

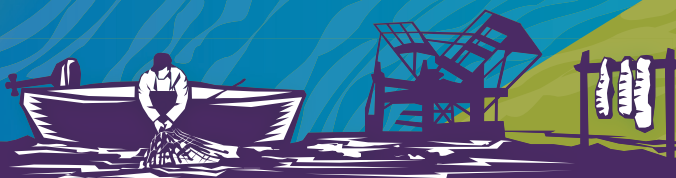
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Yukon River **In-Season Community Surveyor Program** 2016-2020

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Technical Report for
Fisheries Resource Monitoring
Program Project Number 16-255

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YUKON RIVER DRAINAGE FISHERIES ASSOCIATION

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ABSTRACT

Salmon are a critical resource for subsistence and commercial users in the Yukon River region and fisheries managers must have a means to gather input, assess harvests, and share information with Yukon River fishermen and fisheries stakeholders throughout the fishing season. The Yukon River In-season Community Surveyor Program addressed the need for inclusive in-season management for Chinook salmon fisheries on the Yukon River by hiring community surveyors in 10 villages during the Chinook season. These surveyors expanded communication with fishers in their communities about important fishery information and gathered information from fishermen that provided managers with weekly information about fishers' concerns, observations, and ability to harvest salmon throughout the Alaskan portion of the Yukon River drainage. Weekly reports were sent to fisheries managers for their use in decision-making and shared on the In-Season Salmon Management Teleconferences for the benefit of managers and other fishermen. The community surveyor reports addressed the need to have consistent reporting to fisheries managers and the public about subsistence harvests, run strength, fishing conditions, and fishermen's concerns.

The In-season Community Surveyor Program was an important communication tool during the project period, April 1, 2016-March 31, 2020, in that it qualitatively informed managers how fishers in key locations throughout the drainage were doing in-season, enabling managers to make timely decisions allowing the maximum number of fishers to meet their subsistence needs. This program has been in existence since 2002 and has evolved over time to meet the changing needs on the river. The program responded to annual feedback from the managers and the fishers, making it an adaptive communication program maximizing fishers' voices and enabling managers to send important conservation messages directly into fishers' households in 10 key villages. The In-season Community Surveyor program complemented the quantitative post-season survey by providing an explanation of fishing success such as high water, debris, and other adverse effects that influence fishing success.

The In-season Community Surveyor Program complimented and enhanced the Yukon River In-season Salmon Management Teleconferences by providing consistent participation, reporting, and communication back to the fishers in 10 villages during the Chinook salmon season. This project addressed the need for Alaskans to participate first hand in fisheries management decision-making, especially during times of low salmon abundance. This project expanded understanding regarding the management, use, and status of their shared salmon resource. The information shared helped fishing families prepare for the fishing season and built relationships among diverse stakeholders that were needed for resource decision-making. This project addressed priority information needs by documenting subsistence fisher observations, and their customary and traditional ecological knowledge related to their decreasing harvests of Chinook salmon and increasing harvests of other available species. The information collected was shared in-season with fisheries management staff of the Alaska Department of Fish and Game (ADF&G) and the U.S. Fish and Wildlife Service (USFWS) for their use both in-season and postseason in regulatory decision-making of federal subsistence fisheries.

CITATION

Moncrieff, CF. 2020. *Yukon River In-Season Community Surveyor Program 2016-2020. Technical Report for U.S. Fish and Wildlife Service Fisheries Resource Monitoring Program Project Number 16-255. Yukon River Drainage Fisheries Association. Palmer, AK.*

BACKGROUND

Alaska Natives have lived along the Yukon River for thousands of years (Zagoskin [1847] 1967) and have relied on its salmon resources as one of their main food sources. Two major Alaska Native groups live within the Yukon River drainage in Alaska: Yup'ik Eskimo, who live along the Bering Sea coast and the lower Yukon River inland to Paimuit and the community of Holy Cross, and Athabaskan Indians, who occupy the remainder of the Alaska portion of the Yukon River drainage (Krauss 1980).

Salmon has long been an important resource for Yukon River residents and has been traditionally harvested for human consumption, dog food and income (Andersen 1992; Case and Halpin 1990; Wheeler 1998; Wolfe and Scott 2010). A decline in salmon run abundance since the late 1990s, subsequent fishing restrictions, increased fishing costs, and a decline in earnings from commercial fishing have created substantial hardships for fishing households. Most of the communities are not connected by road to one another, nor to the rest of Alaska, thus increasing the importance of subsistence harvested foods. Store bought food is expensive for residents of these communities based on mixed, subsistence-cash economies (Wolfe and Scott 2010).

There are five species of Pacific salmon that migrate up the Yukon River including Chinook (*Oncorhynchus tshawytscha*), chum (*Oncorhynchus keta*), coho (*Oncorhynchus kisutch*) and pink salmon which are the main species harvested in the subsistence, commercial, personal use, and sport fisheries (Estensen et. al 2017). Chinook salmon is the most targeted species by subsistence fishers and, historically, the subsistence fishery harvested approximately 50,000 Chinook salmon annually. Decreases in the Chinook salmon run size first began in 1998 and was followed by a dramatic drop in run sizes starting in 2007. Continued decline in Chinook salmon run sizes caused a need for intensive subsistence fishery management starting in 2012 that included closures around pulses of fish, fishing time reductions, gear restrictions, and, at times, full subsistence fishing closures for Chinook salmon for most of the summer season. The 2014 and 2015 seasons were some of the lowest harvests of Chinook salmon. Run size of Chinook salmon increased in the 2016 and 2017 seasons and some restrictions were relaxed. Chinook salmon was classified by the Alaska Board of Fisheries as a yield of concern at its September 2000

work session and has continued to maintain this status through their 2015 work session (Schmidt et al 2015).

Chum salmon migrate up the Yukon River in two genetically distinct runs, an early summer chum salmon run and a later fall chum salmon run (Estensen et al. 2017). Summer chum salmon spawn in the lower 700 miles of the drainage and Tanana River in tributary streams. Summer chum salmon are very important to the subsistence fishery and an average of 90,000 fish have been harvested annually since 1998 (Estensen et al. 2017:3). They also experienced a decline in productivity beginning in 1998 but not as severe as the Chinook salmon run. Because their run timing overlaps with Chinook salmon, subsistence fishing restrictions on summer chum salmon have included requiring gear that enables live release of Chinook salmon such as beach seine, dip nets and fish-friendly fish wheels. Fall chum mostly spawn in spring-fed streams in the upper portion of the drainage and provide the second largest subsistence harvest at an average of 75,000 since 1998 (Estensen et. al. 2017:4).

Beginning in 2002, in-season community surveyors have been hired each year in select communities along the Yukon River to ensure consistent participation and reporting each week regarding subsistence harvests and observed abundance on the Yukon River in-season salmon management teleconferences. The teleconferences are a key part of the in-season community surveyor program, providing a forum for reporting observations, concerns and harvest information from the fishers and providing the management data and messages to be shared back with the fishers by their surveyor. The in-season community survey program was implemented to assist in meeting the mandate set forth in the Alaska Native Interest Lands Conservation Act (ANILCA) and the State of Alaska Statute 16.05.258 Subsistence use and allocation of fish and game, both of which require a priority for subsistence over other consumptive uses. Postseason subsistence harvest surveys have been conducted annually on the Yukon River by the ADF&G since 1961 to help estimate subsistence salmon harvest levels and total salmon use, evaluate subsistence fishing success, and detect and quantify shifts in harvest patterns and amounts (Busher et al. 2009). However, this information is only collected postseason and therefore unavailable for in-season management decisions. In-season community surveys provide managers insight on subsistence harvest pro-

gression, local observations, and obstacles to meeting their subsistence needs within multiple villages located on the Yukon River for use in fisheries management decision-making. In addition to subsistence reports, the teleconference calls provide a forum for information sharing on subsistence fishing schedules, gear use, run timing and location or salmon pulses and other important issues such as border passage, escapement goals, and commercial fisheries.

This technical report covers the period April 1, 2016- March 31, 2020, funded by the Fisheries Resource Monitoring Program through Project Number 16-255. This report will describe the methods, results, partnerships and capacity building, and recommendations from this project.

PROGRAM GOALS AND OBJECTIVES

Goals

To contribute local information into fisheries management discussions and build capacity along the river to participate in fisheries management.

Objectives

1. Hire ten community surveyors in ten Yukon River drainage villages to work in-season to gather fisheries information on an annual basis;
2. Build capacity of community surveyors in ten Yukon River villages to participate in in-season fishery management;
3. Conduct annual reviews preseason and postseason to evaluate community surveyor program and design for next season to maximize effectiveness of program.

METHODS

Project Area

The project area included the Alaska portion of the Yukon River drainage. The Yukon River is the largest river in Alaska (Figure 1). It drains approximately 35 percent of state and is the fifth largest drainage in North America. The Yukon River in full is 2,300 miles long from its origin in British Columbia to its mouth in the Bering Sea, draining approximately 330,000 square miles (Vania et al. 2002).

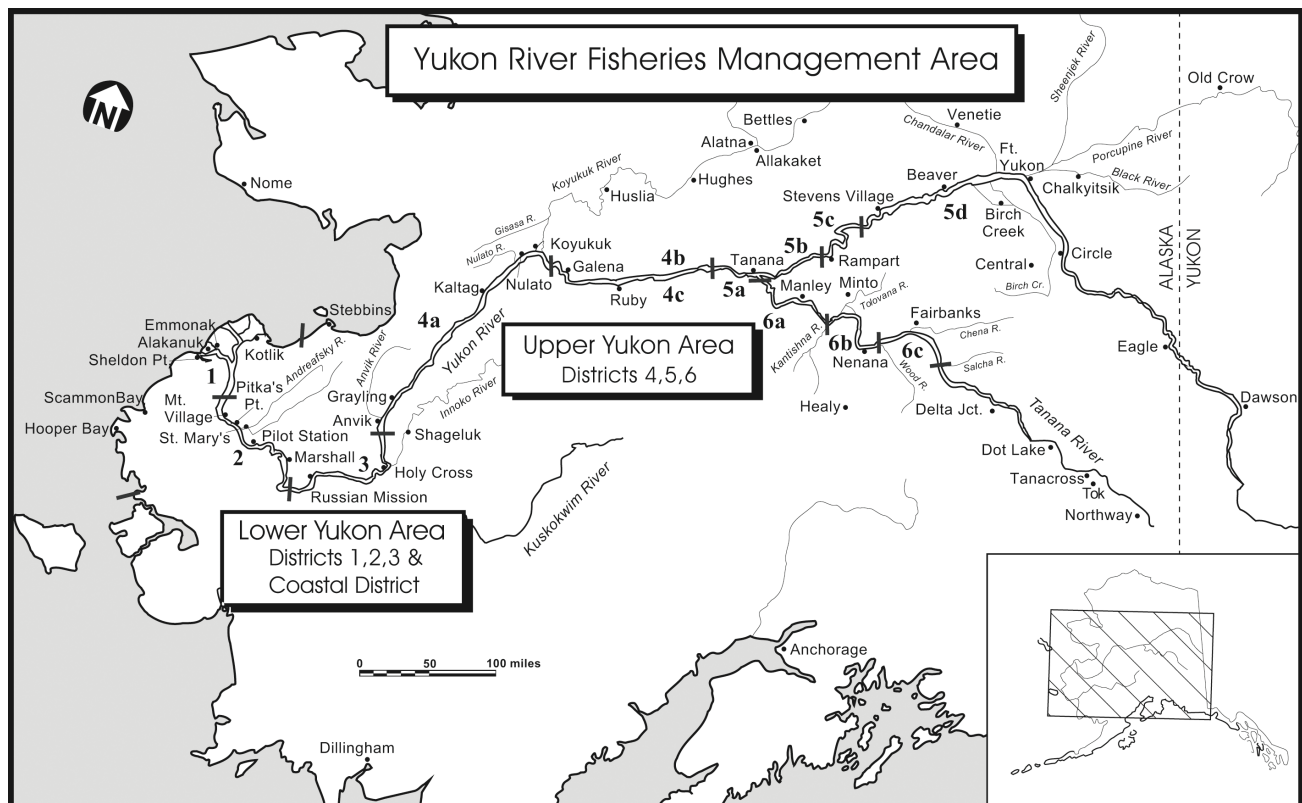


Figure 1. Alaska Department of Fish and Game fishing district map. Source: Alaska Department of Fish and Game.

Program Design

This program, created in 2002, has developed as an important communication tool for in-season management through years of work and relationship building. For this 4-year period, ten villages were selected by YRDFA, state, and federal managers that geographically covered the entire river, filled information gaps, or complemented existing research and monitoring facilities. These villages were invited to participate through their Tribal Councils. The contract position of In-season Community Surveyor was filled by a local person, most often identified by the Tribal Council or by recommendations from state and federal partners and others. The in-season community survey methodology focused on interviewing fishers weekly to collect qualitative information to provide managers with a real time assessment of the run. This included capturing challenges fishers experienced in meeting their needs. The surveyors did not always interview the same fishers every week but opportunistically interviewed all fishers they were able to contact. The program attempted to maximize the number of fishers that the community surveyors were able to interview each week.

The interview methodology followed the National Science Foundation's Principles for Conduct of Research in the Arctic and included informed consent for each participant, conducted prior to the first interview. YRDFA ensured accountability and effective communication with the communities, fishermen, and managers. The Project Investigator (PI) also ensured that privacy and confidentiality were protected in the reporting procedures, as individual names of reporting fishers were kept confidential either at the community surveyor level or at the YRDFA reporting level. When preferred, interviews were conducted in the indigenous language and local tradition and culture was always respected. The interview methodology and survey instrument were reviewed and revised annually as needed to ensure that the recording and reporting formats and content were useful for managers and fishermen. The program PI and co-PI worked with managers prior to each summer season to identify priority information to be collected and shared and updated data collection forms, interviewer training protocols, and reporting formats on the teleconferences.

Annual Training

The community surveyors received focused training annually in a group setting to orient them to the program

and materials. The training event agenda covered interview methods, appropriate research ethics, and reporting requirements. The training also focused on enhancing listening and communication skills, and teaching surveyors how to summarize different points of view in written and verbal reports. This increased their ability to communicate with local fishers, river-wide fishers, and managers and prepared them for participation in the In-season Salmon Management Teleconferences and the annual Pre-season Salmon Fisheries Preparation Meeting.

Additionally, the surveyors attended the Pre-season Salmon Fisheries Preparation meeting annually, held alternatively in Anchorage or Fairbanks. This event informed them of the most up-to-date status of the Yukon River salmon fisheries as part of a day-long event that prepared local people for the upcoming fishing season. The annual event focused on developing productive river-wide conversations related to in-season management of Yukon River fisheries. The community surveyors were instructed to bring information from their villages to the annual pre-season Yukon River fisheries meeting regarding the needs of their communities. Attendance at this meeting expanded the surveyors' knowledge of river-wide perspectives, fishing styles, issues, and concerns.

Survey Instrument and Protocol

The community surveyors used a survey instrument with qualitative questions aimed at gathering fishers' observations about changes in their subsistence harvests related to species targeted, fishing locations, fish quality, harvest methods and means, and methods of preservation. Additional information was collected on fishing effort and success, gear use, access to fishing grounds, and other information identified as important during each fishing season. During the Chinook and summer chum salmon passage, the community surveyors contacted fishermen to conduct the survey, record information on a reporting form, and sent it to YRDFA via fax or email. The surveyors interviewed fishers in their villages between Thursday and Sunday during the Chinook and summer chum salmon season over a timeframe of 4 to 6 weeks in each of the ten villages. YRDFA entered the reported information into a MS Excel spreadsheet on a weekly basis and sent it to ADF&G and USFWS for their review on the Monday prior to

each Tuesday teleconference; personal information was removed and the village report was generalized to provide confidentiality. The surveyors, with the assistance of YRDFA staff as needed, summarized the surveys into a verbal report for the weekly YRDFA hosted teleconferences. During their contract period, the community surveyors participated in each teleconference to report a summary of the information they collected. If the surveyor could not participate, they informed YRDFA and YRDFA or the community surveyor organized for another local person to report or a YRDFA staff member to give the report on the calls.

Annual Evaluations

The PIs conducted annual preseason planning and post-season evaluations with the state and federal managers to assess the priority information to be shared and collected during each summer season and to discuss how the season went. This was done via phone calls, teleconferencing and in conjunction with pre and post season ADF&G hosted interagency meetings. An annual planning and post season review process enabled this to be an adaptive program that allowed for maximum communication efforts and opportunities to reach fishers with important information such as the management priority to conserve Chinook salmon and consider alternate species.

The program had a strong focus on recruiting, training, and retaining quality surveyors as a keystone of the program. YRDFA evaluated each in-season community surveyor, their participation and effectiveness at gathering information, and their reliability in delivering a report on the teleconferences as well as their ability to engage in productive fisheries management discussions on the teleconferences. Standards were developed and surveyors were replaced who were not meeting the program standards. Standards included participating weekly, collecting quality information, sharing quality information, attending the annual preseason salmon fisheries meeting and training event, conducting weekly surveys and submitting data on time. YRDFA evaluated the community surveyors after each call to track if they participated and how their report was presented and provided feedback throughout the season to the community surveyor. Payments were also reduced for lack of participation on the calls and lack of notification to YRDFA for finding a replacement.

RESULTS

Objective 1: Hire Ten Community Surveyors to Gather Fisheries Information

Objective 1 of this program was to hire ten community surveyors in ten Yukon River drainage villages to work in season to gather fisheries information on an annual basis. This was an essential task of the program. The ten participating villages were Alakanuk, Mountain Village, Marshall, Russian Mission, Anvik, Ruby, Huslia, Tanana, Fort Yukon, and Eagle. The villages of Mountain Village, Anvik, Ruby, and Tanana were new to the program, beginning in 2016. Villages were invited to participate through their Tribal Councils and they supported the program by recommending a local surveyor and providing office support. Surveyors were contractors with YRDFA or through their Tribal Council. The contract stated the surveyors were required to participate in a training event, conduct informed consent, and conduct six weeks of surveys and teleconference participation while the Chinook salmon were running through their villages. The following section describes the locally hired community surveyors by village (see Table 1).

Surveyor Hire by Village

Alakanuk had participated in this program for many years prior to the beginning of this performance period, with the exception of 2015. A new surveyor was needed 2016 and the Alakanuk Traditional Council recommended a local person who was hired through a contract with the Traditional Council. This surveyor filled the position from 2016 through 2019, attending the pre-season meeting and surveyor training events each year. She embraced her role and enthusiastically participated in all assigned tasks and more, even participating in extra teleconferences after her contract ended each year and working hard to represent the fishers in her village. In her first year, she had to work hard to get the fishers to talk to her but, over time, fishers in Alakanuk became comfortable with her and her role and she became a source of information related to the fishery. The Alakanuk surveyor embraced the training opportunities and networked with her fellow surveyors to improve her skills and capacity. She became well known in our team of surveyors and worked hard to improve her effectiveness.

Mountain Village, being a new community to the program in 2016, necessitated outreach to the Tribal Council

and other contacts in the community to introduce the program and identify a candidate to be the surveyor. A local fisher was recommended and hired in 2016. This surveyor (#1) participated in the training event and represented his community at the pre-season planning meeting but was unable to complete the contract and survey period. In year two, a new surveyor (#2) was recommended by the Tribal Council who held the position for two years – 2017 and 2018. He attended training events, was able to conduct all of his survey data and participated in the majority of the required teleconferences but was not able to continue in 2019. The Tribal Council in Mountain Village recommended another candidate (#3) for the 2019 season and she attended the preseason meeting and surveyor training. Excited about her opportunity, she embraced her new job, participating in eight teleconferences and submitting all of her data sheets with more fishers interviewed in Mountain Village than any of the previous surveyors for her community.

Marshall is a village that had participated in this program for many years and we had an established relationship with a long-time surveyor. She was rehired in 2016 for her eighth year of surveying. She continued in her position through this entire project performance period. Due to her experience and desire, we developed a direct contract with her and the Tribal Councils in her community continued to support her by providing access to a fax machine. She attended surveyor trainings and Pre-Season meetings each year during this project performance period and participated in as many teleconferences as she could, well exceeding her contract. She participated in 8-10 teleconference each year and always submitted her six data sheets on time.

The village of Russian Mission had participated in this program since 2011 and the local hire surveyor was in his third year of surveying in 2016. He continued as the Russian Mission surveyor throughout the project performance period, attending the surveyor training event and preseason meeting each year. He worked hard to speak with and represent the fishers in his community throughout this program and reportedly prided himself on being able to take the essence of what is going on in his community and represent that on the teleconferences or at the preseason meeting. He also worked to recruit others from his community to participate by getting on the CB radio prior to each teleconference, reminding others of the phone number and time to call in. He consistently

submitted his data sheets on time and completely and did not miss teleconferences.

Anvik was a new community to the program in 2016. YRDFA worked with the Tribal Council and local contacts to identify a locally hired surveyor. The surveyor identified in year one was only able to submit two weeks of data sheets with eight households and found it difficult to fill the role of surveyor for Anvik. In year two, a new surveyor was recommended by the Tribal Council. She attended the training and was able to work in the position through 2019. In 2017, she conducted six weeks of surveys and participated in four teleconferences. In 2018, she was able to do five weeks of both survey data and teleconference participation. In 2019, she was not able to conduct any surveys but did participate in two teleconferences.

Ruby was a new community to the program in 2015 but in 2016 the surveyor was no longer available. YRDFA worked with the Tribal Council to select a new surveyor and she attended the training events and surveyed all six weeks and participated in five of the teleconferences. She was unavailable to be the surveyor in 2017 and YRDFA worked with the Tribal Office, unsuccessfully, to find a surveyor. Two individuals were hired but neither of them accomplished any tasks, although the second hire attended the preseason meeting and surveyor training event. In 2018, the Ruby Tribal Council recommended a new surveyor who worked for both 2018 and 2019, attending the surveyor training and preseason meeting in 2018. She was able to participate in six teleconferences and completed four weeks of survey data in 2018. In 2019, she was unable to attend the training events but participated in an individualized refresher training in Anchorage. She participated in five teleconferences and completed all six weeks of survey data for 2019.

The village of Huslia had also been a part of this program since 2011 so we had established relationships with the Tribal Council. They recommended a surveyor and we established a contract through the Tribe for this new hire who held this position through 2018. She attended the preseason meeting and surveyor training each year. In 2016, she completed her contract and was able to participate in seven teleconference and completed six weeks of survey data. In 2017, she participated in less teleconferences (four) but still completed her six weeks of survey data. In 2018, she again did not complete her contract but

Table 1. Surveyors by community during performance period.

Survey Communities	Surveyors			
	2016	2017	2018	2019
Alakanuk	Pamela Cook	Pamela Cook	Pamela Cook	Pamela Cook
Mountain	Stan Sheppard	Eugene Landlord	Eugene Landlord	Nita Stevens
Marshall	Norma Evan	Norma Evan	Norma Evan	Norma Evan
Russian Mission	Basil Larsen	Basil Larsen	Basil Larsen	Basil Larsen
Anvik	John (Jay) Jensen	Sherry Kruger	Sherry Kruger	Sherry Kruger
Ruby	Charlene Mayo	Jonathon Nicoli	Rachael Kangas	Rachael Kangas
Huslia	Lisa Bifelt	Lisa Bifelt	Lisa Bifelt	Zoe Ballard-Huffman
Tanana	Teneisha Roberts	Geneva Wright	Ariella Derrickson	Stan Zuray
Fort Yukon	Andrew Firmin	Andrew Firmin	Andrew Firmin	Andrew Firmin/ Kara'lisa Tremblay
Eagle	Naomi Helmer	Naomi Helmer	Jonathon DePue	Michelle (Ruby) Becker

was able to participate in five teleconferences and submitted five weeks of survey data. In 2019, a new surveyor was recommended and had some experience as she had assisted the 2016-2018 surveyor, so was very familiar with the work. Our 2019 surveyor attended the surveyor training and preseason meeting in Fairbanks. She was able to participate in eight teleconferences and completed five weeks of survey data.

Tanana was a new community in 2016. We worked through the Tribal Council but were not able to select a local hire before the pre-season meeting and training event so their Environmental Coordinator attended the Surveyor Training and preseason Meeting and took on the responsibility of selecting and training their local hire. A local person was selected as the surveyor for 2016. There was an effort to share the position because of the limited local jobs available but it was found to be difficult to 'pass the torch' so the resulting recommendation for future years was to hire one person for this community. The 2016 surveyor completed her contract and was able to participate in six teleconferences and submitted six weeks of survey data. In 2017, a new surveyor was selected. She attended the training events and submit eight weeks of survey data but was only able to participate in two teleconferences. In 2018 another new surveyor took the position and attended the

training events. Our 2018 surveyor also completed her contract, participating in seven teleconferences and submitted six weeks of survey data. She continued into 2019, attending the training event but was unable to complete the contract so we found a local fisher willing to take over the position. He ended up completing six weeks of survey data and participating in seven weeks of teleconferences.

Fort Yukon has been a survey community since at least 2008 when our long-time surveyor started working on this program. He continued his work through this project period of 2016-2019. Each year he attended the surveyor training event and pre-season meeting. He also participated in seven teleconferences each year and eight teleconferences in 2019. He submitted six weeks of survey data each year. In the final two years of this reporting period, he recruited another local person as his assistant, training her in the position to help him collecting the survey data. They worked as a team dividing the tasks and he continued to report on the teleconference each week.

Eagle was also a community that had been participating in this program for roughly a decade. We worked with a variety of surveyors over this performance period and they were usually recommended by the previous surveyor or other local contacts. Our 2016 surveyor participated in seven teleconference and submitted seven weeks of

survey data, exceeding her contract. She attended the surveyor training and preseason meeting in 2016 but was unable to attend in 2017 so she received a personalized phone refresher training. She worked as the surveyor for two years, completing the 2017 season. In 2018, she was no longer available but recommended another local person. Our 2018 surveyor attended the training event and pre-season meeting and participated in six teleconferences in 2018 but was only able to submit five weeks of survey data. He was unavailable in 2019 and another local person was recommended. We identified her after the surveyor training event so the PI traveled to Eagle to conduct an in-person training with her. She enthusiastically participated in six teleconferences and submitted six weeks of survey data.

This table below (Table 2) describes the number of years worked or retention with each surveyor. As you can see from the table, we had two very experienced surveyors who worked on this program for 11 years and another

one who had worked as a surveyor for this program for six years. We had four surveyors who worked for the entire performance period of four years covered in this report. Including the three established surveyors in 2016, we recruited and trained 19 new surveyors during this reporting period (see Table 1).

Survey Forms

Surveyors were trained to administer three survey forms to active fishers in their community during the Chinook salmon fishing season. A First Interview survey form was used during the initial interview. The questions on this form focused on preparation and planning for the upcoming fishing season as well reflecting on the previous year's fishing opportunities. Informed consent was given during this discussion if not already provided to the participant. During informed consent, the surveyor reminded or explained to the participant that they would be collecting their observations and fishing information during the Chinook salmon season for this YRDFA program funded by the US Fish and Wildlife Service. They also explained that their participation would be voluntary and anonymous. If fishing had begun during this first interview, then the surveyor would also administer the Weekly Survey with each participant. The Weekly Survey, conducted for six weeks, asked questions about fishing success and gear type, as well as collecting general comments about management. Finally, once the fishers were complete or near complete fishing, the surveyor would administer the Final Interview Questions, which gathered information about fishing success, opportunity, and best communication methods.

Surveyors were instructed to interview as many fishing families in their communities as possible each week. Interviews were opportunistic and it was expected that surveyors would not be able to interview every family every week as some families start fishing early and some start later. Some spent more time out at camp and some were easily available for interviews. The overarching goal of each surveyor was to represent the community and those fishing each week in their survey data and on the teleconferences. The following two tables (see Tables 3 and 4) show the total number of interviews conducted in each community by year and the total number of households that participated in each community by year. We conducted a total of 1,703 interviews over the four-year period.

Table 2. Surveyor retention showing surveyors in 2019 and number of years worked.

2019 Surveyor Retention		
Surveyor	Start Year	Years worked
Norma Evan	2008	11
Andrew Firmin	2008	11
Basil Larsen	2014	6
Pamela Cook	2016	4
Lisa Bifelt	2016	3
Sherry Kruger	2017	3
Rachael Kangas	2018	2
Nita Stevens	2019	1
Zoe Ballard-Huffman	2019	1
Kara'lisa Tremblay	2019	1
Michelle Becker	2019	1

Table 3. Total number of interviews per community by year over the performance period.

Yukon River Drainage Fisheries Association				
Village	# of interviews			
	2016	2017	2018	2019
Alakanuk	65	126	84	78
Mountain Village	2	40	31	38
Marshall	85	78	87	64
Russian Mission	35	34	53	54
Anvik	12	32	45	12
Ruby	36	0	49	26
Huslia	29	40	24	3
Tanana	31	37	39	39
Fort Yukon	52	42	53	52
Eagle	28	26	31	11
Totals	375	455	496	377

Table 4. Total number of households interviewed by community over the performance period.

Yukon River Drainage Fisheries Association				
Village	# of households			
	2016	2017	2018	2019
Alakanuk	12	41	28	29
Mountain Village	2	9	8	10
Marshall	15	18	15	14
Russian Mission	20	21	17	21
Anvik	8	12	11	8
Ruby	9	0	15	17
Huslia	5	20	6	6
Tanana	7	5	15	8
Fort Yukon	18	23	20	23
Eagle	4	6	4	6
Totals	100	155	139	142

Survey Data

The survey data provided information about conditions in the ten participating communities during the fishing season. This in-season information was important to provide managers and other fishers information about what was happening during the fishing season when there may be time to adjust management or take other actions. After most fishing was completed, the final interview form gathered information about whether the fishers were able to meet their needs during the season. At the end of the season, the PI reviewed all the survey forms and the compiled MS Excel spreadsheet and produced summary reports for the funder and the Regional Advisory Councils. The PI reviewed the spreadsheets for accuracy and looked for any trends, similarities and differences. The following is a short description of what was learned each year, by community, from the survey program.

2016

In the 2016 season, surveyors in ten Yukon River communities were able to survey a total of 100 households over a six-week period with a total of 375 interviews (see Table 4). The survey ran from May 30th to Aug 8th, 2016. The surveyors reported that fishers in their communities were disappointed in their ability to fish in the early part of the Chinook salmon run or the closures on the “tricklers,” the Chinook salmon that arrived before the first pulse of Chinook salmon. There were many requests up and down the river to provide more opportunity for fishing through the surveys. Once the Chinook salmon arrived and the first part of the run passed, most fishermen reported ending the season with better fishing as compared to the previous two years (2015 and 2014). A gear type question was newly added to the survey this year enabling a weekly report of gear type being used in different villages.

During the first week of survey data, ending May 30th, a couple of fishers in Alakanuk and Marshall were beginning to catch chum salmon. Fishers in Marshall also reported that they were not fishing because they did not have gas or nets. In the second week of surveying, ending June 6th, fishers in Alakanuk were asking for more subsistence fishing openings and to be able to use gill nets. They were concerned about high gas prices and the expense of using dip nets to fish. Fishing was reported as slow with very few salmon in Marshall and Mountain Village. In Russian Mission, the water level was dropping

and some small Chinook salmon were caught. Average size chum salmon were also caught in Russian Mission and participants were making requests for less restrictions. In the third week of June 13, fishers in Alakanuk were requesting more openings with set nets and only one fisher reported catching chum salmon. In Marshall, the surveyor reported healthy fish and rain. In Russian Mission, the fish caught were healthy and there were requests for use of 6" mesh nets to harvest summer chum salmon as only 4" mesh nets and dip nets were allowed at the time. In week four or June 20th, fishers in Alakanuk were asking for more subsistence openings and in Marshall fishers were thanking management for the drift net opening that they had. In Russian Mission, fishers were using 4" mesh nets and catching small Chinook salmon. In Anvik, fishers were catching some chum salmon in their 4" mesh nets and getting frustrated with their gear options. In Ruby, fishing was closed this week and some fishers were planning to conserve Chinook salmon. In Huslia, fishers were using 6" mesh nets and catching a few Chinook salmon.

During the week of June 27th, Alakanuk saw a large chum salmon run but some people were not fishing. Chinook salmon were released, if caught. In Russian Mission, fishers used 6" mesh nets in 2 openings and were happy that they caught good chum salmon. In Ruby, fishers were conserving Chinook salmon. During the week ending July 4th, fishers in Alakanuk were doing good on their harvest but wanted more Chinook salmon. In Mountain Village,

people were busy with a fire and a body search in the river but others were about 20% finished with their chum salmon harvest. They were happy to be allowed to retain their Chinook salmon from their commercial harvests. In Marshall, fishers were catching bright Chinook salmon. In Russian Mission, fishers were asking for more openings using 7.5" mesh nets and reporting that there were few Chinook salmon in their area and they needed more Chinook and chum salmon to meet their needs. In Ruby, no one was fishing due to restrictions and boat issues. During the week ending July 11, fishers in Huslia were reporting that Chinook salmon fishing had slowed down but had been strong. In Tanana, the fishers were happy to be fishing. In Fort Yukon, people were unhappy with the closures starting in their area prior to the arrival of the first pulse. In Eagle, fishers were not fishing due to the closures.

During the week ending July 18, fishers in Ruby, Huslia, and Tanana were all happy that they had been able to catch a few Chinook salmon and all reported that this year's fishing was a little better than the year before (2015). In Fort Yukon, some fishers were getting close to finishing and others were still using fish wheels for extended families. In Eagle, some fishers were conserving and not fishing this year and others were catching a few Chinook salmon. During the week ending July 25th, fishers in Fort Yukon reported mixed results but some who had worked hard were happy with their catches. In Eagle, fishers were grateful to get a few male Chinook salmon. During the week ending Aug 1, fishers in Tanana were



not fishing due to a low number of salmon and personal reasons. They all felt that fishing was better in 2016 than in 2015. In Eagle, fishers were also happy for the opportunity to fish and share salmon. Some fishers were conserving and not fishing and others were targeting small males Chinook salmon. In the final week ending August 8, fishers in Eagle reported that fishing was the same or better than 2015 and that fish quality was better.

2017

During the 2017 fishing season the YRDFA in-season surveyors were able to interview 155 households in 455 interviews between May 30 and July 31. Surveyors reported that in most communities, fishers were very happy with the fishing opportunities, the chance to use 7.5" mesh nets, and, in most communities, the fishermen were able to meet their needs. Communities in which most participants reported meeting their needs included Alakanuk, Mountain Village, Russian Mission, Tanana, Fort Yukon, and Eagle. Communities that commented on their appreciation of the fishing opportunities and the opportunity to use 7.5" mesh gillnets included Mountain Village, Marshall, Russian Mission, and Anvik. Fishers in Tanana were especially appreciative of the fishing opportunities as compared to the previous years and reported that those fishers who did not meet their needs did not have the equipment needed. Fishers in both Tanana and Eagle reported that fishing was phenomenal and in Fort Yukon they reported that fishers met their needs much more quickly than in recent years. In two communities, Ruby and Huslia, we were unable to collect fishing information.

During the first week of interviews, ending May 30th, fishers in Alakanuk caught some chum salmon but no Chinook salmon. In the second week, ending June 5th, fishers in Alakanuk reported high water and better fishing than the previous week. Fishers in Mountain Village caught mostly chum salmon. In the week ending June 12th, some fishers in Alakanuk did not fish due to lack of gas or motor problems and some did not want to participate in the survey. In Alakanuk, Mountain Village, and Marshall fishers caught mostly chum salmon and very few Chinook salmon were reported caught. During the week ending June 19th, fishers in Alakanuk were requesting additional subsistence openings with 6" set nets. They reported that fishing was going well and they caught mostly chum salmon. In Mountain Village, Marshall, and Rus-

sian Mission, fishers were catching chum salmon with dip nets or were waiting for larger gill net openings. During the week ending June 26th, fishers in Alakanuk through Tanana were fishing with 7.5" mesh gillnets and catching both Chinook and chum salmon. During the week ending July 3rd, fishers in Alakanuk were finished with their summer salmon harvest. In Mountain Village the rain was causing problems for their drying fish. In Marshall, fishers were happy with their healthy-looking harvest of Chinook and chum salmon. Fishers in Russian Mission, Anvik, and Huslia were also happy with their harvest and the opportunity to use 7.5" mesh nets. They reported big, healthy Chinook salmon. In Tanana fishers were catching Chinook salmon in both nets and wheels.

During the week ending July 10th, fishers in the lower river were mostly finished with their harvest for summer salmon and working on drying their fish. In Huslia, there were reports of lower quality chum and Chinook salmon. In Tanana, Fort Yukon, and Eagle, they were catching Chinook salmon in nets and wheels. During the week ending July 17th, fishers in Huslia caught more chum salmon than Chinook. Tanana, Fort Yukon, and Eagle were all catching Chinook in their 7.5" mesh gillnets and fish wheels, and reporting that run strength had improved in the Eagle area. During the week ending July 24th, fishers in Eagle were reporting bigger Chinook salmon and some high water. During the week ending July 31, fishers in Tanana/Rapids area, Fort Yukon, and Eagle were using 7.5" mesh nets and fish wheels. During the final week ending August 7th, fishers in Tanana reported that most had met their needs and in Eagle they called it "phenomenal fishing" and thanked management for the opportunities.

2018

During the 2018 fishing season the YRDFA in-season surveyors were able to interview 141 households in 496 interviews between June 11 and August 13. The surveyor in Alakanuk reported that more than half of the fishers participating in the surveys did not meet their needs for Chinook salmon. They reported that they wished they had more subsistence openings during the first pulse and more opportunity in general for Chinook salmon fishing. In Mountain Village, almost all of the fishers participating in the surveys reported that they had met their needs. In Marshall and Russian Mission, most fishers participating in the surveys reported that they had met their needs. The Russian Mission partic-

ipants requested more openings with 7.5" mesh nets. In Anvik and Ruby, most participating fishermen reported not meeting their needs for the 2018 season. In Fort Yukon, about half of the participating fishermen reported meeting their needs while half did not due to high water and debris in the river. They also requested more fishing time. In Eagle, participating fishers survey reported meeting their needs although many of them did not fish for Chinook salmon in an effort to conserve them. Those that did fish reported that the openings were too short.

During the week ending June 4th, most fishers in Alakanuk had not yet started fishing but those that were had used 6" mesh nets and caught a few chum salmon and one Chinook salmon. During the week ending June 11th, more households were fishing in Alakanuk, Mountain Village, Marshall, and Russian Mission and they were reporting a lot of debris and high water. They caught some chum and Chinook salmon. During the week ending June 18th, fishers in Alakanuk were reporting high water and debris and releasing Chinook salmon when they caught them. In Mountain Village there was rough weather and some did not fish. Fishers in Marshall and Russian Mission caught some chum and Chinook salmon. They were using 7.5" and 6" mesh nets and were asking for more openings. During the week ending June 25th, fishers in Alakanuk reported that the run was slowing down. Fishers in Mountain Village reported bright salmon and too many commercial fishing periods. In Marshall, fishing was good and the drying weather was also good. In Russian Mission, fishers reported big, healthy Chinook salmon and they requested longer openings and to continue using 7.5" mesh nets because they had a late start fishing due to rough waters. In Anvik, fishers report small Chinook salmon that slipped through their nets and slow fishing. Some were just starting to fish in Ruby and Huslia.

During the week ending July 2nd, fishers in Alakanuk were reporting chum salmon with pus pockets. Many fishers were not fishing in Alakanuk, Mountain Village, and Marshall. In Russian Mission, fishers were using 6" mesh nets and 70% of fishers were completed with their chum salmon harvest. In Anvik, fishers were using 7.5" mesh nets and caught some chum and Chinook salmon. In Ruby, there was a closure and no one was fishing. In Huslia, the water was high and fishers were mostly catching chum salmon. In Tanana, fishers reported more Chinook in the river and bigger fish. In Fort Yukon, fishers

were just beginning to use nets and wheels. During the week ending July 9th, fishers in Alakanuk reported slow fishing and were waiting for fall chum. In Marshall, some fishers went to district Y3 to be able use 7.5" mesh nets and they reported seeing good looking salmon. In Russian Mission, 50% of fishers were finished with their harvest of chum and Chinook salmon. They reported reducing their harvest goals in half for Chinook salmon due to conservation and planned to make up their reduction by harvesting more fall chum salmon. In Ruby, fishers were using 6" and 7.5" mesh drift and set nets and catching both chum and Chinook salmon. In Huslia, fishers were catching chum salmon primarily. In Tanana, fishers were asking for another opening and to be able to use dip nets for chum salmon during Chinook salmon closures. They reported that the salmon were small. In Fort Yukon, they had high water but some were fishing with wheels and 4" and 6" mesh nets.

During the week ending July 16th, fishers in Mountain Village were catching mostly chum salmon and waiting for fall chum. In Alakanuk and Marshall, most fishers did not meet their subsistence goals for Chinook salmon and planned to make up for it with fall chum. In Russian Mission, fishing was worse than the previous week, all the camps reduced their harvest goals for Chinook salmon and were waiting for the fall chum salmon to arrive. In Anvik, fishing had slowed down and fishers were waiting for fall chum salmon. In Ruby, fishers were teaming up and sharing their catch. They reported poor quality Chinook salmon with pale flesh or pus in the bellies. In Huslia, fishers reported high water which had caused some of the river banks to collapse. They were catching mostly chum salmon with 6-7.5" mesh gillnets and reported quality of fish was declining. In Tanana, fishers were using fish wheels and nets and reported fishing to be the same as the previous week. In Fort Yukon, fishers gave mixed reports and were using wheels and 6" mesh set nets. In Eagle, fishers were getting started with 6" mesh set nets. During the week ending July 23rd, fishers in Tanana reported fishing as poor. In Fort Yukon fishers reported better fishing but lower quality Chinook salmon. In Eagle, fishers reported catching poorly colored Chinook salmon, mostly small males and a low percent of females. During the week ending July 30th, fishers in Fort Yukon were about 50% finished with their harvest and used 6" mesh nets and wheels. In Eagle, no one fished this past week. During the week ending August 6th, Fort Yukon

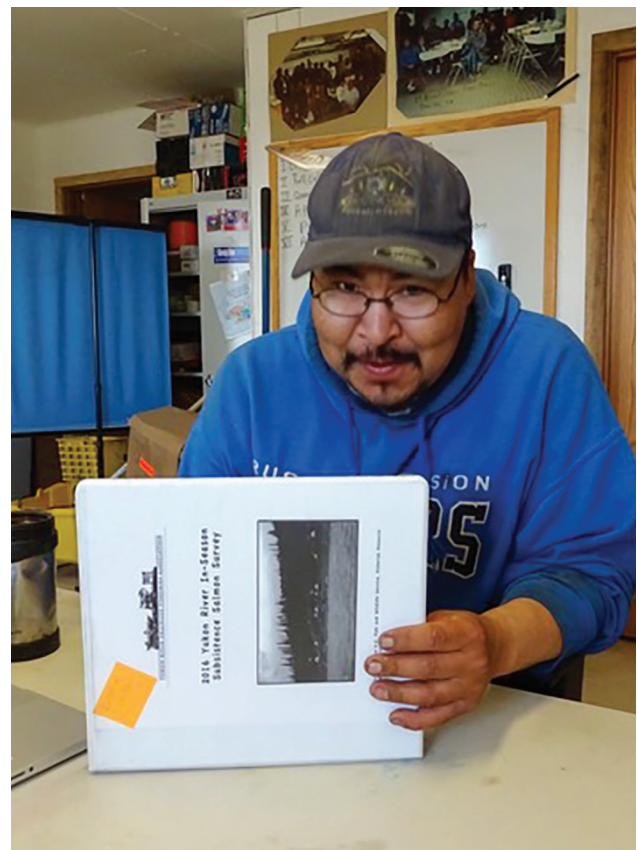
fishers were finished and Eagle fishers either did not fish or caught chum and Chinook salmon with 6" mesh nets. They were waiting for fall chum salmon. During the week ending August 13th, fishers in Eagle reported that they had met their reduced goals but fish quality was not as good. Some fishers in Eagle did not fish.

2019

During the 2019 season, YRDFA surveyors were able to conduct 377 interviews with 142 households between May 30 and August 19th. Fishers in Alakanuk and Mountain Village who participated in the program, reported that most were able to meet their needs. Some fishers in Alakanuk wanted more coho and fall chum salmon and some did not get enough Chinook or summer chum salmon. They reported healthy but small salmon this year. In Mountain Village, fishers appreciated the opportunity to use nets instead of dip nets and reported better fishing in 2019 with Chinook salmon running strong. In Marshall, our surveyor reported that families that were ready, without any boat issues and could afford gas, did well with subsistence fishing in 2019. She observed that people in her community did not fish as much as other years and that it was an usually hot year. About one half of the fishers who participated in Russian Mission met their needs this year although some were on a reduced harvest year. Some that did not meet their needs in Russian Mission had issues preventing their harvest success such as medical issues, boat or fishing gear problems. Participating fishers in Ruby all met their needs for salmon this year. They reported fishing as the same as 2018, or better, with more time to fish, larger Chinook salmon, and good quality fish but there was low water in the river and some parasites in the fish. In Huslia, of the three fishers that participated, two did not meet their needs due to personal issues or poor fishing conditions. The fisher who met their needs found fishing in 2019 to be better than 2018. In Tanana, all seven participating fishers in the final interview met their needs for salmon and most reported better fishing in 2019. There were low water issues for nets and for travel and some reported larger Chinook salmon this year. In Fort Yukon, less than half of the participating fishers met their needs by the final interview. Those that met their needs, said fishing was good but the fires in the area hampered fishing efforts. In Eagle, all participants met their needs this year and, compared to last year, they reported the run was later but the same or better than 2018.

During the first week of June, fishers were just starting to catch a few fish, mostly Chinook, in Alakanuk and a few as far upriver as Russian Mission but logs were coming downriver and high water were still obstacles. In the second week of the program through June 11, the weather was very good for both fishing and drying fish. Fishers had done well in Alakanuk and St. Mary's and some were finished fishing for Chinook salmon and some were still working on chum salmon. Fishers were just getting starting in Mountain Village and Russian Mission. Breakup had caused some smokehouses to fall into the river in Marshall and people were still repairing their fish camps. In Anvik, fishers were just starting to catch the "tricklers" or early fish.

In week three or June 9th, some fishers were just getting started for salmon in Alakanuk, Mountain Village, Marshall, and Anvik. Fishers were making comments about warm water in Alakanuk, high water in Mountain Village, debris in St. Mary's, and smoke in Marshall. In week 4 or June 25th, fishers in the lower river were starting to com-



Basil Larsen, of Russian Mission, working as a surveyor.

plete their summer harvest of Chinook and chum salmon except for those who were fishing for multiple families or had gas or boat problems. In St. Mary's most subsistence fishing was starting to be completed but the summer chum salmon had not arrived as expected. There were many chum salmon with infections or pus. In Marshall, most families were 70% finished fishing. In Russian Mission, 50% of the families were finished fishing for their summer harvest of Chinook and chum salmon. During week 4, fishers reported high water around Alakanuk, sand bars in Mountain Village, low water in Russian Mission, Ruby, and Tanana. It was also very warm during this period across the region.

In week five or July 2nd, fishers were starting to complete their harvest in Alakanuk, Mountain Village and Marshall. In Russian Mission, they were experiencing an overload of chum salmon in their nets and fishers were switching to dip nets to control their catch. In Anvik, fishing was good. In Ruby, there were no summer chum yet but fishers were catching some Chinook salmon and it was very smoky there. In Huslia, fishers were just starting to catch

salmon. In week 6 or July 9th, fishers were finished fishing in Alakanuk and Mountain Village. In Alakanuk, the water was low and warm. In Mountain Village there was a lot of smoke from fires. In Marshall it was too hot to fish and in Russian Mission, most fishers were finished with their summer salmon harvest and hoping for fall chum. It was very smoky in Russian Mission during this period. In Anvik, fishers were catching Chinook salmon on a daily basis but the salmon were beginning to turn red. In Huslia, fishing was good during the week July 9th and Ruby fishers were starting to be at 85-100% of their goals. They were pleased with the high-quality Chinook salmon which were mainly males. In the Tanana/Rapids area, fishers reported completing 50% of their fishing needs. In Fort Yukon, fishing was not good and families were teaming up and running multiple gear sets. In Eagle, fishing was the same as the previous week and fishers caught mostly small males. It was very hot and smoky in Eagle during this week.

In week seven, most fishers in Alakanuk, Mountain Village, Marshall, and Russian Mission were finished fishing

2019 Surveyor Team in Fairbanks for Annual Training and Pre-Season Planning Meeting. From Left: Catherine Moncrieff, Zoe Ballard-Huffman, Sherry Kruger, Pamela Cook, Kara'lissa Tremblay, Andrew Firmin, Nita Stevens, Basil Larsen, Norma Evan, Ariella Derrickson.



until the coho and fall chum salmon arrived. In Marshall, many families were berry picking this week. The surveyor in Russian Mission reported that families reduced their harvest this year because the summer chum were late and they were trying to be conservative of the run, choosing to depend on the fall chum salmon instead. In all four lower river villages, fishers reported a mix of meeting their needs or not. In Ruby, fishers had also completed their harvest of Chinook and summer chum salmon. In Huslia, fishers were still working on their harvest and in Tanana, fishers were shutting down their wheels to avoid catching too many Chinook salmon with spawning colors. In Fort Yukon, some fishers were completing their harvest and others were reporting catching small and medium sized Chinook salmon. In Eagle, fishers were catching healthy Chinook salmon, with very few females.

In week eight or July 22, the chum salmon run was strong in the Tanana/Rapids area but the fish were all white-fleshed. The Chinook salmon were also poor quality. In Fort Yukon fishers were happy to be subsistence fishing and still running their wheels. In Eagle fishers were catching more female Chinook salmon. They reported catching no chum salmon and warm, silty water in the river. During the week of July 29th or week nine, fishing was quiet in Tanana / Rapids area. In Fort Yukon, they reported rain which was good for putting out fires. Fishers were mostly finished in Fort Yukon at this time. And in Eagle folks were not fishing. During the week of August 12th, our Eagle surveyor reported one more family running a wheel and catching some king salmon. They reported cooler temperature and water in the river rising steadily.

Regional Advisory Council Reporting

The federal regional advisory councils (RAC) for the Yukon River are important to this program because they represent the fishers of the Yukon River to the federal subsistence board and set the priorities for the Fisheries Resource Monitoring Program. YRDFA kept them informed of program activities and results twice annually at their spring and fall meetings. Through the performance period, three staff members represented YRDFA at each meeting – Wayne Jenkins, Catherine Moncrieff, and Danielle Stickman, attending in person to each meeting or telephonically. YRDFA staff prepared a report for each meeting, updating the RAC members on the Fisheries Resource Monitoring Program projects, as well as related YRDFA activities that were thought to be of interest-

ed to RAC members. When possible, we submitted our reports to be included in the meeting book or provided handouts with a brief summary of our reports. Attending the RAC meetings was always beneficial to the program due to the opportunity to interact with the RAC members and to listen to their statements and concerns from their region of the river. RAC members are part of the survey communities and were able to assist with suggestions for the program such as when a new surveyor was needed.

Objective 2: Capacity Building

Objective 2 was to build the capacity of the community surveyors in ten Yukon River villages to participate in in season fisheries management and YRDFA accomplished this by providing annual training events and support during their work. Additionally, their capacity was enhanced by the opportunity to establish peer to peer support through the interaction of the surveyor team at the annual training event where they were able to network, meet other surveyors, and share stories and experiences. YRDFA strived to provide strong support during their work, being available to answer questions, and guide their experiences. The surveyors gained knowledge of the fishery and current issues through their attendance at the annual Yukon River preseason Planning meeting and they shared what they learned with their community members.

Training Event Summary

Each year, YRDFA held a surveyor training event either in Fairbanks or Anchorage and this event was attended by all surveyors hired who were able to make the trip. This event was important because it not only provided training and orientation to the materials the surveyors would be using during their work, it also allowed them to network, learn from others, and build relationships that they were able to rely on for support during and after the fishing season. Attendance was taken and an evaluation of the event was completed at the end by each participant. The training agenda included a welcome and thanks to the people of land; introductions; a review of the program goals, objectives and background; a map of the river and participating communities; a review of the program binder, forms, protocol and schedule; discussion of the teleconference participation; and discussion of the end of season forms and evaluations. At each training event there was time set aside for introductions of managers and other guests and for practice using the forms or mock interviews.

The community surveyor program was smaller in 2015 due to limited funding for one year with only four villages participating. In 2016, we were able to rehire three of the four surveyors as we expanded back into our full program with ten villages. Nine surveyors were hired, including six new surveyors, and they attend the training event in April in Anchorage where they were introduced to the program and materials. During the training event, we also reviewed why fishers' voices are so important as the 'eyes on the river' for the managers, how to record and represent fishers' voices, and how the data is used, in-season, by the managers. The goal in 2016 was to improve the program and enhance its communication effectiveness. We focused on the teleconferences and developed a protocol for reporting and summarizing their data to be shared with the rest of the river. The evaluation of the 2016 training event was rated good to excellent by the surveyors. The majority of them left with high confidence that they could do their job effectively.

In 2017, nine surveyors were able to attend the Yukon River Pre-season Planning Meeting and Surveyor Training event in Fairbanks in April. We had four new surveyors this year at the training event. The tenth surveyor (from Tanana) was not yet hired at the time of the meeting and was trained by a supervisor who attended in their place. The training outline for 2017 was similar to the format used in 2016. The goal in 2017 was to maximize the number of participants in the program, trying to survey the majority of people fishing. The evaluation of the event showed that participants felt that the training was excellent in helping them understand their job as a surveyor and they left with high confidence that they could do their job effectively.

In 2018, nine surveyors traveled to Anchorage in April to attend the Yukon River preseason Salmon Preparedness meeting and the Surveyor Training event. We had two new surveyors in 2018 at the training event. In addition to the training, they each received a binder with all the materials necessary for their work. A full evening training event was spent reviewing the materials, answering questions, and practicing conducting the survey. The goal for the 2018 program was to continue to maximize the number of participants in each community and to represent all fishing families and locations. Additionally, surveyors were instructed to expand their outreach using VHF announcements and visiting fishers at their smokehouses or other locations to meet the 2018 goals.

During the evaluation, surveyors reported that they felt the event prepared them well for their job and they enjoyed meeting the other surveyors in person. They rated the training as excellent and their confidence as high.

In 2019, the training event took place in Fairbanks. We had three new surveyors at this training event. During the 2019 training event, surveyors were instructed to talk to their participants about the best way to contact them during the fishing season. Additionally, more time was spent on the mock interviews as an effort to support the new surveyors and share the knowledge of the more experienced surveyors. The evaluation survey showed similar results as in years past with surveyors feeling well trained and prepared for their role in the fishery.

In Season Support

After the training event, new surveyors often needed additional support once they began their work. The YRDFA PI made great efforts to be available for phone calls and guidance during the surveyors work period, Thursday to Sunday, when they ran into issues or questions. They were able to call at any time and receive the support they needed to feel confident in the work. These questions had to do with how to fill out a survey form, when to complete each form, how to submit data, and what to do if a fisher was unavailable or unwilling to be surveyed.

Peer to Peer Support

During the annual training event, the surveyors were able to network with each other, in person, making connections that lasted throughout the season. Surveyors met other surveyors from other parts of the river, close to them or far away. New surveyors connected with a more experienced surveyor and were able to stay in contact and ask questions, if the PI was unable to directly answer their questions, building a network of support on the river. This system was very effective and peer to peer mentorships greatly benefited the new surveyors and built the confidence of the more experienced surveyors. Additionally, this method developed a team approach which was important during these years of Chinook salmon conservation.

Field Trainings

In some cases, a surveyor was unable to attend the annual spring training event in Anchorage or Fairbanks or was not yet hired when the annual training event took place.

In these situations, the PI usually traveled to their community and conducted a personalized training for the individual within their community. This took place in 2018 when the PI traveled to Tanana to train surveyor Ariella Derrickson and in 2019 when the PI traveled to Eagle to train Michelle (Ruby) Becker. During these trainings, the surveyor and the PI reviewed the surveyor binder, the forms, and conducted practice or mock interviews. The individualized attention allowed the surveyor to spend as much time as they needed to become familiar with the materials. In other cases, the PI conducted a phone trainings or refresher trainings when a renewing surveyor was unable to attend annual spring training event and travel was not feasible.

Advance Surveyors/ Mentors

As part of capacity building and to maximize the experience of our long-term surveyors, the highest quality surveyors were asked to act as “mentors,” sharing their experiences with the newly hired surveyors and teaching them best methods, ways to approach fishers, and other effective techniques they had learned through their experiences on the job. This approach engaged our most experienced surveyors and assisted our new surveyors, enhancing their comfort level and understanding of the job. These experienced surveyors shared their best practices during the annual training event.

Turnover/Retention

A goal of this program and this objective has been to enhance the capacity of the surveyors and their ability to participate in fisheries management on the Yukon River. Retaining surveyors from year to year tells us that we are supporting them, being good employers, and that they are happy in their work. It also saves the program time, money, and effort in seeking and training new hires. When we are able to keep a surveyor in their position from year to year, they get better at their job, grow to understand the fishery and the issues, and grow to understand and better represent the fishers in their community. Retention has been a strong goal of this program during this performance period. The following table (see Table 5) shows the 2019 surveyors, the final year of this performance period, and their longevity in their position.

As you can see from Table 5, there were four surveyors who worked on contract in this position for the entire performance period and two that worked for three years.

YRDFA worked to find and retain good quality local hires as surveyors. When hiring a new surveyor, we sought recommendations from local contacts such as the Tribal Council, RAC members, YRDFA board members, and fishery managers. Once we hired a surveyor, we worked hard to support and train them well. Our goal was to help them succeed and feel confident in their position, then we encouraged them to continue each year, building their capacity and confidence.

We saw success with this approach in 2016 in that two of our surveyors were YRDFA board members and others were developing interest in seeking a board position. We saw success again in 2017 when we were able to re-hire six of ten surveyors and again in 2018 when we were able rehired seven of ten surveyors. In 2019, we rehired six of our ten surveyors and found four new surveyors with great potential for longevity. Throughout the performance period, the longer a surveyor was employed the more we saw them become increasingly confident in participating in fisheries management through the opportunities provided through their jobs, including reporting and representing their communities on the In Season Salmon Management Teleconferences, the Pre-season Planning meeting, and other venues.

Table 5. 2019 surveyors and their number of years worked as surveyors.

2019 Surveyor Retention		
Surveyor	Start Year	Years worked
Norma Evan	2008	11
Andrew Firmin	2008	11
Basil Larsen	2014	6
Pamela Cook	2016	4
Lisa Bifelt	2016	3
Sherry Kruger	2017	3
Rachael Kangas	2018	2
Nita Stevens	2019	1
Zoe Ballard-Huffman	2019	1
Kara’lisa Tremblay	2019	1
Michelle Becker	2019	1

In addition to selecting good candidates as surveyors, training them well, and working hard to ensure they felt supported in their positions, we also added a reward and bonus system during this project period. The goal of this system was to reallocate grant funds that had not been used and further promote the surveyors in a positive way that hopefully encouraged them to work hard and complete all their tasks. Our bonus system began halfway through the performance period and paid cash to surveyors who had completed 100% of their tasks. These payments were made at the 50% mark or the 100% complete mark of their contracts and were small bonuses meant to show appreciation for their attention to detail and focus on their tasks. Additionally, excess funds from incomplete contracts were used to purchase raincoats with the YRDFA logo as a reward for all the surveyors and to provide a team uniform. The raincoats were selected after polling the surveyors as to items they would find useful. Each surveyor received a coat in 2018 or 2019.

Preseason Meeting Attendance

At the beginning of this performance period, we initiated the annual surveyor training event in conjunction with the Yukon River Preseason Planning meeting. These two events were intentionally tied together to ensure the surveyors were able to attend the Pre-season Planning Meeting. The benefit they received from attending this important meeting was tremendous. Fishers from every Yukon River fishing community attended this annual meeting as well as the Yukon River Fishery managers. Important information was shared at these meetings about current fishery issues, potential management actions, and allowable gear for the upcoming fishing season. All of this information, whether review or new information to the surveyor, was extremely important in building their capacity and ensuring they would be able to do the best job possible, representing YRDFA and their communities, and collecting fishery information from their local fishers. Surveyors were asked to speak with their community members prior to coming to the meeting so that they would be better able to represent them and understand their concerns at the meeting. After the meeting, they were asked to share what they learned with their community. This could have been through the Tribal Council, at a community meeting, or in their interviews throughout the season with their local fishers. The surveyors appreciated the

opportunity to participate in this important meeting and to learn more about the Yukon River fishery and current issues related to it.

Community Member Capacity Building

The community members received some capacity building through the community surveyors when the surveyors provided information to local fishers about the pre-season fishery outlook, management priorities, and fishing regulations. Surveyors were able to gain a good understanding of the pre-season fisheries outlook by attending the pre-season fishery meeting and listening to the reports from the managers. This helped them to share conservation messages or expectations of fishery openings with the fishers in their community and to become a source of information to the fishers in their community. YRDFA provided the surveyors with copies of the ADF&G and USFWS run projection outlook flyer to share with fishers in their communities. This gave fishers another link to management and kept them informed, in-season, regarding the fishery. Finally, community members were able to report their observations and fishing experiences on a weekly basis in the survey communities. This practice or action built their capacity in terms of reporting their own fishery success or challenges.

Objective 3: Annual Evaluation

Objective 3 was to conduct annual reviews of the In-season community surveyor program and to update it to maximize the effectiveness of the program. To accomplish this, the PI conducted twice annual reviews with surveyors and managers, gathering feedback and suggestions to improve the program. We also collected feedback from community members, Tribal Council representatives, and teleconference participants. Results showed that the program was important to them because it kept them updated and broadened their perspective on the vastness of the river and the people along it.

Managers Perspectives

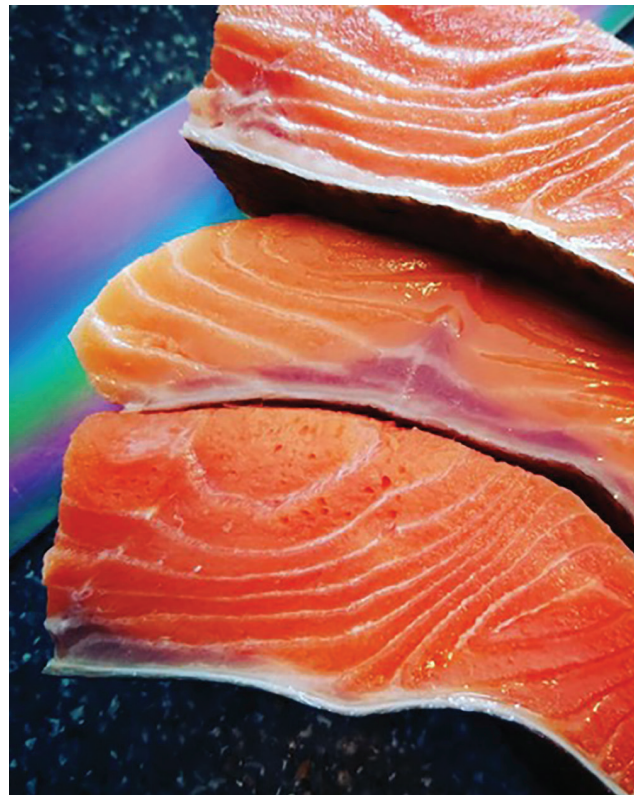
Every spring and fall, the YRDFA PI reached out to the Yukon River state and federal managers to review the program and discuss methods for maximizing its utility. This was an opportunity to discuss current issues and ways the In season community surveyor program could assist with in season management. At each review, the questions on the survey forms were reviewed and updated, if necessary, to address current issues or concerns. During

the spring evaluation, we collected feedback through meetings, phone, or email communication. In the fall, the managers and their appointed staff completed an evaluation questionnaire with specific questions about the program. The feedback they provided was helpful in guiding the program to better support in-season management and communication.

The managers' evaluations showed us that they continued to value the program's ability to enhance productive river-wide communication between fishers and managers. This was especially important with the decline in Chinook salmon and the need to conserve and communicate. They appreciated the consistent participation and representation from ten key villages on the teleconferences. This was noted as an important contribution and notably missed when the Chinook salmon season ended. Value was seen in having community surveyors participate in each teleconference and was thought to lead to better understanding in those communities and engaged more people prior to the teleconferences. In 2016, they stated that the professional way the surveyors reported on the teleconference set the tone for others who were reporting. In 2017, managers told us that the program represented fishers and their concerns well. They recognized that retaining surveyors improved their reports as they gained experience. They found the comments on survey forms to be helpful and appreciated the reporting of the average number of fish harvested by species per community to preserve anonymity.

In 2018, the managers reported that they highly valued the program's weekly summary especially the reporting of fishing success and rating as worse, same, or better as compared to the previous week. The summer season manager for the Yukon River described this program as "an excellent way for the Department [of Fish and Game] to receive harvest information and feedback about management actions and their effect on local harvests," (Carroll, YRDFA LOS 2018). She stated that she valued this information because it could be collected anonymously and showed the mix of success that fishermen naturally have and helped managers verify other comments they may have received. The in-season community surveyor program helped them "reveal regional differences by community and district" and allowed them to tailor management strategies to be more equitable. Her feedback was extremely helpful to the program and to help us understand in what ways we could be most effective.

In 2019, the managers told us that we had a good mix of communities from all areas of the river but some communities were better represented than others due to the strength of their surveyor. They felt we had a strong number of fishers surveyed each week in the communities and they continued to find the comments or concerns collected through the surveys to be very useful. They also continued to appreciate the surveyors' reporting role on the teleconferences. They emphasized the importance of the In-season community surveyor program and how it helped them trust or validate their assessment tools such as Pilot Station Chinook salmon counts. In 2019, the program also helped managers to determine if enough opportunity has been provided and helped them to understand conditions such as high water or bad weather preventing fishers from harvesting abundant salmon. They reported that, as intended, management actions were affected by feedback from the fishers about how they are doing towards achieving their fishing goals. And finally, they appreciated that this program helped local surveyors becoming spokespeople for their area and helped the community become part of the larger, drainage-wide network sharing the Chinook salmon resource.



Chinook salmon. Photo by Rachael Kangas Madros.

Surveyor Evaluations

Surveyors completed evaluations for the In-season Community Surveyor Program after each training and at the end of their contract each season. The training event evaluations assessed what they gained from the training and collected suggestions to improve future trainings. Pre and post training evaluations analyzed what was learned in the two-day events and what changes would improve the effectiveness. One change included spending more time in role play to enhance the comfort level of the newer surveyors. Another change was increasing the group discussion about the type of answers one might receive, when the more experienced surveyors enlightened the group with ways to communicate with local fishermen over the survey questions.

Each surveyor annually completed an end-of-season evaluation survey designed to gather feedback about the program and their experience. The PI annually evaluated each surveyor, assessing their skills and capacity to effectively work in these positions. YRDFA reviewed the annual evaluations to look for patterns, trends, and differences to gauge the effectiveness of the program. 2016 was the first year of this performance period and we had some new and enthusiastic surveyors and some new communities as well as some experienced surveyors and long-term communities. In 2016 and 2017 we found that the

surveyors became more confident participating in fisheries management because of the opportunities provided through their jobs including reporting and representing their communities in the In-Season Teleconferences, the Preseason Planning meeting and other venues. The surveyors reported increased confidence from attending the preseason planning meeting and meeting with other surveyors and fishers attending the preseason meeting. In 2018, the surveyors reported that they enjoyed participating in the teleconferences and benefited from hearing good information shared up and down the river. We found that retaining surveyors from year to year improved their performance. In 2019, surveyors reported valuing their opportunity to participate in fisheries management through the survey program, training event, and preseason meeting. They continued to find their voice and speak up for local fishers. They mentored other surveyors and started to become a local source of information for local fishers.

Through the evaluation process we learned that this program is valued by surveyors as an effective means to gather information quickly. Surveyors like it because it gives the communities an opportunity to share what is going on in their area, how they fish, their concerns, and other important issues for their area. Some surveyors appreciated being able to represent, anonymously, voices that usually did not want to speak. Others appre-



ciated the opportunity to connect with local fishers or Elders and the opportunity for them to report their concerns. The surveyors felt the survey program enhanced the teleconferences by providing representative reports from many communities and made them feel like we were all working together as a team. They believed it helped the managers and the communities by providing good information and communication. We found that fishers surveyed believed that the program helped to keep fishers and managers informed and engaged as to what is happening on the river in-season, although in some communities not all fishers wanted to participate.

Challenges surveyors faced were that sometimes fishermen didn't want to talk to them, didn't trust them, or the questions being asked. Fishermen were sometimes concerned about sharing information about their catch and what impact that may have on them. To address these challenges, YRDFA developed protocols in the training events and throughout in season support to help the surveyors know when to walk away and how to build trust. YRDFA also worked to increase outreach and build trust throughout the communities in this program by ensuring participants' anonymity and confidence. We worked to revise the survey questions to become less intrusive and provide more opportunity for fishers to provide feedback or recommendations to managers.

PARTNERSHIPS AND CAPACITY BUILDING

This program would not be possible without the partnership of the Yukon River communities. Many of the Tribal Council offices supported the program by providing their office space for the teleconference reporting and participation by both the surveyor and community members. Many also provided office support equipment such as use of the phone, fax, internet, or work space. Specifically, the Tribal Councils in the communities of Alakanuk, Mountain Village, Marshall, Russian Mission, Anvik, Ruby, and Huslia provided this type of regular support to their local surveyor. Prior to the start of the fishing season annually, the PI contacted each tribal administrator or their representative to check in about the success of the program in their community and to inquire about rehiring the surveyor from the previous year. This was also an opportunity to gather feedback and suggestions and to confirm their continued support for the program in their community.

Partnerships with the state and federal fishery managers were also essential to the program. This program was designed as a way for the state and federal managers to communicate with fishers in season about their fishing success and challenges so their feedback and needs were key elements we strived to address. The state and federal managers supported this program by participating in evaluations twice annually, providing specific feedback as to ways the program could support in-season management, and attended surveyor training events to meet the new surveyors.

The locally hired community surveyors increased their capability and expertise to participate in the Yukon River fishery by enhancing their communication and reporting skills. The training they received involved listening to different points of view, interview techniques, informed consent, protection of privacy, data gathering and storage, and oral reporting of results in a public teleconference. They increased their knowledge of the Yukon River fisheries and its current issues. The community surveyors shared information they collected in their villages in the weekly In-season teleconferences and shared information learned on the teleconferences with their local fishermen and women. This program promoted interaction among rural residents by speaking weekly with the surveyors and through participation in the teleconferences and prior to the teleconferences. The surveyor's role was to share information with his or her community about what he or she has learned about the fisheries and to hear from fishers within their villages about their fishing experiences, observations, and challenges. The surveyors invited the fishers to participate in the teleconference and represented their points of view if they were unable to participate themselves. In this way, the surveyor program spread its wings and reached a wider expanse of the river.

DELIVERABLES/PRODUCTS

During the Chinook salmon fishing season, community surveyors conducted household interviews weekly and recorded their results on confidential data sheets. YRDFA collected these data sheets and reports from community surveyors on Monday, summarized them, and sent summarized information to state and federal managers for their use in management and preparation for the weekly teleconferences. This final report describes community

observations, challenges and fishery input by community. Annual Interim Performance reports were submitted annually by June 29 covering the period April 1 to March 31. The final report, or final product, was submitted for review by January 31, 2020 and the approved final report will be submitted by June 29, 2020.

DISCUSSION

The Yukon River is a complicated fishery with an international border, multiple salmon and non-salmon species running at the same time, conservation concerns over Chinook salmon, and difficulty knowing when the salmon will arrive. Yukon River fishery managers need to gather information, assess harvests, and share information with Yukon River fishermen and women during the fishing season. This program strived to assist in season fishery management decision-making by providing consistent reporting to both the fishery managers and the public about subsistence harvests, run strength, fishing conditions, concerns and observations of fishermen and women. We did this through our three objectives of hiring surveyors to collect data, building their capacity to participate in fishery management, and evaluating our program for maximum effectiveness.

The goal of the In season Community Surveyor Program was to inform in season management with consistent reporting and providing input and observations from active fishers on the river. We also wanted to build capacity of Yukon River community members to participate in in season management. We did this through training locally hired surveyors to collect fisheries information and experiences, in season, and providing an avenue for fishers to report their concerns and observations.

During the four-year period of April 2016 to March 2020, we were able to hire 19 surveyors for 40 positions collecting fisheries observations from ten communities over the approximately six weeks that the Chinook salmon ran through their villages. We were most successful in four communities in which we retained one surveyor for the entire four-year period. These communities were Alakanuk, Marshall, Russian Mission, and Fort Yukon. In the communities of Huslia and Anvik, we needed two different surveyors over this period and in Mountain Village, Ruby and Eagle we trained three different surveyors to accomplish our work. In Tanana, a new surveyor tried out the position each year but in our final year we worked

with a very strong candidate which we hope to retain in future years, if funded.

Although, one hundred percent retention of surveyors was a challenge and perhaps not obtainable for this program, we were able to collect the intended data for all communities each year with the exception of the following. In year one or 2016, surveyors in two communities were unable to complete their contracts in Mountain Village and Anvik. In year two or 2017, one surveyor was unable to complete their contract in Ruby. And in year four or 2019, one surveyor was unable to complete their contract in Anvik.

The second objective of this program was to build the capacity of the surveyors to participate in in-season fishery management on the Yukon River. We accomplished this by holding effective training events and exposing the surveyors to the discussions at the Preseason Yukon River Planning meetings. The educational experience of attending the annual Preseason Planning meeting was enhanced by a requirement that the surveyor poll their community members prior to attending to learn their concerns and issues and by asking them to report back to their community upon their return. Our annual surveyor training event prepared them for their work ahead, fostered a team approach, developed a network of peer-to-peer support, and had excellent attendance with at least nine of ten surveyors attending each year.

Upon hearing of the value of their participation from the fishery managers, we increased the surveyors' participation in the In season Salmon Management Teleconferences and prepared the surveyors to provide clear, professional, and effective teleconference reporting. In the first years, we merely encouraged their voluntary participation past their required six weeks of reports and, in the second half of the reporting period, we reallocated funds to be able to pay them for a few additional teleconferences.

Evaluating this program annually in a variety of ways enabled revisions that maximized its effectiveness and value. Gathering regular feedback improved the program by providing suggestions from target audiences and participants, which we were able to incorporate into each new season. Providing an avenue for feedback also increased support or buy-in to the program because participants and target audiences felt heard and that their

concerns were addressed. The following paragraphs describe some of the feedback and changes we heard over the reporting period.

Surveyor evaluations primarily steered the training events, surveyor forms, and program design. Their suggestions led to revising the training event to expand the time spent in practicing the forms in role play or mock interviews, increasing their confidence and familiarity. We also added more time to discuss the type of answers they would receive and how to respond to them. Additionally, we increased the role of the more experienced surveyors, providing a forum for peer-to-peer mentoring and guidance. Surveyor comments helped to smooth out the survey questions, rephrasing them in ways that flowed or asking more pertinent questions. Finally, an increase in wages was requested for compensation for experience so we

implemented raises based on numbers of years worked, bonuses for excellent work, and added promotional items (see images below) as motivation for retention.

Managers provided feedback twice a year and through their comments and suggestions we learned which areas of the program were most helpful to in season management and how we could make the program more effective. In 2016, managers told us that they valued the surveyors' participation and professional tone on the teleconferences. With that information we encouraged surveyors to participate in more than their required six teleconferences and we revamped the teleconference training module to focus more directly on how to report on the teleconferences. In 2017, they observed that retaining surveyors improved the quality of their reporting so we worked hard on retaining surveyors from year to

YRDFA Surveyor coats, shown front (Pamela Cook) and back (Danielle Stickman).



year. In 2018, managers reported that they appreciated the reporting of “worse, same, or better” in our survey forms and stated that this was an excellent way for the ADFG to receive feedback about management actions and affects. They also valued the fact that fishers could report anonymously and that the in season survey program showed the mix of success that fishers naturally have, verifying other comments they received through other means. The weekly in season survey program revealed regional differences and allowed them to tailor their management strategies to be more equitable. Considering these comments in 2018, we continued to focus on retention to ensure we had the highest quality reporting we could provide and this coincided well with our surveyor raises, bonuses, and promotional items. We also began offering to pay surveyors for a seventh teleconference. In 2019, managers reported that the in season survey program included a good mix of communities with some better represented than others and that there was a strong number of number of fishers surveyed weekly. They continued to appreciate the surveyors’ participation in the teleconferences and valued the program which allowed them to trust their assessments more. Finally, they commented that the surveyors were becoming valued spokespeople for the fishery and their communities. This feedback was highly valued by the project investigators. It helped to validate our efforts at retention as well as supporting, training, and setting goals for the surveyors. In this final year of this reporting period, the program goals were becoming achieved.

All programs have challenges. We use challenges as a way to improve the program. Our biggest challenges were with retention, as has been covered in various places throughout this report and our efforts to address this challenge. An additional challenge was getting the fishermen to trust the program and share personal fishery information with the surveyors. We addressed this challenge in two ways. The first was to get them to trust the program and see the importance or value to them in participating. The second was to get them to trust the surveyor in their community and be willing to share with them. Our best avenue to address both of these concerns

was through the training event and retention of the surveyors. We developed longevity in surveyor employment so they would come to understand the program and better represent it. We also worked hard to provide trusted anonymity, never sharing names and generalizing information by community to protect individual fishers, and to explain the benefit to fishers of participating. We trained the surveyors to explain how we protect their identity through our reporting and why a fisher would be motivated to participate in the program. Fishers’ participation gives them a voice in the management of their fishery, ensuring that managers know what they have observed and about their concerns.

CONCLUSIONS AND RECOMMENDATIONS

The goal of this program was to become a communication tool for in-season Yukon River fishery management. The objectives were to operate a program that could share fishers’ observations and experiences with managers during the fishing season and to build capacity of Yukon River representatives to participate in in season management. We accomplished these goals and objectives by hiring and training 19 surveyors to collect data from fishers in ten Yukon River communities for six weeks during the Chinook salmon season for four years. We trained these surveyors to collect observations and fishing experiences from Yukon River fishers and to report this information on the In-season Salmon Management Teleconferences, while protecting their anonymity. We also familiarized the surveyors to Yukon River salmon fisheries management, current issues, and concerns. We evaluated and updated this program annually to maximize its effectiveness. There were other benefits from this program. We enhanced the In season Salmon Management Teleconferences by providing weekly reports from ten Yukon River communities participating in this program. We also provided fisheries employment and participation for ten Yukon River community members annually. Considering these successes and contributions to Yukon River fisheries management, we recommend that this important work be continued.

ACKNOWLEDGEMENTS

This program would not have been possible without the support of the ten participating communities along the Yukon River. We greatly appreciate their fishermen and women, Tribal Councils and staff, and our community surveyors. Thank you for sharing your time, knowledge, and efforts. We also appreciate the support of the state and federal fishery managers and their staff. We know that you care very much about your jobs and the people of the Yukon River. We appreciate your hard work in ensuring that people along the Yukon River can put food on their tables and that you work hard to give them a voice in the management of their fishery. We also thank and appreciate the Federal Subsistence Board and Yukon River Regional Advisory Councils and the staff of the Office of Subsistence Management. Again, your hard work and care for the people of the Yukon River made this program possible. Finally, we thank the U.S. Fish and Wildlife Service for supporting this project under Award Number F16AC00657.

Thank You!

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APPENDIX A: FIRST INTERVIEW FORM 2019

2019 In-Season Salmon Survey Program

First Interview Questions

Date:		Village:			
Household Name	Did the fishing opportunities LAST year help you to get a few kings last season? Did they help you to get enough chum salmon LAST year?	How many fish and what kind do you plan to harvest THIS year?	Will you increase your chum harvest to make up for reduced king salmon fishing opportunity?	What gear type or method do you plan to use THIS year? What kind of KING gear do you have?	Did your household receive a ADFG subsistence harvest calendar?
	Comments:				
	Comments:				
	Comments:				
	Comments:				
	Comments:				

These questions are to be asked of each participant in the FIRST interview IN ADDITION TO the regular survey questions.



APPENDIX B: WEEKLY SURVEY FORM 2019



YUKON RIVER DRAINAGE FISHERIES ASSOCIATION

Date:		Village:		Remind fishers to fill out catch calendars from ADF&G			
Household Name	Did you fish this week? (If no, use code below)	How many days did you fish this week? (record on catch calendar)	Compared to LAST WEEK how was fishing for this week? What made it better or worse? (weather, run strength, fishing schedule)	How many fish and what type did you harvest this past week? Did you keep or release Kings? How many?	What gear type did you use this week? What species were you targeting?	What percent "done" with fishing for kings are you? What percent "done" with fishing for chums are you?	What general comments do you have about management this week?
		Chum	Worse Same Better	# Kept / # Released	What size gillnets?	0 25 50 75 100	
		Kings	Worse Same Better			0 25 50 75 100	
Comments							
		Chum	Worse Same Better	# Kept / # Released		0 25 50 75 100	
		Kings	Worse Same Better			0 25 50 75 100	
Comments							
		Chum	Worse Same Better	# Kept / # Released		0 25 50 75 100	
		Kings	Worse Same Better			0 25 50 75 100	
Comments							
		Chum	Worse Same Better	# Kept / # Released		0 25 50 75 100	
		Kings	Worse Same Better			0 25 50 75 100	
Comments							
		Chum	Worse Same Better	# Kept / # Released		0 25 50 75 100	
		Kings	Worse Same Better			0 25 50 75 100	
Comments							

Did Not Fish Codes: (1) Bad weather/poor fishing conditions (2) Low # of fish (3) Closure (4) Personal reasons (5) Mechanical/Gear issues (6) Have not begun fishing (7) Out of town (8) Other

APPENDIX C: FINAL INTERVIEW FORM 2019

2019 In-Season Salmon Survey Program

Final Interview Questions

Date:		Village:		
Household Name	Did you meet your needs THIS year? Comments:	How did your fishing or harvest compare to LAST year?	In light of how the king and summer chum salmon came into the river this year, do you think Yukon River fisheries management provided opportunity for you and others to meet your subsistence needs? What could have been improved?	Did you receive enough notice about openings? What was your main source of information- TC, news releases, YRDFA teleconferences, radio, Facebook, phone recordings, other?

These questions are to be asked of each participant in the LAST interview in addition to the regular survey questions.



