FISHERIES RESOURCE MONITORING PROGRAM
SOUTHWEST ALASKA REGION OVERVIEW

Since the inception of the Monitoring Program in 2000, a total of 65 projects have been funded in the Southwest Alaska Region at a cost of $13.8 million (**Figure 1**). The State of Alaska has had the most projects funded in the region, followed by the U.S. Department of the Interior, other organizations, and Alaska rural organizations (**Figure 2**). See **Appendix 1** for more information on Southwest Alaska Region projects completed since 2000 and a list of all organizations that have received funding through the Monitoring Program.

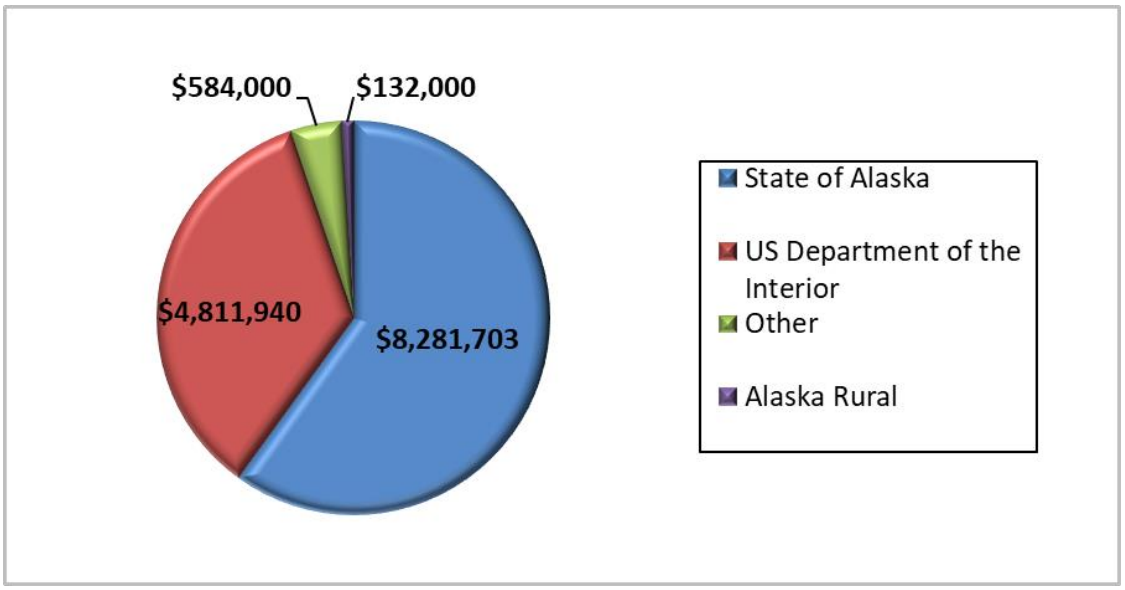

Figure 1. Monitoring Program fund distribution since 2000 in the Southwest Region.

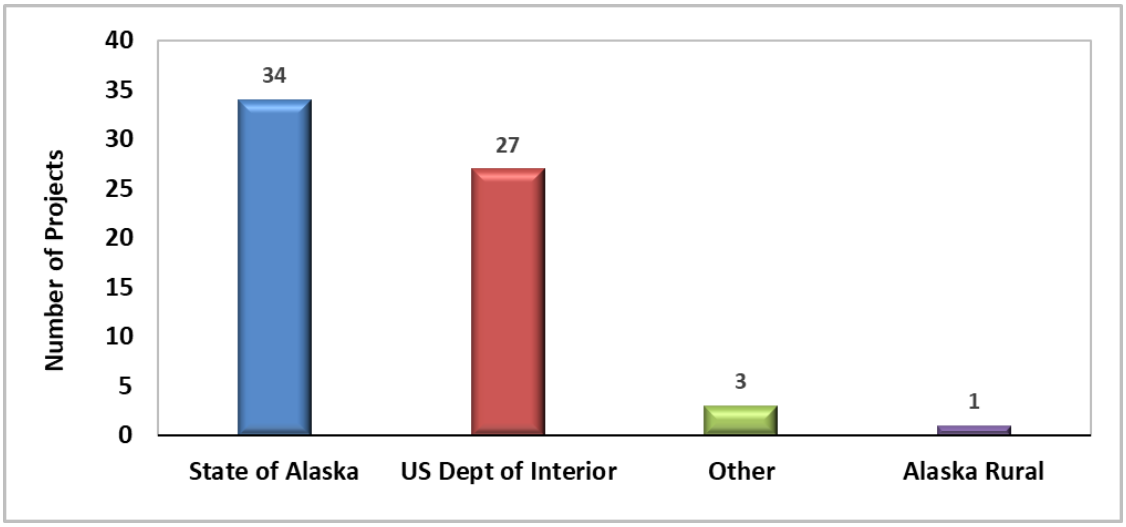

Figure 2. Number of Monitoring Program projects funded since 2000 in the Southwest Region.

PRIORITY INFORMATION NEEDS

The 2026 Notice of Funding Opportunity for the Southwest Alaska Region contained the following 10 priority information needs developed by the Bristol Bay and Kodiak/Aleutians Regional Advisory Councils:

- Reliable estimates of the abundance of salmon populations in the Kodiak Archipelago and Aleutian Island areas important for subsistence use and assessment of changes in these populations. Specific areas of concern include McLees Lake, Mortenson's Lagoon, Unalaska Lake, and Kodiak Archipelago stocks.
- Using scale analyses of fresh and saltwater growth patterns over multiple years, examine how recent changes in the ocean impact growth and survival of Chinook and Sockeye salmon within their range and habitats. The Kodiak/Aleutian drainages of particular concern include: (Buskin, Karluk, Ayakulik, McClees drainages) and/or the Bristol Bay/Alaska Peninsula drainages (Chignik, Nushagak, Big Creek, Alagnak, Meshik, and Togiak drainages). The Chignik drainage is of particular concern.
- Reliable estimates of Chinook Salmon escapement are needed, along with evaluation of escapement quality and harvest monitoring in the Alagnak River, Big Creek, Chignik River, Naknek tributaries, and Togiak River. This includes assessing egg deposition, sex and size composition of spawners, and spawning habitat quality and utilization to determine the reproductive potential of spawning stocks. Harvest monitoring is encouraged by user groups in the region, with particular emphasis on those within the Naknek drainage.
- Comparative ecological evaluation of lake rearing habitats of Sockeye Salmon stocks in southwest Kodiak Island, including Olga Lakes and Akalura Lake watersheds, and the assessment of (1) declines of salmon stocks and associated subsistence harvest opportunities, and (2) effects of climate change on salmon production in these lake systems.
- Annual estimates are needed for Sockeye Salmon escapement in the Lake Clark watershed.
- Evaluation of Chinook and Sockeye salmon populations in the Chignik River area to understand the decline in salmon stocks and associated subsistence harvest opportunities, such as reliable estimates of escapement, quality of escapement, and environmental impacts.
- Evaluate effects on subsistence users in the Southwest Alaska region resulting from changes in fish populations, including biological considerations of run timing, run quality, sex ratios, and age composition, which incorporates local observations and knowledge. Research should include a multi-disciplinary approach and include elements of Traditional Ecological Knowledge as well as Stock Status and Trends.
- Enumeration of salmon smolt outmigration in the Buskin River system.

- Understanding and documenting subsistence sharing networks of fish throughout the Bristol Bay region and the importance of resource networks.

- Harvest use survey of Buskin River subsistence and how subsistence practices have changed in recent history during closures or reductions in harvest. Address how subsistence harvest has changed as access and harvest opportunity within the Buskin River has changed.

2026 MONITORING PLAN DEVELOPMENT FOR THE SOUTHWEST REGION

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

Table 1. Projects submitted for the Southwest Alaska Region, 2026 Monitoring Plan, including project duration and total funds requested.

Project Number	Title	Project Duration (Years)	Total Project Request
26-400	Buskin River Sockeye Salmon Stock Assessment and Monitoring	4	$564,877
26-401	Chignik River In-Season Subsistence Harvest Surveys	4	$228,870
26-402	Estimation of Sockeye Salmon Escapement into McLees Lake, Unalaska	4	$938,223
26-403	Addressing Priority Subsistence Salmon Concerns in the Buskin Watershed to Enhance Ecological Strength and Food Security of Kodiak	4	$699,332
26-451	Understanding the Importance of Resource Networks in Alaska: Documenting Subsistence Fish Sharing Networks in Select Bristol Bay Communities	3	$435,624
Total			**$2,866,926**

EXECUTIVE SUMMARY AND TECHNICAL REVIEW COMMITTEE JUSTIFICATION

The following executive summary was written by the principal investigator 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 summary 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:	26-400
Title:	Buskin River Sockeye Salmon Stock Assessment and Monitoring
Geographic Region:	Southwest Alaska
Data Types:	Stock Status and Trends
Principal Investigator:	Mark Witteveen (ADF&G)
Co-investigator:	Kelly Krueger (ADF&G)
Project Request:	**2026:** $207,629 **2027:** $142,101 **2028:** $147,265 **2029:** $67,889
Total Request:	$564,877

Issue: This proposal seeks funding to operate a fish enumeration weir on the Buskin River in Kodiak, Alaska. The Buskin River supports a federal subsistence fishery occurring within the Alaska Maritime National Wildlife Refuge which annually harvests relatively large numbers of sockeye salmon during June and July. Salmon from the Buskin River drainage have been identified by the Federal Subsistence Board as a resource important for customary and traditional use by the residents of Kodiak. Annual operation of a salmon escapement weir at the Buskin Lake outlet will ensure that maximum harvest opportunities for federal subsistence users are sustained.

Objectives:

1. Census the sockeye salmon escapement into Buskin Lake from approximately May 15 to July 31.
2. Estimate the age composition of the sockeye salmon run to Buskin Lake such that the estimates are within 7.5 percentage points of the true value 95% of the time.
3. Measure sockeye salmon scales for freshwater and saltwater growth phases.
4. Update the Buskin River brood table and reevaluate the sockeye salmon BEG.
5. Provide education and career development opportunity for Alaska Natives and federally qualified subsistence users.

Methods: Sockeye salmon escapement will be enumerated annually through a weir at the outlet of Buskin Lake from May 15 through July 31. Fishery management actions taken inseason affecting subsistence, sport, and commercial fisheries will be based on comparison of cumulative weir counts to historical time of entry in order to project run strength and total escapement. Additionally, sockeye salmon will be sampled for age, sex and length (ASL), providing estimates of return by age for the Buskin River drainage. Analyses of the return and age data collected since 1993 have allowed development of a brood table with estimates of total return having a relative precision of about 10%. Continued collection of age data at this level of sampling will allow for continuation of the brood table and future re-evaluation of the BEG. Scales will be measured as a surrogate for fish growth during different life phases and measurements will be correlated with environmental indices and improved forecasting resolution will be explored.

Partnerships/Capacity Building: During each year of the project ADF&G will continue a high school student internship program established in 2003 to provide education and career development opportunity for federally qualified subsistence users. Student interns recruited locally for the project will gain knowledge important to their academic and career development by learning the principles involved in fisheries management and research and obtaining hands on experience in fisheries data collection methods and techniques. The ADF&G and Kodiak National Wildlife Refuge office of the U.S. Fish and Wildlife Service (USFWS) have established a cooperative agreement to utilize the Buskin River weir as an educational tool for the service's 'Summer Science and Salmon Camp' program, which provides a science-based venue for local youths to learn the importance of salmon for subsistence and other uses comprising an integral part of the Kodiak lifestyle.

Technical Review Committee Justification: This project addresses two Priority Information Needs for the Southwest Region 2026 funding opportunity. Ongoing since 2000, it enumerates adult Sockeye Salmon escapement into the Buskin River using a tripod picket weir. This run supports the largest subsistence fishery in the Kodiak Management Area. ADF&G's Kodiak office has a strong track record of successfully conducting this work. Data from the weir informs spawning goals, improves run forecasts, and supports effective subsistence harvest management.

The project includes a youth internship component with Kodiak High School. While the budget appears reasonable, its location near the Kodiak office and road system should allow for greater efficiency. Combining the Sockeye and Coho weirs or adding an underwater video system could reduce future costs and allow nighttime passage. Partnering with local tribes could further strengthen project delivery and build tribal capacity.

Investigator Submitted Executive Summary:

Project Number:	26-401			
Title:	Chignik River In-Season Subsistence Harvest Survey			
Geographic Region:	Southwest Alaska			
Data Types:	Harvest Monitoring			
Principal Investigator:	Frank Harris (USFWS)			
Co-investigator:	George Anderson (Chignik Intertribal Coalition)			
Project Request:	**2026:** $57,401	**2027:** $55,831	**2028:** $57,400	**2029:** $58,238
Total Request:	$228,870			

Issue Addressed: This project focuses on the following identified priority information need for the Southwest Region of the 2026 Fisheries Resource Monitoring Plan Priority Information Needs:

1. Reliable estimates of Chinook Salmon escapement demographics are needed, along with evaluation of escapement quality and harvest monitoring in the Alagnak River, Big Creek, Chignik River, Naknek tributaries, and Togiak River. This includes assessing egg deposition, sex and size composition of spawners, and spawning habitat quality and utilization to determine the reproductive potential of spawning stocks. Harvest monitoring is encouraged by user groups in the region, with particular emphasis on those within the Naknek drainage.

Objectives: The overall goal of this project is to obtain timely subsistence harvest information for sockeye and Chinook salmon from Federally Qualified Subsistence Users (FQSU) fishing in federal waters of the Chignik area. These are primarily residents of Chignik Lake, Chignik Lagoon, Chignik Bay, Ivanof Bay, and Perryville. The specific objectives are:

1. Collect in-season federal subsistence harvest data from FQSU in the Chignik area between June and November.

2. Build capacity within the Chignik Intertribal Coalition to ultimately lead and expand future harvest monitoring projects.

Project Methods:

Project Area: The Chignik River watershed, which resides within the Chignik Management Area (CMA) and Alaska Peninsula Wildlife Refuge, consists of two major rivers, two lakes and a lagoon (Figure 1). The headwaters of this system originate at black lake, which flows south into Chignik lake, continues into Chignik lagoon, and finally drains seaward into Chignik Bay.

Project Design: The first objective, collection of harvest data, will be completed by a CIC employee. The employee of Chignik Intertribal Coalition will attempt to contact every household in Chignik Lake, Chignik Lagoon, and Chignik Bay to ask for volunteers to partake in the subsistence survey. Once volunteers have been identified, they will be split into 2 groups. Each group will be contacted once every two weeks in an alternating fashion. Group one will be contacted the first week and group two will be contacted the second week. The alternating schedule will be done to avoid survey fatigue.

The harvest and effort information will be used to generate a minimum harvest estimate for all permit holders in the area. Additionally, in-season harvest information will provide a more accurate representation of escapement to managers, which will support the goal of this project to provide reliable estimates of escapement. Participation will be voluntary.

The second objective—building the Chignik Intertribal Coalition's (CIC) capacity—will be met through collaboration with the U.S. Fish and Wildlife Service (USFWS). They will train local individuals for onthe-ground surveys, a process already started in phase one. CIC and USFWS will also work together to improve CIC's ability to generate and report bi-weekly harvest estimates. To support this, USFWS staff will visit Chignik to provide additional survey training, engage the community, and assist with statistical software use.

Data Collection and Reduction: USFWS will summarize and enter weekly harvest data into excel spreadsheets to develop both a minimum weekly and total harvest estimate for permit holders. This estimate will be subtracted from the weir counts to give managers an estimated escapement for that reporting period. This data is particularly important due to the difficulty meeting escapement goals for sockeye and Chinook salmon in recent years.

Data collection and analysis will be shared by USFWS and CIC. The CIC technician will enter data into a spreadsheet and summarize it weekly. These data, combined with in-season counts from the Chignik River weir, will improve escapement estimates. Since most subsistence fishing occurs upstream of the weir, estimating the number of fish harvested there helps managers more accurately assess escapement.

Data Analysis: Weekly harvest estimates will be based on calls to participating households. Data are grouped by time, area, and species. Each group's total includes reported harvests from respondents and estimated harvests from non-respondents, calculated using the number of households, activity rate, non-response rate, and average harvest. Summing these components gives the total harvest per group, and totals across groups are combined for an overall estimate.

Partnerships and Capacity Building: Chignik Intertribal Coalition, and the United States Fish and Wildlife Service are committed to the project to develop a robust partnership with goals to continue to provide real time data to the Federal in-season manager.

This project promotes partnership and capacity building in two ways:

1. Direct employment and training opportunities for rural Alaskans working on fisheries harvest surveys with potential to branch into monitoring and assessment projects.

2. Providing valuable in-season Federal subsistence harvest data from willing participants.

The employee hired for this position will be trained by the USFWS in data collection, data entry, and creel survey methods. USFWS and CIC will jointly develop a harvest monitoring sampling plan that respects local subsistence practices and meets stakeholder needs.

CIC's local knowledge and community ties are essential to the project's success, enabling timely and accurate harvest data collection. Their technician's connections will support regular data gathering. This project will also strengthen CIC's capacity in staff management and coordination, preparing them for future leadership roles

Technical Review Committee Justification: This is partial continuation proposal from the previously funded Monitoring Program 22-401 (Chignik River Subsistence Harvest Surveys and Escapement Indexing) to conduct harvest monitoring of salmon in the five village of the Chignik area. This project partially addresses one of the Priority Information Needs for the region and provides training for a local hire to conduct formal harvest surveys on a weekly basis over a 6-month period, which would provide critical information of harvests of Sockeye, Chinook, and redfish in the fall. The project continues to expand the technical capacity of Chignik Intertribal Coalition for this type of work. The Chignik Intertribal Coalition does provide substantial contributions to the project such as use of their boat for surveys. The cost of the proposed work is nearly equally split between a Federal agency and a tribal organization to pay for a part-time local to perform the surveys.

Investigator Submitted Executive Summary:

Project Number:	26-402			
Title:	Estimation of Sockeye Salmon Escapement into McLees Lake, Unalaska			
Geographic Region:	Southwest Alaska			
Data Types:	Stock Status and Trends			
Principal Investigator:	Shanoy Anderson (Qawalangin Tribe of Unalaska)			
Co-investigator:	TBD (Qawalangin Tribe of Unalaska); Annie Brewster, Matt Keyse (ADF&G)			
Project Request:	**2026:** $234,665	**2027:** $234,517	**2028:** $234,477	**2029:** $234,565
Total Request:	$938,224			

Issue: This project directly addresses two priority information needs identified by the Federal Subsistence Regional Advisory Council 1) to provide reliable abundance estimates of the McLees Lake sockeye salmon Oncorhynchus nerka population and 2) use scale analyses of fresh and saltwater growth patterns over multiple years to examine how recent changes in the ocean affect growth and survival of sockeye salmon in the McLees Lake drainage. McLees Lake, located on Unalaska Island within the Alaska Maritime National Wildlife Refuge, supports a run of sockeye salmon that is classified as a managed stock under federal subsistence regulations. Due to its cultural and nutritional significance, this stock plays a vital role in sustaining the food security and traditional practices of Unalaska residents. However, concerns persist at the local, state, and federal levels that the lack of consistent escapement and harvest monitoring could jeopardize the long-term health of this population and the subsistence opportunities it provides.

Objectives:

1. Enumerate the daily passage of sockeye salmon through the weir;
2. Describe the run timing, or proportional daily passage, of sockeye salmon through the weir;
3. Estimate age composition of sockeye salmon such that estimates are within 7.5 percentage points of the true value 95% of the time;
4. Estimate the mean length of sockeye salmon by sex and age;
5. Estimate the production thresholds for rearing juvenile sockeye salmon; and
6. Use scale analyses of fresh and saltwater growth patterns to examine growth and survival of sockeye salmon

Methods: McLees Lake is located northwest of Unalaska village within the Alaska Maritime Wildlife Refuge and empties into the Bering Sea at Reese Bay. A rigid picket weir is operated during each summer of the project. The weir and sampling trap is inspected daily and maintained to ensure integrity. Fish are

passed and enumerated. Daily escapement counts are relayed to ADF&G, allowing project data to be used in making in-season management decisions for the Reese Bay subsistence fishery.

Data on sockeye salmon age, sex, and length (ASL) are collected using a temporally stratified sampling design. Fish ages are assigned by ADF&G fish biologists. Image measurement software will be used to evaluate the relative growth of fish by measuring freshwater and saltwater annuli. The growth measurement data will be explored to evaluate the relative health of the freshwater residence time, growth relationships to climate indices and the utility of using saltwater growth measurements to predict future runs.

Limnological sampling will continue to be done to assess habitat quality, zooplankton productivity, and estimate the capacity of McLees Lake to rear juvenile sockeye salmon and support adult escapement.

Partnership and Capacity Building: This project will continue the development of partnerships between the U.S. Fish and Wildlife Service, the Qawalangin Tribe of Unalaska, and ADF&G. McLees Lake sockeye salmon is heavily harvested by Unalaska subsistence users and are vital to the Qawalangin Tribe's culture and food security. The Qawalangin Tribe will maintain a biologist to further develop a Fisheries Science, Research, and Development Program, funded by the Partners for Fisheries Monitoring Program. Through a Partners biologist, the Qawalangin Tribe will be able to assess and understand local fisheries management by performing weir operations, facilitating logistical needs, and assisting with data management. By developing technical fisheries expertise, the Partners biologist will increase the tribe's involvement in the meaningful support of this important salmon resource. This collaboration will empower the Qawalangin Tribe's ability to continue weir operations in future years.

Additional capacity building will occur with the Qawalangin Tribe by their direct participation in the hiring of the field technicians and ongoing consultation to develop educational opportunities. For this proposal period, ADF&G will hire two field technicians, and the Qawalangin Tribe will hire one technician through the Partners for Fisheries Monitoring Program. The Partner technician will be a local hire, or an Alaska Native Science and Engineering Program (ANSEP) student. ADF&G will hire the two field technicians with recommendation and consultation from the Qawalangin Tribe to provide emphasis on a local applicant pool. The ADF&G project and crew leader will act as mentors with the purpose of training the technicians to advance their careers and knowledge in fisheries management. The Qawalangin Tribe and ADF&G will present results of the project at Kodiak/Aleutians Regional Advisory Council meetings.

Technical Review Committee Justification: This project directly addresses two of the Priority Information Needs for the Southwest Region 2026 Notice of Funding Opportunity. This project would use a fixed-picket weir to count adult Sockeye Salmon in McLees Lake. McLees Lake, which is within Federal subsistence jurisdiction, is closed to the harvesting of salmon, but there is an important State fishery that occurs at the outlet of the lake in nearby Reese Bay. While this project has had intermittent Monitoring Program funding to Federal and State entities through the years, this proposal marks a change with Qawalangin Tribe taking the lead. This project intends to add additional components to this project, including studies of juvenile Sockeye Salmon, studies of lake rearing thresholds, as well as a scale analyses of freshwater and saltwater growth to make inference of varying conditions and how that impacts future recruitments. The cost of this project appears to be high. It is unclear from the proposal package if the Qawalangin Tribe could successfully run this project if they are not also successful in their proposal to the Partners for Fisheries Monitoring Program.

Investigator Submitted Executive Summary:

Project Number:	26-403			
Title:	Addressing Priority Subsistence Salmon Concerns in the Buskin Watershed to Enhance Ecological Strength and Food Security of Kodiak			
Geographic Region:	Southwest Alaska			
Data Types:	Stock Status and Trends, Traditional Ecological Knowledge			
Principal Investigator:	Matthew Van Daele (Sun'aq Tribe of Kodiak)			
Co-investigator:	Jacqueline Keating (ADF&G)			
Project Request:	**2026:** $147,171	**2027:** $195,192	**2028:** $184,574	**2029:** $172,395
Total Request:	$699,332			

Issue: For the past decade, Sun'aq Tribe of Kodiak (Sun'aq) has become increasingly concerned about the presence of signal crayfish in the Buskin Watershed of Kodiak Island, particularly how this invasive species is impacting wild salmon stocks vital to the subsistence culture and lifestyle of Sun'aq Tribal Citizens as well as non-Tribal members of the Kodiak community. At its Spring 2025 meeting, the Federal Subsistence Board (FSB) acknowledged priority subsistence information needs outlined by the statewide regions, including the Kodiak/Aleutians Subsistence Regional Advisory Council (Kodiak/Aleutians RAC). The following needs which were prioritized for southwest Alaska have also been identified as being of specific importance for Sun'aq, and within our Tribal capacities to assist managers and user groups with data collection and protection of subsistence resources to enhance ecological strength and food security:

1. Reliable estimates of the abundance of salmon populations in the Kodiak Archipelago and Aleutian Island areas important for subsistence use and assessment of changes in these populations;

2. Comparative ecological evaluation of lake rearing habitats of sockeye salmon stocks; including the assessment of declining salmon stocks and associated subsistence harvest opportunities, and impacts of environmental factors on salmon production in these watersheds;

3. Enumeration of salmon smolt outmigration in the Buskin Watershed;

4. Harvest use survey of Buskin River subsistence and how subsistence practices have changed in recent history during closures or reductions in harvest; and,

5. Evaluate effects on subsistence users in the Southwest Alaska region from changes in fish populations, including biological considerations of run timing, run quality, sex ratios, and age composition, which incorporates local observations and knowledge. Research should include a multi-disciplinary approach and include elements of Traditional Ecological Knowledge as well as Stock Status and Trends.

Furthermore, an additional regional-specific need identified by the Kodiak/Aleutians RAC in its 2024 Annual Report is "*Eradication of Signal Crayfish in Buskin River System in Kodiak*."

The Buskin system has been frequently stated in multiple fora to be the most important sockeye salmon subsistence fishery per capita in the Kodiak/Aleutians Region, but runs have been exceptionally variable over the last 20 years. Signal crayfish were not previously found in Alaska until the first records were reported in the upper Buskin River in 2002, and since these initial reports they have subsequently invaded Buskin Lake and areas throughout the Buskin River. Along with direct impacts through predation, freshwater ecosystems and the human communities and subsistence resources that depend on them are at risk due to the introduction and proliferation of this species. This project will quantify the importance of the Buskin's subsistence fishery, as well as addressing fishing use of other systems (and resulting changes in pressure) at other subsistence fisheries in times of run failures leading to closures of the Buskin. Additionally, we will maintain our long-term effort of invasive signal crayfish suppression in the Buskin Watershed and collect critical limnological and habitat assessment data for researchers and managers to use in assessing sockeye health and rearing.

Objectives: This project has four objectives: 1) continue active suppression of invasive signal crayfish in the Buskin Watershed; 2) assess potential ecosystem factors negatively impacting subsistence salmon runs and harvest practices in the Kodiak/Aleutians Region due to freshwater conditions and changing environmental factors; 3) quantify fishing behaviors and adaptation strategies that subsistence fishers employ when salmon harvest opportunities are limited at the Buskin Watershed; and, 4) document local and traditional knowledge about the Buskin Watershed.

Methods:

Objective 1: Once an invasive species becomes established, especially crayfish, they can be difficult (if not impossible) to eradicate. Traditional methods of crayfish eradication (poison and lake draining) are not options in the Buskin Watershed due to the subsistence sockeye salmon run, the presence of other anadromous species, as well as supplying drinking water for USCG Base Kodiak. Our ongoing work has demonstrated a multi-faceted approach is most effective at continued suppression and containment efforts: 1) SCUBA diving, snorkeling, wading, and trapping to directly remove crayfish from the ecosystem; 2) developing and sharing trapping techniques with the public to support community involvement with crayfish suppression; 3) "crayfishing derbies," sponsored by local businesses in partnership with Sun'aq, to increase our education and public outreach of the threats of this invasive species, remove as many crayfish as possible, and create a large morphometric and population abundance dataset; and, 4) using these data to inform crayfish management strategies to target areas for population suppression.

Objective 2: Currently water temperature is only collected in one area of Buskin Lake, and continuous monitoring of temperature and dissolved oxygen at multiple sites in the Buskin Watershed is critical to begin collecting comprehensive data for assessing smolt health and rearing conditions. These data would complement the ongoing work of ADF&G Division of Sport Fish with FRMP 22-400 and be vital for informing future forecasting and stock assessments of sockeye runs to the Buskin Watershed. There will be a total of nine limnological assessment stations placed in the Buskin Watershed; five in the lake, one in a tributary stream, and three in Buskin River. Continuous temperature and DO will be collected at all sites. Monthly macroinvertebrate surveys will be conducted at two lake sites and all three Buskin River

sites. Two of the lake sites will also have limnological samples (biological, physical, and chemical) and data collected monthly. Measuring this suite of sites will greatly increase our understanding of the interconnected links present in the Buskin essential for sockeye salmon survival and runs meeting Biological Escapement Goals.

Objective 3: The ADF&G Division of Subsistence will be contracted to conduct subsistence fishing behavior surveys to quantify fishing behaviors and adaptation strategies that subsistence fishers employ when salmon harvest opportunities are limited in the Buskin Watershed. Adaptation strategies for accessing wild foods during times of low resource abundance or high transportation costs often include changing to more efficient modes of transportation and sharing fuel costs with other households. The beginning of the survey will outline project objectives and expected uses of collected information.

Objective 4: As with Objective 3, ADF&G Division of Subsistence will be contracted to conduct up to 15 key respondent interviews to document local and traditional knowledge about the Buskin Watershed. Interview topics will include life histories of fishing the Buskin system, knowledge and perceptions of signal crayfish, observations of environmental changes to the Buskin, and fishing adaptation measures when salmon abundance is low.

Partnerships and Capacity Building: Sun'aq and the ADF&G Division of Subsistence are partnering on this project as co-PIs to create a synergy of decades of field biology and research with human dimensions, resource use documentation, and traditional ecological knowledge. The Tribe and ADF&G collaborating on all aspects of this project will build the capacity and expertise of rural Alaska Tribal Members, while aiding greater direct participation in meaningful management of Federal subsistence fisheries. Data collected during this project will be of immense importance to inform State and Federal management decisions and run forecasting, as well as proving information to local and regional councils regarding subsistence practices and options/strategies to enhance ecological strength and increase food security in these challenging times of environmental perturbations. Local research assistants for this project will be trained in ethnographic interviewing, the roles of Sun'aq, ADF&G, and the USFWS in managing land and natural resources, as well as navigating the different Advisory Council and Board roles in promulgating fisheries management regulations. Through the education and training of these local research assistants, we will enhance and promote interaction amongst Agency personnel and rural residents and facilitate communication and understanding across a broad (and sometimes disparate) spectrum of user groups.

Technical Review Committee Justification: This ambitious 4-year project intends to do three multiple fronts of research: 1) suppress invasive Signal Crayfish in the Buskin River watershed; 2) quantify potential ecosystem factors that are negatively impacting salmon stocks; 3) document local and traditional knowledge through key-respondent interviews and mailings to understand local fishing behaviors and adaptations to changes in run abundance of salmon. The Sun'aq Tribe of Kodiak is taking the lead on this project and would sub-award the Alaska Department of Fish and Game for portions of the study to conduct the harvest and traditional ecological knowledge surveys. While the technical and scientific merit of the proposal is considerable, the proposal could be further strengthened by honing the objectives to the listed Priority Information Needs. Furthermore, the proposal lacks details on how much of the results

from this project would better inform the management of salmon in the region. The overall cost of the project is considerable given its scope; however, a considerable portion of the funding is for the suppression of invasive Signal Crayfish which might be outside the scope of the Monitoring Program.

Investigator Submitted Executive Summary:

Project Number:	26-451			
Title:	Understanding the Importance of Resource Networks in Alaska: Documenting Subsistence Fish Sharing Networks in Select Bristol Bay Communities			
Geographic Region:	Southwest Alaska			
Data Types:	Harvest Monitoring, Traditional Ecological Knowledge			
Principal Investigator:	Lauren Sill (ADF&G)			
Co-investigator:	Cody Larson (BBNA)			
Project Request:	**2026:** $0	**2027:** $196,578	**2028:** $179,972	**2029:** $59,074
Total Request:	$435,624			

Issue: This project will document and analyze subsistence sharing networks in 4 Bristol Bay communities—Togiak, Koliganek, Levelock, and Iliamna—which are dependent upon salmon and have high rates of sharing wild resources. The goal of this project is to build on previous documentation of fish harvests and use, as well as sharing networks, in the region. Additionally, the proposed research will provide new information on how social networks function in the allocation and management of subsistence resources and how this information can be utilized in state and federal subsistence management.

Salmon return to Bristol Bay each summer in the millions, returning to their spawning grounds in several federal conservation system units, including the Alagnak Wild River, Lake Clark National Park and Preserve, Katmai National Park and Preserve, Togiak National Wildlife Refuge, and Becharof National Wildlife Refuge. Salmon and nonsalmon fish compose large percentages of overall subsistence harvests of Bristol Bay. Subsistence is a key component of local community economies, and this includes harvesting, processing, consuming, and exchanging subsistence foods. Resource exchanges can take several forms, including barter (exchanging one resource for another), sharing (giving of resources with no expectation for reciprocity), and customary trade (exchanging resources for limited amounts of cash). These activities are economic transactions, but they are also social activities and expressions of cultural values. The exchange of resources is part of long-standing subsistence traditions throughout Alaska.

Previous research on social networks in the Bristol Bay region revealed that each study community had unique structural features potentially indicating unique social dynamics underlying subsistence salmon harvesting activities. In the years following previous division research in the Bristol Bay region, there have been community concerns about declining whitefish populations, declines in salmon harvests, and the loss of the Mulchatna caribou herd from much of its historic range. Changes in resource abundance have been shown to influence sharing patterns so revisiting communities earlier studied by division

researchers is warranted and would provide information about subsistence practices in these changing environments.

The proposed research will expand on earlier subsistence research in Bristol Bay by updating existing subsistence harvest information and identifying and analyzing the social networks underlying the exchange of salmon within these study communities as well as within the broader Bristol Bay area and beyond. Expanding the number of communities with documented social networks in an area as vast and diverse as Bristol Bay would bolster a region-wide perspective. Detailing sharing networks provides information necessary to evaluate the size of subsistence harvests, individual and household harvest levels and limits, and the potential effects of proposed regulations on subsistence users. Therefore, understanding the dynamics of sharing networks is critical for managing entities, such as the Alaska Board of Fisheries, Alaska Department of Fish and Game (ADF&G) fisheries managers, the federal Bristol Bay Regional Advisory Council, state fish and game advisory committees, and the Federal Subsistence Board (FSB), to develop more comprehensive management approaches.

Objectives:

1. Produce reliable estimates of the harvests and uses of salmon and nonsalmon fish for calendar year 2026 by residents of Togiak, Koliganek, Levelock, and Iliamna.

2. Record the geographic extent of search and harvest areas for salmon and nonsalmon fish by residents of Togiak, Koliganek, Levelock, and Iliamna.

3. Quantitatively describe the scope and characteristics of salmon and nonsalmon fish exchange in 4 Bristol Bay communities, illustrating the sharing networks both within each community, across the broader region, and throughout Alaska and beyond.

4. Document qualitative information about salmon and nonsalmon exchange practices, including decision making factors that structure sharing and exchange, the cultural context of exchange, and perception of change in exchange practices.

Methods: At the outset of the project in the fall of 2026, the principal investigator will hold scoping meetings in each of the proposed study communities to discuss the project's goals, objectives, methods, and how the collected data can be used. Researchers will conduct survey field work in spring 2027 and 2028, employing two integrated social science data gathering methods, discussed in detail below. These are 1) household harvest surveys and 2) key respondent interviews.

Researchers will use voluntary household harvest surveys with a mapping component to address objectives 1, 2, 3 and part of objective 4. The Division of Subsistence has used harvest surveys for over 40 years to collect information about the use and harvest of resources by Alaska residents. This has been the foundation of accurate subsistence harvest data useful to the Alaska Board of Fisheries and the Federal Subsistence Board. Survey administration will occur in the spring of 2027 with data entry and analysis occurring over the summer and preliminary data review in the fall. The results of the survey module will inform the design of key respondent interviews. The principal investigator will use

ethnographic key respondent interviews to address objective 4. Key respondent interviewing provides an avenue to collect narrative data from individuals with unique personal knowledge that will provide important context for analyzing the quantitative data collected through the household survey and gathering additional information about sharing networks within communities. Interviews will occur in the late winter and early spring of 2028. Once all the quantitative and qualitative data are analyzed, researchers will bring draft results back to the communities to present for feedback at a community meeting. A draft of the final report will be shared with the communities for an opportunity to review before publication.

Partnerships/Capacity Building: Individuals, communities, and local and regional councils can use information collected through this project to advocate for community needs before the FSB and the Alaska boards of Fisheries and Game. Partnerships with Bristol Bay Native Association will be strengthened through collaboration over the lifespan of the project. During the planning and implementation phase of the project, researchers will stay in contact with local government councils, asking for assistance with survey development, interview protocols, and logistics. Local research assistants (LRAs) will be hired in each community. Researchers will train the LRAs in survey administration and mapping. The PI will identify key respondents in consultation with the local government and residents. During the project, if researchers become aware of issues in any of the communities that could be addressed through the state or federal regulatory processes, researchers can assist the local tribal council, Subsistence Regional Advisory Councils and ADF&G Fish and Game Advisory Committees, and residents in navigating that process. PIs will share examples of subsistence harvest data being used by communities to improve regulations. The regulatory process can be a confusing and difficult one to navigate; partnerships developed through intensive survey efforts in communities have proven to be beneficial to all parties involved, both during the survey but also years after, through increased communication and collaboration.

Technical Review Committee Justification: The proposed project would examine the social networks that facilitate exchanges of salmon and non-salmon fish among and between individuals, households, and communities within the Bristol Bay region. Gaining a better understanding of these networks will help managers and policymakers account for how they contribute to the maintenance of community well-being in the face of ongoing economic and environmental changes. Detailing different forms of exchange and the circumstances that affect how and when they occur will provide information to better evaluate the size of community subsistence harvests, individual and household harvest levels and limits, and the potential effects of proposed regulations that may facilitate or limit ongoing exchange practices. In the process, the project will also provide updated household survey data on salmon and non-salmon harvests and record the geographic extent of household salmon and non-salmon search and harvest areas. The project would fulfill a priority information need articulated for the Southwest Region, and it should enhance partnerships with Tribal organizations and local governments. However, considering the programmatic constraints associated with resource harvest limits, it is somewhat unclear how data on the social networks of exchange might promote functional policy change that better recognizes the importance of these practices.

APPENDIX 1
PROJECTS FUNDED IN THE SOUTHWEST ALASKA REGION SINCE 2000

Project Number	Project Title	Investigators
	Bristol Bay Salmon Projects	
00-010	Togiak River Salmon Weir	USFWS
00-031	Alagnak River Sockeye Salmon Escapement	AFD&G, NPS, BBNA
00-033	Alagnak River Angler Effort Index	ADF&G, NPS, BBNA
00-042	Lake Clark Sockeye Salmon Assessment	USGS
01-047	Togiak River Subsistence Harvest Monitoring	BBNA, ADF&G, USFWS
01-075	Nondalton Sockeye Salmon and Freshwater Fish TEK	NPS, NTC, USGS
01-095	Lake Clark Sockeye Salmon Escapement	USGS, NTC
01-109	Traditional Ecological Knowledge of Alaska Peninsula/Becharof NWR	ADF&G, BBNA
01-173	Alagnak River Harvest Salmon Escapement Estimation	ADF&G
01-204	Ugashik Lakes Coho Salmon Escapement Estimation	USFWS
03-046	Fisheries Biotechnician Training Program	NPS
04-411	Lake Clark Sockeye Salmon Run Timing	USFWS, BBNA
04-454	Bristol Bay Sharing, Bartering, and Traded of Subsistence Resources	ADF&G, BBNA
05-402	Lake Clark Sockeye Salmon Escapement	NPS, USGS
08-402	Togiak River Chinook Salmon Radio Telemetry	USFWS, BBNA, ADF&G
08-405	Lake Clark Sockeye Salmon Assessment	NPS, USS&E, BBNA
10-402	Togiak River Chinook Salmon Adult Assessment	USFWS, BBNA, ADF&G
16-451	Bristol Bay Subsistence Salmon Networks	ADF&G, BBNA, OSU
16-453	Togiak River Chinook Salmon Subsistence Harvest Assessment	ADF&G, BBNA
22-452[a]	False Pass and Nelson Lagoon Subsistence Harvest Monitoring and Traditional Ecological Knowledge (TEK) Investigation	ADF&G
22-453[a]	Subsistence Harvests and Uses of Salmon and Other Wild Resources in Manokotak, Alaska	ADF&G, BBNA
	Chignik Salmon Projects	
02-098	Kametalook River Coho Salmon Escapement & Carrying Capacity	USFWS, BBNA
02-099	Clark River Estimation of Sockeye and Coho Salmon Escapement	USFWS, BBNA
03-043	Perryville Coho Salmon Escapement	USFWS
05-405	Perryville-Chignik Coho and Sockeye Salmon Aerial Surveys	USFWS
07-404	Perryville-Clark River Coho and Sockeye Salmon Aerial Surveys	USFWS
22-401[a]	Chignik River Subsistence Harvest Surveys and Escapement Indexing	ADF&G, USFWS, CIC

Project Number	Project Title	Investigators
	Bristol Bay-Chignik Freshwater Species Projects	
00-011	Togiak River Dolly Varden Genetic Baseline Development	USFWS
00-012	Bristol Bay Traditional Knowledge of Fish	ADF&G
02-034	Kvichak River Resident Species Subsistence Fisheries	ADF&G, BBNA
04-401	Ungalikthlik and Negukthlik Rivers Rainbow Trout Assessment	USFWS
04-415	Tazimina Rainbow Trout Assessment	ADF&G
05-403	Lake Clark Whitefish Assessment	ADF&G
07-408	Togiak River Rainbow Smelt Assessment	USFWS, BBNA
07-452	Kvichak Watershed Subsistence Fishing Ethnography	ADF&G, BBNA, NPS
12-452	Whitefish Trends in Lake Clark and Iliamna Lake	ADF&G, BBNA, NPS, NTC
	Kodiak-Aleutians Projects	
00-032	Buskin River Sockeye Salmon Stock Assessment	ADF&G
01-059	McLees Lake Sockeye Salmon Escapement	USFWS
01-206	Mortenson Creek Sockeye and Coho Salmon Escapement	USFWS
02-032	Lower Alaska Peninsula/Aleutians Subsistence Fish Harvest Assessment	ADF&G, APIA, ISU
03-047	Afognak Lake Sockeye Smolt Enumerations Feasibility	ADF&G
04-402	Mortenson Creek Sockeye and Coho Escapement	USFWS
04-403	McLees Lake Sockeye Salmon Escapement	USFWS
04-412	Afognak Lake Sockeye Salmon Stock Assessment	ADF&G
04-414	Buskin River Sockeye Salmon Stock Assessment	ADF&G
04-457	Kodiak Subsistence Fisheries Harvest and TEK	ADF&G, KANA
07-401	Afognak Lake Sockeye Salmon Smolt Assessment	ADF&G
07-402	Buskin River Sockeye Salmon Weir	ADF&G
07-405	McLees Lake Sockeye Salmon Weir	USFWS, ADF&G, QT
10-401	Afognak Lake Sockeye Salmon Smolt and Adult Assessment	ADF&G
10-403	Buskin River Sockeye Salmon Adult Assessment	ADF&G
10-404	Buskin River Sockeye Salmon Smolt Assessment Feasibility	ADF&G
10-406	McLees Lake Sockeye Salmon Weir	USFWS, ADF&G, QT
12-450	Aleutian Islands Salmon and Other Subsistence Harvests	ISU
12-453	Kodiak Salmon Fishery Changing Patterns	ADF&G
14-401	Buskin River Sockeye Salmon Stock Assessment	ADF&G
14-402	Afognak Lake Sockeye Salmon Stock Assessment	ADF&G
16-452	Western Gulf of Alaska Salmon and Other Harvests	ISU
18-400	Buskin River Sockeye Salmon Stock Assessment and Monitoring	ADF&G
18-450	Unalaska Fish Harvest Practices	ADF&G
18-451	Subsistence Harvest Trends of Salmon and Nonsalmon Fish in 4 Southern Kodiak Island Communities	ADF&G
20-400	McLees Lake Sockeye Salmon Escapement	ADF&G/QT

Project Number	Project Title	Investigators
20-450	Kodiak Road System Subsistence Salmon and Nonsalmon	ADF&G
22-400[a]	Buskin River Salmon Stock Assessment and Monitoring, Kodiak, Alaska	ADF&G
22-454[a]	Reliable estimates of subsistence harvests and uses in Ouzinkie and Port Lions	ADF&G, USFWS

a= Ongoing project.

Abbreviations used for investigators are: **ADF&G** = Alaska Department of Fish and Game, **APIA** = Aleutian-Pribilof Islands Association, **BBNA** = Bristol Bay Native Association, **CIC** = Chignik Intertribal Coalition, **ISU** = Idaho State University, **KANA** = Kodiak Area Native Association, **NPS** = National Park Service, **NTC** = Nondalton Tribal Council, **OSU** = Oregon State University, **QT** = Qawalangin Tribe, **USFWS** = U.S. Fish and Wildlife Service, **USGS** = U.S. Geological Survey, **USS&E** = U.S. Science and Education, and **UW** = University of Washington.