



**ALASKA DEPARTMENT
OF FISH AND GAME
OPPORTUNITIES**
YOUR CAREER IN THE LAST FRONTIER™



Position: College Intern II
Division: Commercial Fisheries
Duty Station: Aniak
Duration: June 1–August 15 (dates are flexible)

Overview:

The Alaska Department of Fish and Game, Commercial Fisheries Division is seeking a highly motivated College Intern II to assist with the **initial capture and tagging phase** of a watershed scale mark–recapture study aimed at estimating abundance of Kuskokwim River Chinook salmon. Sustainable management of Kuskokwim River salmon stocks relies heavily on information from salmon escapement projects (many of which are jointly operated with other agencies) and input from the range of stakeholders. The Kuskokwim River salmon mark–recapture platform incorporates the suite of available projects (e.g., main river fish wheels, gillnets, weirs, test fisheries, and harvest) to estimate total annual return of salmon by age. The resulting dataset allows for estimating exploitation rate by various fisheries and modeling production dynamics used to explore the effects of harvest strategies. This internship provides an opportunity to develop a broad understanding of the common techniques and challenges involved in conducting salmon research in Alaska.

As part of the initial capture and tagging phase of this project, ADF&G CF has partnered with the Kuskokwim Native Association (KNA) to operate a remote research camp along the banks of the mainstem Kuskokwim River. The camp is located between the villages of Aniak and Kalskag. From this base camp, we will install and operate two fish wheels and drift gillnets that will be used to capture Chinook salmon for tagging. Tagged fish will be tracked using radio telemetry as they migrate upriver to spawn. Some percentage of those tagged fish will be recaptured at various salmon monitoring projects located on select spawning tributaries. Release and recapture data will be used to estimate the total abundance of Chinook salmon and describe migration timing of monitored stocks.

Who We Hope to Hire:

The purpose of this particular internship is two-fold. First, we simply have a staffing need, and we are seeking to fill it with a motivated intern that will be able to use this experience to guide their current studies and career focus. The broader purpose is to invest in the future. We hope to provide students, especially those interested in careers in Alaska’s fisheries, with direct exposure and specific experiences that will prepare them to work effectively towards managing the State’s fisheries. As a College Intern II, you are not required to have declared a major, but we would prefer to hire someone who is at least considering a degree in biological sciences. We are looking for someone with the potential to excel in

areas such as biology, chemistry, mathematics, and technical writing. We would like someone with at least some exposure to biological data collection, although, extensive experience is not required. It is imperative that whomever we hire has realistic expectations and truly wants to be working with us on this project. This internship cannot be exclusively about experiencing an “Alaskan Adventure”, our first priority is achieving the goals and objectives of the project. Honestly, that is often adventure enough for most. With this in mind, we are looking for the student that will get the most out of this experience.

The Job:

***This position is both technical and menial in nature.** The successful intern will work alongside three fisheries technicians and one fisheries biologist on all aspects of project operations.

The first 1 week of June will be spent preparing for the sampling season. Upon arrival in Aniak, we will begin organizing equipment and gear, launching boats, and purchasing fuel and groceries. During this time we will stay at a communal bunkhouse located in Aniak. Once the boats are ready, we will then begin shuttling supplies from our storage locations in Aniak and Kalskag to our camp site. As camp becomes established, we will permanently relocate from the Aniak bunkhouse to camp. Once we have relocated to camp we will shift focus from camp assembly to fish wheel construction and installation. Throughout these early weeks of the season, we will take time, as a group, for a variety of training exercises. Specifically, we will participate in training workshops provided by KNA, in which all staff from the range of research projects will review project goals and objectives, sampling methods, boating techniques, firearm safety, and wilderness first aid. We will also participate in a detailed training on fish wheel and gillnet operations and tagging techniques.

We expect to be operational by approximately June 5. From this time until the end of the Chinook salmon run (typically early August) we will settle into a routine sampling schedule aimed at capturing and tagging as many Chinook salmon as possible. Fish wheels and gillnets will be operated for approximately 12hrs/day, six days each week throughout the Chinook salmon run. Teams of three will work overlapping 8hr shifts to operate the capture gear. There will be a morning, evening, and split shifts. Shift assignment will change weekly and rotate throughout the season. Much of the daily workload is focused on operating fish wheels, drift gillnets, and sampling captured fish. Remaining work time will be allocated to maintaining camp and equipment. For example, we will work on boats; perform basis carpentry; conduct inventories; clean storage areas; and interact with the public among other duties. Each day, handling fish, driving boats, lifting/carrying heavy objects, using power/hand tools will be very common. The onsite biologist will oversee all aspects of field operations, perform daily data summaries, coordinate field logistics, provide training and guidance, and assist with sampling.

Once the Chinook salmon run has ended, evidenced by diminished catches, we will begin closing camp for the season. Typically this process will begin during the first week of August. We will slowly begin shuttling unneeded items to our Aniak and Kalskag storage facilities. During this time camp will become more “rustic”. We will closely monitor daily catches and schedule the last day of operations to ensure that the run was adequately sampled. After sampling has ended we will fully dismantle camp, fish wheels, gillnets, and boats and store them for the winter. During this time we will once again stay at the Aniak bunkhouse. Once all items are stored we will make travel arrangements to depart Aniak for the season.

In addition to the core tagging project outlined above, we hope to make other opportunities available to tailor this internship in a way that best meet the interests of the student. Additional opportunities cannot be guaranteed, but may include working at one of the tag recapture sites, assisting with collecting commercial catch data, assisting with commercial test fishing, attending salmon management working group meetings, and assisting with tracking tagged fish.

The Area:

The Kuskokwim River is the second largest river in Alaska. The river flows over 1,500 kilometers from its headwaters to the Kuskokwim Bay as it drains a very wide valley (130,000 km²) between the Alaska Range and Kuskokwim Mountains. The headwaters originate in steep mountainous terrain before running through rolling hills and tundra. Many of the tributaries are clear water systems, but the mainstem is turbid year round. The mainstem ranges in width from a few hundred feet to over a mile. Depth is variable, and shallow sandbars are common.

Wildlife is relatively abundance throughout the area. Five species of Pacific salmon return and spawn throughout the Kuskokwim each year. Resident fish species include trout, char, grayling, pike, burbot, suckers, lamprey, and sculpin. Moose, bears, wolves, coyote, foxes, caribou, bison, sheep, porcupine, and wolverine are present but rarely seen.

There are approximately 37 permanent or seasonal communities throughout the Kuskokwim Area. Community size ranges from only a few residents to several thousand. These communities are only accessible by air or boat. Amenities vary widely, but most communities have at minimum a general store (with vary basic preserved foods), a school, and a modest health clinic. Larger communities have amenities similar to many small towns in America. Most, but not all, communities have internet and cell phone coverage. Cell phone coverage in rural Alaska is currently limited to only one provider. Internet service is often intermittent due to infrastructure and weather.

The Research Camp:

Our camp is rustic, completely off the grid, but safe and comfortable. The camp is located on a small island about a 45min boat ride downriver from the village of Aniak and about a 15min upriver of the village of Kalskag. The camp consists of personal wall tents, a community cook tent, a tool storage tent, an office tent, a steam/shower house, and an outhouse. Each crew member will have their own 8'x10' wall tent with sleeping cot and wood stove. The community area is a 24'x30' wall tent with a wood stove, refrigerator, oven/stove, and deep freezer. Food will be provided while stationed in camp. We typically order dry goods, frozen meats, etc. in bulk at the beginning of the season. Fresh vegetables and fruits are purchased as available from the local general store in Aniak. We have a well onsite for fresh water. The shower and bathroom facilities are very rustic. The camp is partially powered by generators, propane, and solar panels. There is no laundry facility onsite, but there is a Laundromat in Aniak. There is intermittent internet service in camp. We have a satellite phone for work/emergency calls only. A cell phone tower was recently installed in Aniak and Kalskag and intermittent coverage is available along the river between those two villages. The area around camp is a mix of flat tundra, dense thickets of alder, and rolling hills covered in black spruce and cotton wood. Above tree line, the ridges are alpine tundra or barren. We use several 18' skiffs with outboards engines and ATVs to travel throughout the area. Interactions with moose

and bears in camp are rare. Because of our location we regularly see boat traffic passing camp and often have local residents stop by.

Access to medical assistance is limited. Safe work practices and basic in-camp first aid are our most immediate options for dealing with injuries. There is a clinic in Aniak and Kalskag, but hours of operations are limited. There is a regional hospital in Bethel and Anchorage, but flights to these hubs are not immediately available. In extreme cases the local Troopers, U.S. Coast Guard, and other such agencies are available.

The Weather:

The weather in interior Alaska in the summer is highly variable. We can expect temperatures ranging from near 90 degrees to below freezing. Typically, temperatures in the summer months are in the 50–70s during the day and 40–60s at night. Rain and wind are common in all years, but we do get our share of sunny calm days. Mosquitoes and gnats can be very dense in June through mid July; however, they all but disappear in late July and August. Warm quick drying clothes and sturdy rain gear are a must. We dress for living **and working** in the full range of weather conditions.

Leisure Time:

So if we only work 8hrs a day 6 days each week, what do we do the rest of the time? Use your imagination, be creative, have fun, and be safe. Basically we can do most anything we want as long as it is responsible. Fishing is an obvious choice, but don't be misled. The river near camp is wide, deep, and very turbid, rod and reel fishing is generally **not** productive. Most sport fishing occurs in the nearby sloughs for pike. On our days off there are fishing opportunities from the bank near the village of Aniak for salmon and in the clear waters of the Aniak River for salmon and trout. Hunting is generally not available in the summer for non-residents. There are a few good hikes around camp that have excellent views and berry picking. Most people bring a lot of books, music, games, laptops, and movies. The past few years we have set up a large TV/DVD in the cook tent. We have also hung a basketball hoop, built a ping-pong table, set up Frisbee golf course...if you build it...you get the point. As resources allow, we may visit the village of Aniak on our day off, during that time we can use the internet, call family, do laundry, take showers, purchase groceries, pick up supplies, etc.

Keep in mind that the camp doesn't maintain itself. Because of our proximity to the local communities, we maintain a very high level of camp preparedness and organization. During our personal time, we are expected to do routine camp chores. We always need to keep up with cutting firewood, cooking meals, washing dishes, organizing/maintaining tools, cleaning camp, etc.

Words Just Aren't Enough:



The Aniak bunkhouse and Kuskokwim Native Association's office. We coordinate with KNA on much of the project's activities. We regularly use their facilities.



Preparing boats preseason at the beach near Aniak.



Camp site early season 2009. In this year a large flood during ice out destroyed camp requiring a substantial rebuild. This level of preseason construction is not common, but each year some repairs are required and will test our carpentry skills.



A view of the rebuilt camp on a rainy day in 2010. The community tent is shown here.



Inside the community tent. We can accommodate nearly any type of diet. We typically order foods in bulk at the beginning of the season.



A typical crew member's wall tent nestled back in the woods away from the main camp.



Constructing fish wheels on the beach near camp on a foggy day.



“Driving” a completed fish wheel to a designated fishing location.



A completed and installed fish wheel located just upriver from camp.



Crew arriving to sample fish. Balance is critical, we work from moving boats and on slick surfaces.



View from the fish wheel located just downriver from camp.



Crew member tagging a salmon.



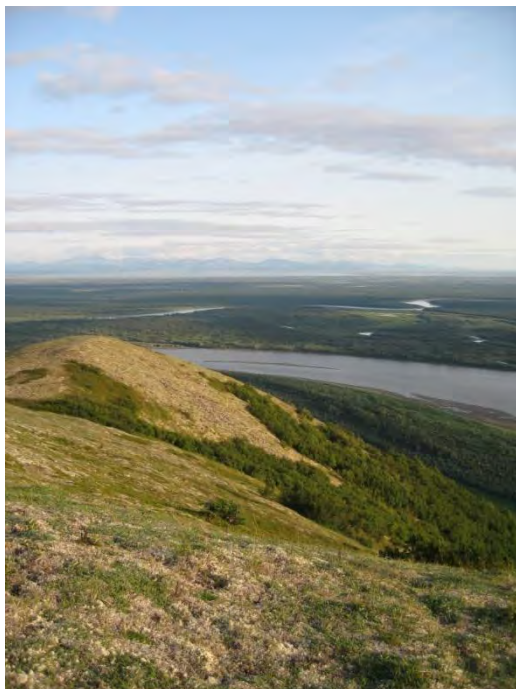
A tagged Chinook salmon caught with a gillnet.



We try to combine fun and work together. Here we are exploring a small tundra tributary looking for spawning salmon.



View from camp looking upriver.



View looking upriver from the hill in the picture above.



Crew member fishing for Chinook salmon in the Aniak River on his day off.



Hanging out by the fire late evening. This is about as dark as it will get. Through much of the summer the sun is above the horizon most of the day.



Crew member fishing a small clear water stream on his day off. Dogs are allowed on a case by case basis.



Alpine tundra mid-August.



2008 field crew hanging out on the beach in front of camp.



From the top of the bluffs, looking back towards the village of Aniak. You can just make out some of the riverside houses.