and use of fish; and impacts of climate change on fish, for example, impacts to fish migration, spawning, and life cycle.

- Knowledge of population, reproduction, and health of spawning habitat for Bering Cisco and Humpback Whitefish.

- Estimates of Chinook, summer Chum, fall Chum, and Coho salmon escapements and/or harvests with an emphasis on discrete stocks for Chum Salmon.

- Distribution, abundance, condition, and survival of juvenile and out-migrating salmon in the Yukon River drainage.

- Increase understanding of the abundance, distribution, migration patterns, and spawning locations of Chinook and Chum salmon in the Innoko River.

- Non-lethal estimates of "quality of escapement" for Chinook Salmon, for example, potential egg deposition, age, sex, and size composition of spawners, weight and girth of spawners, percentage of females, percentage of jacks, and spawning habitat usage, with an emphasis on Canadian-origin stocks.

- Community-based monitoring of salmon and resident species' presence, abundance, life history patterns, harvests, genetics and age-sex-length composition, incidental and delayed mortality from entanglements and drop-outs, habitat restoration needs, and/or environmental variables in tributaries to better understand fish and keep users engaged during years of limited fishing opportunities.

- In-season estimates of genetic stock composition of Chinook, summer Chum, and fall Chum salmon runs.

- Traditional ecological knowledge of fishes, for example, to identify salmon spawning and/or rearing locations and expand the Anadromous Waters Catalog.

- Advance genetic baselines for Chinook, summer Chum, fall Chum, and Coho salmon by screening additional populations and novel genetic markers to improve the accuracy, precision, and scale of stock composition estimates to inform stock assessment for Yukon River fisheries at the tributary level.

- Funding to facilitate interagency, Tribal, and stakeholder forums for gathering and sharing input on fishery management issues, including cross-jurisdictional and co-management of salmon.

- Seasonal salmon life-stage usage of tidal tributaries draining the Yukon Coastal District through an interdisciplinary approach documenting traditional ecological knowledge and biological surveys in order to update the Anadromous Waters Catalog and improve management's understanding of salmon in these streams.

- Meta-analysis of existing information and research examining the relative importance of freshwater (e.g., predation, stranding, heat stress, reduction in marine-derived nutrients) and marine (e.g., environmental conditions, bycatch, interception, migration routes, hatchery production and competition) factors in causing declines of Yukon River Chinook and Chum salmon and/or resident species to present at relevant Regional Advisory Council meetings.

- Effects of inriver predation on salmon as they migrate upriver.

2026 MONITORING PLAN DEVELOPMENT FOR THE YUKON REGION

For the 2026 Monitoring Plan, five proposals were submitted for the Yukon Region (**Table 1**).

Table 1. Projects submitted for the Yukon Region, 2026 Monitoring Plan, including project duration in years and total funds requested.

Project Number	Title	Project Duration (Years)	Total Project Request
26-200	Chena River Chinook and Summer Chum salmon enumeration	4	$467,664
26-201	Application of mixed-stock analysis for Yukon River Chum Salmon	4	$319,288
26-202	Feasibility of Sonar Estimation of Adult Salmon Passage in the Middle Yukon River Near Ruby Alaska	3	$690,310
26-250	Traditional Ecological Knowledge and Life Histories of Salmon in Tributaries of the Yukon Coastal District	3	$341,477
26-252	In-season Yukon River Subsistence Salmon Survey Program	4	$377,385
Total			**$2,196,104**

EXECUTIVE SUMMARIES AND TECHNICAL REVIEW COMMITTEE JUSTIFICATIONS

The following executive summaries were written by the principal investigators and submitted to the Office of Subsistence Management as part of a proposal package. It may not reflect the opinions of the Office of Subsistence Management or the Technical Review Committee. The executive summaries may have been altered for length.

Technical Review Committee justifications are a general description of the committee's assessment of proposals when examining them for strategic priority, technical and scientific merit, investigator ability and resources, partnership and capacity building, and cost/benefit. More in-depth reviews are provided to investigators following project selection.

Investigator Submitted Executive Summary:

Project Number:	26-200						
Title:	Chena River Chinook and Summer Chum salmon enumeration						
Geographic Region:	Yukon						
Data Types:	Stock Status and Trends						
Principal Investigator:	Allison Matter (ADF&G)						
Co-investigator:	None						
Project Request:	**2026:**	$113,958	**2027:**	$113,824	**2028:**	$118,715	**2029:** $121,167
Total Request:	$467,644						

Issue: The Yukon River is 1 of 12 indicator stocks chosen by ADF&G in the Chinook Salmon Stock Assessment and Research Plan (ADF&G Chinook Research Team 2013) as a stock for which additional information on stock productivity is desired. In addition, since 2000, the Yukon River Chinook salmon stock has been designated as a stock of yield concern by the Board of Fisheries (BOF) in Alaska. This determination was based on the inability, despite the use of specific management measures, to maintain expected yields, or harvestable surpluses, above the stock's escapement needs and the anticipated low future harvest levels. The current Amount Necessary for Subsistence (ANS) of Chinook salmon in the Alaskan Yukon River drainage was designated by the BOF in January 2013 to be 45,500–66,704 Chinook salmon. Since 2011, salmon harvests have been below the ANS except for 2019. Reported 2017–2021 harvest values ranged from 21,531 to 48,379 (Ransbury et al. 2022). In 2022 and 2023, subsistence fishing for Chinook salmon was closed for the entire run and preliminary harvest (incidental) estimates were 1,827 and 1,630, respectively (JTC 2023–2024).

The Tanana stock accounts for 19.3–24.3% of the Yukon Chinook salmon stocks, and on average from 2002–2004, the Chena River represented 22% of all Tanana River escapement (Eiler et al. 2014). For this reason, the Alaska Department of Fish & Game (ADF&G) have recognized the importance of enumerating the escapement of the Chena River to ensure sustainable lower Yukon and Tanana subsistence and sport fisheries. Moreover, the Chena River has an established escapement goal that managers use to ensure sustainability and the only way to assess whether the escapement goal was met is to enumerate the escapement. Escapements in the Chena River have been monitored annually since 1986 making it, along with the Salcha River, the longest continuous Chinook salmon escapement data set in the Yukon River drainage.

Objective: The objectives of this project will be to annually (FY2027-2030):

1. Estimate the total escapement of Chinook salmon in the Chena River using towercounting techniques such that the estimates will be within 15% of the true values 95% of the time and the potential for bias will be minimized; and,

2. Estimate age, sex, and length compositions of the escapement of Chinook salmon in the Chena River such that estimated proportions will be within 6 percentage points of the true proportions 95% of the time.

3. Estimate the total escapement of chum salmon in the Chena River using tower-counting techniques such that the estimates will be within 15% of the true values 95% of the time and the potential for bias will be minimized.

Methods: Five technicians will be assigned to enumerate the salmon escapement in the Salcha River. Each day will be divided into three 8.0-h shifts. Shift I begins at 0000 hour (midnight) and ends at 0759 hour; Shift II begins at 0800 hour and ends at 1559 hour; Shift III begins at 1600 hour and ends at 2359 hour. Salmon will be counted for 20 min every hour. The start time for all counts will be at the top of the hour.

Daily escapements of Chinook and chum salmon will be estimated by expansion of timed visual counts of fish as they pass over white fabric panels located on the river bottom, on the Salcha River approximately 1 km upriver of the Richardson Highway bridge (Figure 1). Personnel will stand on the deck of a scaffolding tower and count all salmon passing upstream and downstream for 20-min intervals every hour over the course of the run. Lights will be suspended over the panels to provide illumination during periods of low ambient light and will stay on for the duration of the Chinook salmon run. Counting will begin on or about 1 July and will continue until the end of the run as determined by 3 continuous days with no net upstream passage of Chinook salmon (typically around 5 August). The majority (>95%) of Chinook salmon spawning occurs upstream of this site and no harvest of salmon is allowed, making the final estimates representative of total escapement.

The numbers of upstream and downstream migrating Chinook and chum salmon and water clarity rating (Table 1) will be recorded on field forms at the end of each 20 min count. Only counts with a water clarity rating of 3 or higher will be used in the estimate of escapement. Counts with a rating of 4 or 5 will not be used to estimate escapement even if some Chinook or chum salmon are seen.

In addition to the tower counts, ASL composition of the salmon escapements (only SL for chum salmon) will be estimated by sampling carcasses of spawned-out carcasses at the end of the run. Ages will be determined from Chinook scale patterns as described by Mosher (1969). Four scales will be removed from the left side of the fish approximately 2 rows above the lateral line along a diagonal line downward from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (Welander 1940). If no scales are present in the preferred area due to decomposition, scales will be removed from the same area on the right side of the fish or, if necessary, from any location where there are any scales remaining other than along the lateral line. Sex will be determined from external characteristics when obvious, and from examination of gonads when sex is uncertain. Length will be measured from mid-eye to fork of the tail (MEF). Objective criteria for ASL compositions were established to maintain the integrity of the

spawner-recruit data used to set the BEGs. To estimate age compositions with the desired level of precision, a minimum of 416 Chinook salmon carcasses will be sampled for scales assuming a 15% data loss due to unreadable scales (Thompson 1987).

Partnerships and Capacity Development: ADF&G, Division of Sport Fish-Region III will employ 4 tech staff to assist with this project. These staff will gain valuable fisheries experience that can help develop individuals into future fisheries biologists.

This project has been operating annually since 1986. Data gets sent to stakeholders and interested parties daily in season. The area management biologist will provide project updates to the Regional Advisory Council as well as the local communities. He is actively seeking letters of support from RAC and local community members, but they were unavailable before the deadline. However, they will be submitted to OSM as soon as they become available.

Technical Review Committee Justification: The investigation plan requests four years of funding to estimate Chinook and Chum salmon escapement and escapement quality in the Chena River using counting-tower techniques. The project addresses a 2026 Priority Information Need for the Yukon Region and has important management applications. The proposed study is a continuation of a long-term monitoring project that is technically sound. The Alaska Department of Fish and Game possesses the necessary experience, personnel, and resources for project success. The project does not build any meaningful capacity and could be strengthened by adding partnerships. Project costs are justified and lower than many similar projects due to proximity near Fairbanks. No letters of support were received.

Investigator Submitted Executive Summary:

Project Number:	26-201			
Title:	Application of mixed-stock analysis for Yukon River chum salmon			
Geographic Region:	Yukon			
Data Types:	Stock Status and Trends			
Principal Investigator:	Blair Flannery (USFWS)			
Co-investigator:	John Wenberg (USFWS)			
Project Request:	**2026:** $79,822	**2027:** $79,822	**2028:** $79,822	**2029:** $79,822
Total Request:	$319,288			

Issue: This project relates to the following priority information need identified in the 2026 Office of Subsistence Management (OSM) Request for Proposals:

- *In-season estimates of genetic stock composition of Chinook, summer Chum, and fall Chum salmon runs*.

This proposal is a continuation of Fisheries Resource Monitoring Program (FRMP) projects 04-228, 06-205, 10-205, 14-207, and 20-201, which have provided in-season stock composition estimates of chum salmon to fishery managers within 24 to 48 hours of receiving samples from the Pilot Station sonar test fishery. The disparate strength of individual stocks within and among years makes it clear that in-season

stock return data assists management to meet escapement. It provides a real-time tool that allows for informed decisions on regulating fisheries to meet escapement and harvest allocations.

Objective: The goal is to provide fishery managers with data that will assist them in meeting escapement, passage, and harvest allocations to ensure that the fishery is managed in a sustainable and equitable manner. The following objective will be executed to achieve this goal.

1) Estimate the stock compositions of summer and fall chum salmon sampled from the Pilot Station test fishery each year (June 1 – September 7).

Methods: Genetic samples will be collected from every chum salmon caught in the Pilot Station sonar test fishery from June 1 – September 7, and sent to the CGL every week and at the conclusion of each run pulse. Samples will be stratified by time period or run pulse and a subsample of size 288, selected so that daily sample size is proportional to the daily sonar passage estimate within a stratum, will be genotyped for each stratum of the run. Stock composition will be estimated using Bayesian mixture modeling and reported to fishery managers as soon as practicable. Stock abundance estimates will be derived by combining the sonar passage estimates with the stock composition estimates.

Partnerships/Collaboration: We have worked with ADFG biologists to coordinate sample collection. We have contracted with the Association of Village Council Presidents (AVCP) to hire a local to collect the genetic samples. We completed the baseline in partnership with the DFOC. We have consulted, with ADFG, USFWS, and DFOC managers.

Technical Review Committee Justification: The investigation plan requests four years of funding to continue estimating in-season stock composition of Yukon River summer and fall Chum salmon. The Federal linkage is strong, and this project addresses a 2026 Priority Information Need for the Yukon Region. The data collected by this study are critical for informing in-season management of Chum Salmon and the project is technically sound. The investigators have the experience necessary to complete this project. A limited partnership with the Alaska Department of Fish and Game is described, but very little detail about consultations with communities or other agencies is provided. The project does not build any meaningful capacity but does propose to hire a local to lead sample collection. Project costs are reasonable for the proposed work and are lower than previous cycles. No letters of support were received.

Investigator Submitted Executive Summary:

Project Number:	26-202			
Title:	Feasibility of Sonar Estimation of Adult Salmon Passage in the Middle Yukon River Near Ruby Alaska			
Geographic Region:	Yukon			
Data Types:	Stock Status and Trends			
Principal Investigator:	Diloola Erickson (TCC)			
Co-investigator:	Nicole Farnham (TCC)			
Project Request:	**2026:** $228,241	**2027:** $230,085	**2028:** $231,984	**2029:** $0
Total Request:	$690,310			

Issue: Chinook and chum salmon returns to the Yukon River have declined since the late 1990s triggering harvest restrictions and closures causing severe hardships for subsistence dependent communities. The Chinook stock is classified as a stock of yield concern. A seven year agreement between the United States and Canada is currently in place to protect Chinook salmon from harvest. Currently two sonar sites at Pilot Station and Eagle are used to monitor boarder escapements however these sites are over 1000 river miles apart. Run size estimates between the Pilot Station and Eagle sonars have led to data discrepancies in some years then leading to late season management decisions and inequitable subsistence opportunities for upriver communities.

To address this critical data gap Tanana Chiefs Conference initiated the Middle Yukon River Sonar Feasibility Project. The goal is to establish a middle river sonar site to improve in season management and conservation outcomes for equitable access to salmon for Interior Alaska Tribes. The project will also enhance Tribal scientific capacity and provide essential data for co management of Yukon River fisheries.

Objectives:

1. Select a sonar site along the Middle Yukon River following feasibility assessments (2023-2025).
2. Install and operate sonar to enumerate daily and seasonal passage of Chinook and summer chum salmon (2026–2028).
3. Collect biological data from test fishing (species, sex, length).
4. Generate post-season estimates to eventually help support management decisions and link with Pilot Station and Eagle sonar data.
5. Provide detailed bottom profiles and monitor riverbed changes for optimal sonar deployment.
6. Build Tribal and local capacity for sonar operations and fisheries management.

Methods: Following site selection in 2025 sonar enumeration operations would begin in 2026. The project will deploy split beam and imaging sonars at the selected site. A standardized drift gillnetting program will be used to apportion sonar counts to species. Sonar will operate continuously during the Chinook and summer chum runs which are expected to occur from June 15 to July 31. The methodologies of this project will be modeled closely to both the Pilot Station and Eagle enumeration and species apportionment procedures.

Captured fish will be identified then measured and released. Sonar and test fishing data will be analyzed post season to produce daily passage estimates and seasonal escapement summaries. Weekly bottom profiling will ensure consistent detection capabilities.

Data will be reviewed by observers to reduce counting bias. Results will be used to assess run timing the species composition and eventually support in season management. All data will be archived and shared with Federal and State managers.

Partnerships/Capacity Building: TCC will lead the project with support from the U.S. Fish and Wildlife Service (equipment loan and technical input). Tribal Councils from Ruby, Galena, and Tanana are engaged in the planning process.

Seasonal technicians will be hired from local communities to operate sonar and conduct test fishing. These positions will provide employment, skills training, and build regional fisheries monitoring capacity. Involvement of Indigenous technicians and knowledge holders will foster co-management and ensure local perspectives are integrated into research and management decisions.

TCC will also share project results at annual Regional Advisory Council meetings and other public forums, promoting transparency and information-sharing across the Yukon River region.

Technical Review Committee Justification: The investigation plan requests three years of funding to develop a Middle Yukon River sonar to improve in-season management and ensure escapement goals are met. The project addresses 2026 Priority Information Needs for the Yukon Region, focusing on Chinook and summer Chum salmon stocks that are culturally significant and harvested by federally qualified subsistence users. While the project does not occur on federal public land, it has a clear connection to federal conservation units where these stocks migrate and spawn. The project aims to fill a critical data gap and provide salmon abundance estimates between the Pilot Station and Eagle sonar sites. The study plan is technically sound, but some methods require further development, including site selection and data analysis. The project's success is supported by the Tanana Chiefs Conference, though enhancing partnerships would strengthen the project. The budget is well-documented and appears reasonable for the proposed work. No letters of support were received.

Investigator Submitted Executive Summary:

Project Number:	26-250			
Title:	Traditional Ecological Knowledge and Life Histories of Salmon in Tributaries of the Yukon Coastal District			
Geographic Region:	Yukon			
Data Types:	Stock Status and Trends, Harvest Monitoring, Traditional Ecological Knowledge			
Principal Investigator:	Dr. Jesse Coleman (ADF&G)			
Co-investigator:	Nate Cathcart (ADF&G)			
Project Request:	**2026:** $0	**2027:** $124,484	**2028:** $169,988	**2029:** $47,005
Total Request:	$341,477			

Issue: Sustainable management of salmon fisheries requires accurate data about stock status and harvest. For several coastal systems located in the Yukon Delta National Wildlife Refuge, this information does not exist or is imprecise, outdated, or unsubstantiated. Managing these systems in season to conserve Chinook and chum salmon while providing opportunity for more abundant salmon species and nonsalmon fish species is not possible without accurate, up-to-date information about salmon life histories, run timing, and stock-of-origin. To address these information gaps, this study will combine biological

observations with traditional ecological knowledge and stream-specific harvest information for the Kun and Kashunuk rivers in the Coastal District of the Yukon Management Area.

Objectives:

1. Document traditional ecological knowledge held by Scammon Bay and Chevak residents about
    a. the life histories of salmon in the Kun and Kashunuk rivers, respectively; and
    b. the historical and contemporary uses of these river systems for subsistence fishing.
2. Document subsistence fish harvests and the locations of harvest in the Kun and Kashunuk rivers during the 2026 fishing season to build an understanding of patterns of harvest specific to these rivers, distinct from the total harvest within the Coastal District of the Yukon River.
3. Describe salmon life history patterns and stock-of-origin information for salmon species in the Kun and Kashunuk rivers. Specifically,
    a. identify salmon and life stages present, with a focus on identifying adult spawning salmon and distributions throughout both rivers of adult spawning and juvenile rearing;
    b. document run timing;
    c. through genetic sampling, determine if stocks identify with Yukon River or other major stocks;
    d. submit detailed nominations to the ADF&G Anadromous Waters Catalog for waterbodies supporting anadromous species, including seasonal efforts that document the fish assemblages present, including life stages of certain species;
    e. share results publicly through the online ADF&G Alaska Freshwater Fish Inventory mapper.

Methods: ADF&G researchers will work with the tribal councils in Chevak and Scammon Bay to identify local research assistants (LRAs) to help with traditional ecological knowledge interviews and household surveys. Semi-structured interviews will be conducted with long-time residents in Chevak and Scammon Bay who have a history of fishing in the Kun and Kashunuk rivers, respectively. In 2026–2027, researchers will administer a short salmon harvest survey to households who fished for subsistence in the Kun or Kashunuk rivers. The survey will document what species were harvested, the amounts, timing of harvest, gear types used, and location of harvest. These data will be the first attempt to quantify subsistence harvest information specific to these rivers. During interviews and surveys, maps of the Kun and Kashunuk rivers and nearby surrounding areas will be used as a visual reference. Fishing sites, observations of salmon and nonsalmon species, and other relevant information related to the topics of interest will be noted on the maps. Map data will later be digitized and formatted using ESRI ArcMap GIS software.

For biological data collection, ADF&G staff will also utilize the expertise of an LRA and local boat driver in each community. Staff and LRAs will reach sampling sites by boat and helicopter, conducting biological sampling throughout each drainage. Primary fish capture methods proposed to be used

throughout the duration of field work include active sampling with electrofishing in upper segments of the rivers and more passive sampling using gillnets in downstream reaches of each river. In each river, two 100′ gillnets with stretched mesh of 5.5″ (for chum and pink salmon) and 7″ (Chinook and chum salmon) will be fished perpendicular to streambanks and set overnight and checked each day throughout the duration of the project. Researchers will also seek to rent fishing nets from local fishers to increase the mesh selectivity. Fishers in this area tend to use 6″ or 7.5″ stretched mesh to catch salmon. Opportunistic sampling methods include minnow trapping, aerial observations, and angling. Minnow traps will be set opportunistically by boat or raft-electrofishing crews in habitats able to support juvenile salmon. Trapped juveniles will be visually identified, measured to fork length (mm), and will provide verification of rearing habitat. Aerial surveys will be performed opportunistically during helicopter travel to, from, and at raft-electrofishing sites with any observations georeferenced on a handheld GPS. If salmon are observed to be abundant, angling will be used as an alternative method of capture to reduce salmon mortality during sampling. Fish will be handled to minimize incidental mortality and will be released when alive. Direct and indirect genetic sampling will be performed and then analyzed by the ADF&G Gene Conservation Laboratory and Jonah Ventures in Boulder, CO. Captured fishes from any method will be identified, measured to fork length, photographed when necessary (such as to document identity for verification of species), and recorded. Sex will be recorded for adult salmon. Any remarkable or informative notes (e.g., sex, spawning condition, disease) for other species will be noted. In addition, researchers will collect 3 water samples from 6 locations in each river for environmental DNA (eDNA) analysis, which will provide evidence of potential presence or absence of various salmon species to be detected. All captured adult salmon will be tissue sampled via clipping the axillary process, which will be saved for genetic analysis, and which will help determine if they are a unique stock from other Yukon River salmon. For observations of anadromous fishes, staff will generate nominations for the AWC.

Partnerships/Capacity Building: One of the objectives of this project is to facilitate information sharing between local residents and fisheries management agencies. Residents will have the opportunity to share their knowledge of salmon in their local rivers with researchers, and project staff will share with the community what they learn through biological sampling. This two-way information exchange will help build a relationship between the community and managers to strengthen additional partnerships in the future.

Additionally, project staff will work with the tribal councils to hire LRAs, to select key respondents, and to facilitate community meetings. The LRAs will be trained in anthropological and biological sampling methods. This increases coordination between agencies, tribal entities, and community members: working together in data collection increases communication and leads to better understanding of local issues and local understanding of science and management issues.

Technical Review Committee Justification: The investigators propose to address critical management information gaps about salmon in the Kun and Kashunuk rivers in the Coastal District of the Yukon Management Area through an interdisciplinary approach, combining traditional ecological knowledge, harvest monitoring, and documentation of salmon life history patterns and stock-of-origin. This proposal would address four Priority Information Needs for the Yukon region. Federal nexus is clear: the project area is within the Yukon Delta National Wildlife Refuge. Objectives are clearly stated. The investigators

will collaborate with communities in the development of the semi-structured interview and survey protocols. Local Research Assistants will be involved in all aspects of the research. The proposal would be improved by inclusion of mapping methodology. Findings from the ethnographic portion of the research will inform the biological investigation. Because Chinook runs are low, the investigators may consider using selective gear to capture Chinook, rather than gillnets. Alternatively, eDNA may be sufficient. Investigators are qualified to do the work, and the budget and timeline are reasonable for the work being proposed. By gaining a better understanding of salmon stocks in coastal systems, Federal and State managers may be able to offer targeted fishing opportunities for more abundant fish species that help remove pressure from mainstem, Canadian-origin Chinook Salmon stocks and Chum Salmon.

Investigator Submitted Executive Summary:

Project Number:	26-252			
Title:	In-season Yukon River Subsistence Salmon Survey Program			
Geographic Region:	Yukon			
Data Types:	Harvest Monitoring, Traditional Ecological Knowledge			
Principal Investigator:	Grace Kirkey (YRDFA)			
Co-investigator:	Serena Alstrom (YRDFA)			
Project Request:	**2026:** $93,409	**2027:** $94,110	**2028:** $93,660	**2029:** $96,206
Total Request:	$377,385			

Issue: This project addresses the need for inclusive in-season management for Chinook salmon fisheries on the Yukon River and the need for updated surveying methods amidst the ongoing Chinook and chum salmon population collapse on the Yukon River, where in-season monitoring and surveying for both harvest data and traditional ecological knowledge is essential. Salmon are a critical resource for subsistence and commercial users in this region, which includes 14 Federal conservation units, and fisheries managers must have a means to gather input, assess harvests, and share information with stakeholders throughout the fishing season. This project also addresses the need expressed by community members of expanding traditional ecological indicators and knowledge into management and reporting during salmon harvest closures. Fishers report traditional ecological knowledge, fishery success, observations, and concerns to a locally hired surveyor weekly, during the Chinook salmon run in their community. This information is shared anonymously by village with state and federal managers in preparation for the weekly in-season management teleconference.

Objectives:

1. Hire 10 local surveyors in 10 Yukon River drainage villages to work in-season to conduct interviews on an annual basis;

2. Build capacity of local surveyors in 10 Yukon River villages to participate in in-season fisheries management;

3. Conduct annual reviews pre-season and post-season to evaluate survey program and design for next season to maximize effectiveness of program.

Methods: Methods for this project include communication, outreach, survey technology, data analysis, and annual evaluations. Participating communities are selected based on suggestions, needs, and goals of the managers as well as the interest of the communities. The interview methodology follows the National Academy of Science's Principles for Conduct of Research in the Arctic and will include informed consent for participants, to be conducted prior to the first interview. Privacy and confidentiality will be protected in the reporting. The in-season subsistence salmon survey methodology focuses on interviewing fishers weekly to collect qualitative information to provide managers with a real time assessment of the run and ecological indicators. In addition to collecting information from fishers, surveyors disseminate relevant information to fishers. For the data analysis, at the end of the season the PI will review all the survey forms and the compiled MS Excel spreadsheet and produce summary narrative reports.

Partnerships/Capacity Building: This project will build the capability and expertise of rural, locally hired surveyors by providing an opportunity to learn about Yukon River fisheries management, participate in local reporting and build their skills through focused annual trainings on communication with local fishers, river-wide fishers, and managers. Surveyors also attend the annual pre-season fisheries preparation meeting, increasing their fisheries knowledge and enhancing their ability to participate in the management of Federal subsistence fisheries. Surveyors will have an opportunity to interact with the Indigenous Sentinels Network at the pre-season fisheries preparation meeting. Partnerships will continue with the state and federal managers, village Tribal Councils, and individuals working as a part of the project.

Technical Review Committee Justification: The investigation plan requests four years of funding to conduct in-season surveys on Chinook Salmon harvest and harvest of other fish species, record local observations of ecological conditions, and document Traditional Ecological Knowledge that can inform fisheries management along the Yukon River. This project aims to support effective in-season monitoring and to maximize subsistence salmon opportunities for Yukon River communities. This is a long-term project led by the Yukon River Drainage Fisheries Association. The project has a well-established record of success, and the principal investigator and co-principal investigator are well equipped to lead the project. The methods are technically sound, and the project is structured around supporting strong partnerships between rural communities and State and Federal fisheries managers. The budget is reasonable and well-justified. Letters of support were received from the Alaska Department of Fish and Game and the Huslia Village Council.

APPENDIX 1
PROJECTS FUNDED IN THE YUKON REGION SINCE 2000

Project Number	Project Title	Investigators
	Salmon Projects	
00-003	Effects of *Ichthyophonus* on Chinook Salmon	UW
00-005	Tanana Upper Kantishna River Fish Wheel	NPS
00-018	Pilot Station Sonar Upgrade	ADF&G
00-022	Hooper Bay Test Fishing	ADF&G, NVHB
00-024	Pilot Station Sonar Technician Support	AVCP
00-025	Henshaw Creek Salmon Weir	USFWS
00-026	Circle and Eagle Salmon and Other Fish TEK	NVE
01-014	Yukon River Salmon Management Teleconferences	YRDFA
01-015	Yukon River Salmon TEK	YRDFA
01-018	Pilot Station Sonar Technician Support	AVCP
01-026	East Fork Andreafski River Salmon Weir	BSFA
01-029	Nulato River Salmon Weir	BSFA
01-032	Rampart Rapids Tagging Study	USFWS
01-038	Kateel River Salmon Weir	USFWS
01-048	Innoko River Drainage Weir Survey	USFWS
01-050	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
01-058	East Fork Andreafsky Weir Panel Replacement	USFWS
01-122	Lower Yukon River Salmon Drift Test Fishing	ADF&G, EMV
01-141	Holitna River Chinook, Chum and Coho Telemetry	ADF&G
01-177	Rampart Rapids Extension	USFWS
01-197	Rampart Rapids Summer CPUE Video	SZ
01-199	Tanana Fisheries Conservation Outreach	TTC
01-200	Effects of Ichthyophonus on Chinook Salmon	USGS
01-211	Upper Yukon, Porcupine, & Black River Salmon TEK	CATG
02-009	Pilot Station Sonar Technician Support	AVCP
02-011	Rampart Rapids Fall Chum Handling/mortality	USFWS
02-097	Kuskokwim & Yukon Rivers Sex-ratios of Juvenile & Adult Chinook	USFWS
02-121	Yukon River Chinook Salmon Genetics	USFWS, ADF&G, DFO
02-122	Yukon River Chinook & Chum Salmon In-season Subsistence	USFWS
03-009	Tozitna River Salmon Weir	BLM
03-013	Gisasa River Salmon Weir	USFWS
03-015	Phenotypic Characterization of Chinook Salmon Subsistence Harvests	YRDFA, USFWS
03-034	East Fork Andreafsky River Salmon Weir	USFWS
03-038	Yukon River Sub-district 5-A Test Fishwheel	BF
04-206	Tozitna River Salmon Weir	BLM

Project Number	Project Title	Investigators
04-208	East Fork Andreafsky River Salmon Weir	USFWS
04-209	Gisasa River Salmon Weir	USFWS
04-211	Henshaw Creek Salmon Weir	USFWS
04-217	Rampart Rapids Fall Chum Salmon Abundance	USFWS
04-228	Yukon River Chum Salmon Genetic Stock Identification	USFWS
04-229	Lower Yukon River Salmon Drift Test Fishing	ADF&G
04-231	Yukon River Chinook Salmon Telemetry	ADF&G
04-234	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
04-251	Fort Yukon Traditional Ecological Knowledge Camp	TCC, CATG, ADF&G
04-255	Yukon River Salmon Fishery Traditional Ecological Knowledge	NPS
04-256	Tanana Conservation Outreach	TTC, USFWS
04-263	Yukon River Salmon Management Teleconferences	YRDFA
04-265	Yukon River TEK of Customary Trade of Subsistence Fish	YRDFA
04-268	Hooper Bay Subsistence Monitoring	ADF&G, HBTC
05-203	Yukon River Coho Salmon Genetics	USFWS
05-208	Anvik River Salmon Sonar Enumeration	ADF&G
05-210	Tanana River Fall Chum Salmon Abundance	ADF&G
05-211	Henshaw Creek Salmon Weir	TCC, USFWS
05-254	Yukon River Salmon Inseason Subsistence Harvest Monitoring	USFWS
06-205	Yukon River Chum Salmon Mixed Stock Analysis	USFWS
07-202	East Fork Andreafsky River Salmon Weir	USFWS
07-204	Lower Yukon River Salmon Drift Test Fishing	ADF&G
07-207	Gisasa River Salmon Weir	USFWS
07-208	Tozitna River Salmon Weir	BLM
07-209	Yukon River Salmon Management Teleconferences	YRDFA
07-210	Validation of DNA Gender Test Chinook Salmon	USFWS
07-211	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
07-253	Yukon River Salmon Harvest Patterns	RWA, AC
08-200	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
08-201	Henshaw Creek Salmon Weir	TCC
08-202	Anvik River Chum Salmon Sonar Enumeration	ADF&G
08-253	Yukon River Teleconferences and Inseason Management	YRDFA
10-200	Yukon River Chinook Salmon Run Reconstruction	BUE
10-205	Yukon River Chum Salmon Mixed-stock Analysis	USFWS
10-206	Nulato River Salmon Assessment	TCC
10-207	Gisasa River Chinook and Summer Chum Salmon Assessment	USFWS
12-202	Henshaw Creek Abundance and run timing of adult salmon	TCC
12-204	Anvik River Sonar Project	ADF&G
12-205	Kaltag Chinook Salmon Sampling Project	KAL

Project Number	Project Title	Investigators
12-251	In-season Salmon Teleconferences and Interviews	YRDFA
14-201	Gisasa R Salmon Video	USFWS
14-202	E Fork Andreafsky Salmon	USFWS
14-203	Gisasa R Salmon	USFWS
14-206	Yukon R Coho Salmon	USFWS
14-207	Yukon R Chum Salmon	USFWS
14-208	Koyukuk R Chum Salmon	USFWS
14-209	Henshaw Crk Salmon	TCC
16-204	Henshaw Creek Abundance and run timing of adult salmon.	TCC
16-251	Seasonal habitats, migratory timing and spawning populations of mainstem Yukon River Burbot	ADF&G
16-255	Yukon River In-Season Community Surveyor Program	YRDFA, USFWS
16-256	In Season Salmon Management Teleconferences	YRDFA
18-201	East Fork Andreafsky River Chinook and summer Chum Salmon abundance and run timing, Yukon Deltan National Wildlife Refuge	USFWS
18-202	Gisasa River Chinook and summer Chum Salmon abundance and run timing assessment, Koyukuk National Wildlife Refuge, Alaska	USFWS
18-250	Documentation of salmon spawning and rearing in the Upper Tanana River Drainage	ADF&G
18-251	Traditional knowledge of anadromous fish in the Yukon Flats with a focus on the Draanjik Basin	TCC
18-252	Subsistence salmon networks in Yukon River communities	ADF&G
20-200	Yukon River Coho Salmon Radio Telemetry	ADF&G, USFWS
20-201	Application of mixed-stock analysis for Yukon River chum salmon	USFWS
20-204	Abundance and Run Timing of Adult Salmon in Henshaw Creek, Kanuti National Wildlife Refuge, Alaska	TCC
20-251	In-season Yukon River Subsistence Salmon Survey Program	YRDFA, USFWS
20-252	Customary Trade in the Lower and Middle Yukon River	ADF&G
20-256	Yukon River In-Season Salmon Management Teleconferences	YRDFA
22-201	East Fork Andreafsky River Chinook and summer Chum salmon abundance and run timing	USFWS
22-202	Gisasa River Chinook and summer Chum Salmon abundance and run timing assessment	USFWS, TCC
22-204	Western Alaska Coho Salmon Genetic Baseline Development	ADF&G
22-251	Presence and Use of Salmon in the Pastolik and Pastoliak Rivers	ADF&G
	Nonsalmon Fish Projects	
00-004	Humpback Whitefish/Beaver Interactions	USFWS, CATG
00-006	Traditional Ecological Knowledge Beaver/Whitefish Interactions	ADF&G, CATG
00-021	Dall River Northern Pike	ADF&G, SV
00-023	Upper Tanana River Humpback Whitefish	USFWS
01-003	Old John Lake TEK of Subsistence Harvests and Fish	ADF&G, AV, USFWS

Project Number	Project Title	Investigators
01-011	Arctic Village Freshwater Fish Subsistence Survey	ADF&G, AV, USFWS
01-100	Koyukuk Non-salmon Fish TEK and Subsistence Uses	ADF&G, TCC
01-140	Yukon Flats Northern Pike	ADF&G, SV
01-238	GASH Working Group	USFWS
02-006	Arctic Village Freshwater Fish Subsistence	ADF&G, NVV
02-037	Lower Yukon River Non-salmon Harvest Monitoring	ADF&G, TCC
02-084	Old John Lake Oral History and TEK of Subsistence	USFWS, AV, ADF&G
04-253	Upper Tanana Subsistence Fisheries Traditional Ecological Knowledge	USFWS, UAF, ADF&G
04-269	Kanuti NWR Whitefish TEK and Radio Telemetry	USFWS, RN
06-252	Yukon Flats Non-salmon Traditional Ecological Knowledge	ADF&G, BLM, USFWS, CATG
06-253	Middle Yukon River Non-salmon TEK and Harvest	ADF&G, LTC
07-206	Innoko River Inconnu Radio Telemetry	USFWS, ADF&G
08-206	Yukon and Kuskokwim Coregonid Strategic Plan	USFWS, ADF&G
08-250	Use of Subsistence Fish to Feed Sled Dogs	RN, AC
10-209	Yukon Delta Bering Cisco Mixed-stock Analysis	USFWS
10-250	Yukon Climate Change Impacts on Subsistence Fisheries	RN
12-200	Alatna River Inconnu Population Structure	USFWS
12-207	Yukon Bering Cisco Spawning Origins Telemetry	USFWS
14-252	Lower Yukon Whitefish	ADF&G
14-253	Upper Yukon Customary Trade	YRDFA
16-203	Bering Cisco Spawning Abundance in the Upper Yukon Flats, 2016–2017	ADF&G, USFWS
16-205	Burbot Population Assessments in lakes of the Upper Tanana and Upper Yukon River Drainages	NPS
20-202	Evaluating dart and telemetry tags in an effort to track run timing and migration patterns of Yukon River Arctic lamprey	USFWS, UAF, ADF&G
22-252	Combining Traditional Ecological Knowledge & Biological Sampling to Enhance Understanding of Humpback Whitefish and other Non-salmon Fishes in the Upper Koyukuk Region	ADF&G, TCC, USFWS

Abbreviations: AC = Alaskan Connections, ADF&G = Alaska Department of Fish and Game, AVCP = Association of Village Council Presidents, AV = Arctic Village, BF = Bill Fliris, BUE = Bue Consulting, BLM = Bureau of Land Management, BSFA = Bering Sea Fisherman's Association, CATG = Council of Athabascan Tribal Governments, COK = City of Kaltag, DFO = Department of Fisheries and Oceans, EMV = Emmonak Village Council, KAL = City of Kaltag, NPS = National Park Service, LTC = Louden Tribal Council, NVE = Native Village of Eagle, NVHB = Native Village of Hooper Bay, NVV = Native Village of Venetie, RN = Research North, RW = Robert Wolfe and Associations, SV = Stevens Village, SZ=Stan Zuray, TCC = Tanana Chiefs Conference, TTC = Tanana Tribal Council, UAF = University of Alaska Fairbanks, USFWS = U.S. Fish and Wildlife Service, USGS = U.S. Geological Survey, UW = University of Washington, and YRDFA = Yukon River Drainage Fisheries Association.