Regional Operational Plan No. ROP.CF.4K.2024.05

Pasagshak River Salmon Weir Operational Plan, 2022–2024

by

Michelle L. Wattum

April 2024

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	′
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	″
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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SIGNATURE PAGE

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Approval

Title	Name	Signature	Date
Project Leader	Michelle Wattum		
Section Supervisor	Kevin Schaberg		

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PURPOSE

Since 2011, sockeye salmon *Oncorhynchus nerka* escapement through the Pasagshak River into Lake Rose Teed on the Kodiak Island road system has been estimated with a weir. A continuation of funding from the Alaska Sustainable Salmon Fund (AKSSF, Project #55010) will allow the Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries to operate a PVC floating weir near the mouth of Lake Rose Teed during the 2022 through 2024 seasons. Age, sex, and length (ASL) information will be gathered from sockeye salmon captured at the weir. Subsistence fishing activity will be observed, and ASL information will be gathered from subsistence catch. This information will assist ADF&G staff in determining appropriate escapement levels into Lake Rose Teed and to more effectively monitor the timing, health, and productivity of Lake Rose Teed sockeye salmon. This operational plan will provide seasonal staff with a reference document to guide installation and operation of the weir, conduct ASL sampling, and work safely at the remote field site during the 2022–2024 seasons.

Keywords: Lake Rose Teed, Pasagshak River, sockeye salmon, *Oncorhynchus nerka,* weir, escapement, Kodiak Management Area, KMA, operational plan.

BACKGROUND

The Pasagshak River, located on the Kodiak road system (Figures 1–3), has supported a significant sockeye salmon subsistence fishery for Kodiak Island residents in recent years[1] (Figures 4 and 5). Subsistence harvest of Pasagshak River sockeye salmon increased during the late 1990s, remained steady during the early 2000s, and has generally fluctuated with escapement the last decade. Subsistence harvests were greatly reduced during the 2014–2016 and 2018 seasons, which coincided with weak returns. Escapement estimates have been widely variable (Witteveen 2011–2016; Wattum 2017, 2019, 2021, 2024). Previous escapement enumeration methodology provided only postseason estimates via aerial and foot surveys of the spawning grounds, making inseason management impossible, and refinement of an escapement goal for this stock problematic. From 2011 through the first half of the 2015 season, a wood tripod and aluminum picket weir was installed. A floating weir installed during the second part of the 2015 season proved to be more resilient to debris loading and the dynamic substrate and has been used since. A PVC floating weir will be constructed near the outlet of the lake in 2022 through 2024 (similar in location to 2011 through 2021; Figure 3). The weir will provide timely and accurate escapement information, enabling inseason management adjustments and more precise evaluation of the escapement goal to maintain the sustainability of this important subsistence, commercial, and sport salmon run.

The Pasagshak River is located on the northeast side of Kodiak Island and is accessible by vehicle from the city of Kodiak (Figure 1). Lake Rose Teed, which drains into the Pasagshak River, is a small, shallow lake (0.95 km^2; 2.4 m average depth; H. Finkle, Commercial Fisheries Biologist III, ADF&G, Kodiak, personal communication). Prior to the 1964 earthquake and subsequent tsunami, Lake Rose Teed had little salmon rearing habitat; however, the earthquake lowered the elevation of the lake, allowing nutrient-rich marine water to enter the lake during high tide cycles and dramatically increased the salmon rearing potential (Murray 1986). Pasagshak River State Recreational Site is the only designated park land outside of the immediate city area and still within the road system (Figures 1 and 2). The mouth of the Pasagshak River is also a prehistoric native

[1] Westward Region Subsistence database, Kodiak, unpublished data.

settlement site (P. Saltonstall, Curator of Archaeology, Alutiiq Museum Archaeological Repository, Kodiak, personal communication).

Since 1968, Pasagshak River salmon escapement has been estimated postseason using both aerial and foot surveys of the spawning grounds. Annual survey counts have been highly variable, and sockeye salmon production generally increased until recent years (Figure 4). The Pasagshak River sockeye salmon escapement goal was reevaluated and updated to a weir-based goal of 2,000–8,000 fish for the 2024 season (Foster et al. 2023). The previous escapement goal for Pasagshak River sockeye salmon was a lower-bound sustainable escapement goal (SEG) of 3,000 fish based on aerial survey (McKinley et al. 2019).

Subsistence harvest of this salmon stock has been generally increasing since subsistence records were initiated in 1986. Since 2008, the Pasagshak River has often been the largest subsistence salmon fishery near the City of Kodiak in the Kodiak Management Area (KMA; Figure 5)[2]. Two other significant sockeye salmon runs near the City of Kodiak, Afognak and Buskin Lakes, have experienced significant reductions in run size, restricted fishing opportunities and, during some years, total subsistence fishing closures. Restrictions on those stocks can displace users to other systems (Magdanz et al. 2003), leading to concern that Pasagshak River sockeye salmon could experience increased harvest pressure while ADF&G is unable to monitor escapement inseason.

There is little directed commercial fishing effort on Pasagshak River sockeye salmon. Some Pasagshak River fish are likely harvested by commercial fishermen targeting nearby Saltery River sockeye salmon. While harvest levels are unknown, they are likely low as the fishery in front of the Saltery River is further inside Ugak Bay than Pasagshak River. Sport harvests are typically much smaller in magnitude than subsistence harvests but appear to track the same trends and likely vary due to similar factors as the subsistence fishery (Figure 4).

Inseason estimates of Pasagshak River sockeye salmon escapement are possible with a weir near the outlet of Lake Rose Teed. The escapement data obtained by use of a weir, coupled with age, sex, and length (ASL) data, provide dependable, timely estimates of stock productivity and sockeye salmon run size. Accurate run data, coupled with ASL data, are used to refine the current escapement goal.

In addition to escapement monitoring, important information on subsistence fishing effort in Pasagshak Bay can be obtained through harvester interviews conducted by ADF&G technicians. ASL data obtained from subsistence harvests will augment ASL data obtained from weir samples and provide valuable information on the harvest composition, size selectivity, and magnitude relative to escapement.

This operational plan is a reference and guiding document for the field staff so that they understand what is expected of them to effectively accomplish the required tasks and duties of the project. Project activities at Pasagshak River weir will include installation and maintenance of the weir and the collection of biological samples.

OBJECTIVES

1. Enumerate passage of Pasagshak River sockeye salmon escapement from June 15 to August 15.

[2] A. Dorner, Fish and Wildlife Technician IV, ADF&G, Kodiak, unpublished data.

2. Estimate the age, sex, and length (ASL) composition of Pasagshak River sockeye salmon escapement.
3. Describe timing, ASL, effort, and harvest of the subsistence fishery for Pasagshak River sockeye salmon.
4. Refine current sockeye salmon escapement goal.

METHODS

A PVC floating weir will be constructed and installed at a suitable location approximately 0.5 miles (0.8 km) from the outlet of Lake Rose Teed. The weir panels are stored at the ranch near Lake Rose Teed. Tripods from the old weir will be utilized to build a boardwalk to access the winch apparatus that lifts the floating weir to facilitate fish passage (referred to as the quad pod).

The project supervisor will train technicians in proper identification of species expected to be encountered at the weir including, sockeye, pink *O. gorbuscha*, chum *O. keta*, coho salmon *O. kisutch,* and Dolly Varden *Salvelinus malma*. Technicians will monitor the weir daily between approximately 7:00 AM and 12:00 AM and enumerate salmon by species. A winch will be used to lift the weir from the river bottom, and fish will be visually enumerated as they pass through the opening. Escapement counts will be reported to the project leader daily.

A beach seine will be utilized to capture fish for sampling. The sample goal is 600 sockeye salmon each season for ASL (Wattum and Foster 2024). Samples will be collected every few days in approximate proportion to the escapement levels. The "preferred scale" (located on the left side of the fish, two rows above the lateral line on the diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin) will be removed with forceps and mounted on a gum card. The sex and length of the fish (fish length in millimeters from mid eye to tail fork) will be recorded. Detailed procedures for sampling can be found in Wattum and Foster (2024). The crew will be taught proper sampling methods, and data will be periodically checked throughout the season for accuracy and completeness.

Scales will be read for age composition throughout the season.

Traditional areas of subsistence harvest and level of effort at Pasagshak River will be documented. ADF&G technicians will opportunistically contact sockeye salmon subsistence fishermen on the fishing grounds in front of the Pasagshak River, and alternatively, at the Pasagshak State Recreation Area boat landing.

The sockeye salmon harvested by interview participants will be sampled for ASL data if the fish are available to sample. These data will be used to assess whether age and sex compositions of subsistence sockeye salmon harvests are similar to age and sex compositions of sockeye salmon passing the weir so the entire run can accurately be reconstructed post-season. The Pasagshak River subsistence harvest will be estimated by summing the reported harvest from returned permits received by the Westward Region Division of Commercial Fisheries office. Annual return rates of completed permits are usually between 85% and 90% of participants[3].

Provided forms to document escapement, weather, and subsistence fishery effort will be completed daily and kept by the crew leader.

[3] A. Dorner, Fish and Wildlife Technician IV, ADF&G, Kodiak, personal communication.

WEIR INSTALLATION

Pasagshak River weir will be approximately 150 feet (46 m) long.

1. A site will be selected such that the river is not excessively wide and there is a distinct channel for fish to pass through.
2. Floating weir panels will either be floated on a raft or carried to their desired location. Two or three panels can be joined together on shore prior to putting them in the water if desired.
3. The first floating panel will be placed such that it is partially out of the water and maintains a "fish tight" connection in the transition between the river bottom and riverbank at various water levels.
4. Each subsequent panel will be placed along the installed panels in the water, and a single section of PVC will be driven into the empty spaces in the weir strapping to tie the panels together (Figure 6). A custom-made "fid" will be used to guide the PVC through the strapping.
5. The chain anchor for each panel will be linked together such that the last link in the anchoring chain of the previously placed panel, and the first link of the panel being installed are placed over an earth anchor screwed into the substrate (Figures 6 through 8).
6. The webbing from adjacent panels will be attached with zip ties (Figures 6 and 7).
7. Buoys will be tied to the top strap of the weir panels on the downstream side of the weir to help the weir float higher in the water.
8. The counting platform (quad pod) will be installed directly upstream of the most likely place for fish to pass through the weir, usually the deepest section of flowing water (thalweg). Sandbags or road grader blades will be placed on the quad pod to anchor it in place. A manual winch will be attached to the middle of a section of chain so that when the winch is cranked, the chain will lift off the substrate, and allow fish to pass beneath.
9. Wood tripods will be installed upstream of the weir spaced so that a boardwalk can be installed to access the quad pod. The tripods will be anchored in place with sandbags or grader blades. The boardwalk will be installed on the "wings" of the tripods. The boardwalk will be leveled with spacers or leveling blocks nailed to the tripod arms to increase stability. The boards of the boardwalk can overlap and will be screwed to the tripod arms. Each board will be attached to a tripod arm. A sturdy boardwalk will limit the risk of personnel falling into the water.
10. "Flip boards" will be installed when tides are high to help prevent weir movement when the river flow switches directions (Figure 9).
11. Fish behavior behind the weir will be observed and adjustments made if necessary to maximize fish passage.
12. A "keep off weir" sign will be installed on each end of the weir.
13. A stream gauge will be installed to the quad pod to monitor water level. Water temperature will also be taken from the quad pod.
14. A bed of sandbags will be placed in front of the gate to provide contrast when fish pass over (flash panel), so fish are easier to identify and enumerate.

15. Extra anchoring chains will be zip tied to chains on the bottom of the panels located in the high flow areas to help prevent the weir from lifting off the river bottom.

WEIR OPERATION

1. The weir will be monitored throughout the day to pass fish. In recent years, the late-night counts have been the best times for fish passage, but passage may be highly dependent on tides. Crew members will organize a counting schedule relative to river conditions or rate of salmon passage. Counting schedules will likely change throughout the season due to the changes in the tidal cycle. If fish readily pass on a given count, the subsequent count should be two hours later or less. If fish are reluctant to pass, the subsequent count can be up to three hours later. If water conditions such as strong upstream current or high debris load threaten the integrity of the weir, it will be checked more often.
2. The project leader or designee will train the crew to visually recognize the different salmon species and their swimming patterns. When fish have accumulated behind the weir, time will be taken to visually study and note differences in salmon species as they pass through the weir.
3. Fish will be counted by lifting the weir and enumerating fish with handheld tally counters, one for each species. Escapement quality, including the numbers of net-marked, "jack" (salmon ≤400 mm mid eye to tail fork) sockeye salmon, occurrence of fungus on fish, and number of fish with seal bites will be logged.
4. Polarized sunglasses will be worn when counting fish and conducting surveys for greater visual recognition and eye protection from the sun's reflection off the water.
5. Tally counters will be checked to ensure they are working properly. Occasionally if they get corroded or worn, they will count by multiples of 10 instead of by 1, and an accurate count can be lost quickly.
6. When finished counting, the weir crew will ensure the weir is completely lowered.

WEIR MAINTENANCE

1. The weir will be cleaned and inspected daily, often more than once per day. Debris buildup on the weir can cause a water current to develop across the weir rather than through it, leading to scouring at the base of weir panels which can result in the entire weir having to be relocated. A debris-filled weir can also lead to washout during periods of high water.
2. Cleaning the weir includes getting into the river to remove moss, sticks, logs, leaves, grass, and garbage. The weir can be cleaned by hand or modified rake.
3. All debris (except garbage) will be thrown downstream of the weir.
4. The weir will be inspected to ensure it is fish tight. The crew will carefully look for scoured holes, panels out of place, gaps between panels (wide enough to fit your hand past your palm through), and holes in the mesh. The crew will make sure the flash panel is in place and secure. Repairs will be made if needed.
5. The framework of the weir and boardwalk will be checked often to ensure they are sound and secure. If any of the boardwalks are loose or any section or parts of the weir broken or unsafe, they will be repaired immediately.
6. Bears and ungulates will be kept away from and off the weir to minimize damage.

7. Members of the public will not be allowed to access the weir.
8. If, upon arriving at the weir, a hole is observed through which fish are escaping, the hole will be observed for 10 minutes to determine the rate of escaping fish to provide some information to estimate the number of fish that escaped through the hole. After determining the fish passage rate, the hole in the weir will be repaired as soon as safely possible. A foot survey will also be conducted directly upstream of the weir.

WEIR REMOVAL

1. The stream gauge and "keep off weir" signs will be removed.
2. The boardwalk, sandbags, grader blades, tripods, and quad pod will be removed from the water.
3. Earth anchors will be unscrewed and zip ties will be cut to separate the bottom of the panels. The single PVC connector pipe will be pulled out to separate the panels. The panels will be rafted or carried to shore. Cut zip ties will be disposed of properly.
4. All weir materials will be transported to the ranch storage location.
5. PVC panels will be covered with a tarp to protect them from degradation from the sun. Sandbags will be placed over the tarp so that it does not blow away.
6. The river will be double checked to ensure all sandbags and other debris have been removed.

ESCAPEMENT SAMPLING

Throughout the season, sockeye salmon will be sampled for ASL data by beach seining the hole downstream of the weir. The crew will sample 600 sockeye salmon during the season for ASL in approximate proportion to the escapement levels. After fish are sampled, the adipose fin will be clipped, and the fish released upstream of the weir. The exact number of samples collected will be dependent on the run strength. Refer to Wattum and Foster (2024) for procedures on how to sample adult salmon and ask the project supervisor if you have any questions.

SUBSISTENCE FISHERY SAMPLING

Subsistence gillnet fishing effort that takes place in Pasagshak Bay will be quantified daily and recorded on the provided form (Figure 10). Opportunistically as fishermen return to the beach from fishing, they will be contacted. Their fishing location will be verified then effort and harvest levels will be documented. The crew will request access to Pasagshak Bay subsistence-caught fish to gather ASL data.

SCHEDULE AND DELIVERABLES

1. Open camp and install weir.
   Target date: June 15.
2. Enumerate salmon escapement through Pasagshak River weir.
   Target dates: June 15–August 15.
3. Collect approximately 600 ASL samples from the sockeye salmon escapement in proportion to the relative weekly abundance.
   Target dates: June 15–August 15.
4. Collect physical data daily (air and water temperature, and weather observations).
   Target dates: June 15–August 15.

5. Communicate daily with Kodiak ADF&G personnel by cellular telephone.
6. Inventory and secure Pasagshak River weir camp and close down for the season.
   Target date: August 15.

OTHER REQUIREMENTS

Daily Contact Schedule

Field camp crews will contact ADF&G Kodiak Research office personnel twice daily. Pasagshak River weir personnel will contact the project leader between 0815 and 0830 hours daily to report escapement data. All other camp business will be reported to Kodiak Salmon Research staff (Michelle Wattum) at 907-942-9120 by cell phone call or text.

Forms

Any crew member who counts fish through the weir will immediately record the counts on the *Daily Weir Count Form* (Figure 11). A crew member will fill out a *Daily Physical Observation Form* (Figure 12), a *Weekly Weir Camp Reporting Form* (Figure 12), and maintain a camp log ("rite in the rain" booklet) daily. The *Weekly Weir Camp Reporting Form* (Figure 13) includes daily escapement data that occurred during the past week and total cumulative counts that are continued from previous weeks.

Timesheets

Each crew member will have a timesheet completed and turned into the office following the schedule provided at the beginning of the season. Each crew member is responsible for keeping an accurate record of their work hours. Timesheets need to be brought to town when the camp is re-supplied. If unusual circumstances arise that require unapproved additional overtime, the crew leader must notify the project leader immediately.

Season Summary Report

The crew leader will write a brief end of season summary report. The report will summarize weekly activities, sampling, problems with the weir, an inventory of tools and supplies, and suggested improvements or needs for the next field season. A daily log of project activities will be kept in the camp log for reference.

Emergencies

In the event of a medical emergency, first aid will be administered to stabilize the situation. The emergency response flow chart (provided at the beginning of the season) will be referenced for guidance on the appropriate course of action in the event of an emergency. If an injury is life threatening immediately call 911 or notify the U.S. Coast Guard at 800-478-5555.

When contacting the U.S. Coast Guard, have the following information ready:

- Location of your field camp or specific location of the emergency (Weir Camp: 57°28'24.64"N, 152°27'47.12"W, Pasagshak Cabin Address: 42227 Furin Way Kodiak, AK 99615),
- Name and phone number of supervisor,
- General nature of medical emergency,
- Number of patients,

- Specific information regarding the patient (name, age, primary complaint, and vital signs),
- Your assessment and treatment,
- Wind and weather conditions, and
- Other information pertinent to a possible medical evacuation.

RESPONSIBILITIES

The project biologist, Michelle Wattum, will be responsible for project supervision, which includes providing training, oversight, logistical, and technical support for the camp operation. Two crew members will be responsible for establishing work schedules, prioritizing daily work assignments, and camp duties. They are also responsible for ensuring that accurate, complete, and well-organized data are collected, as well as ensuring safety.

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FIGURES

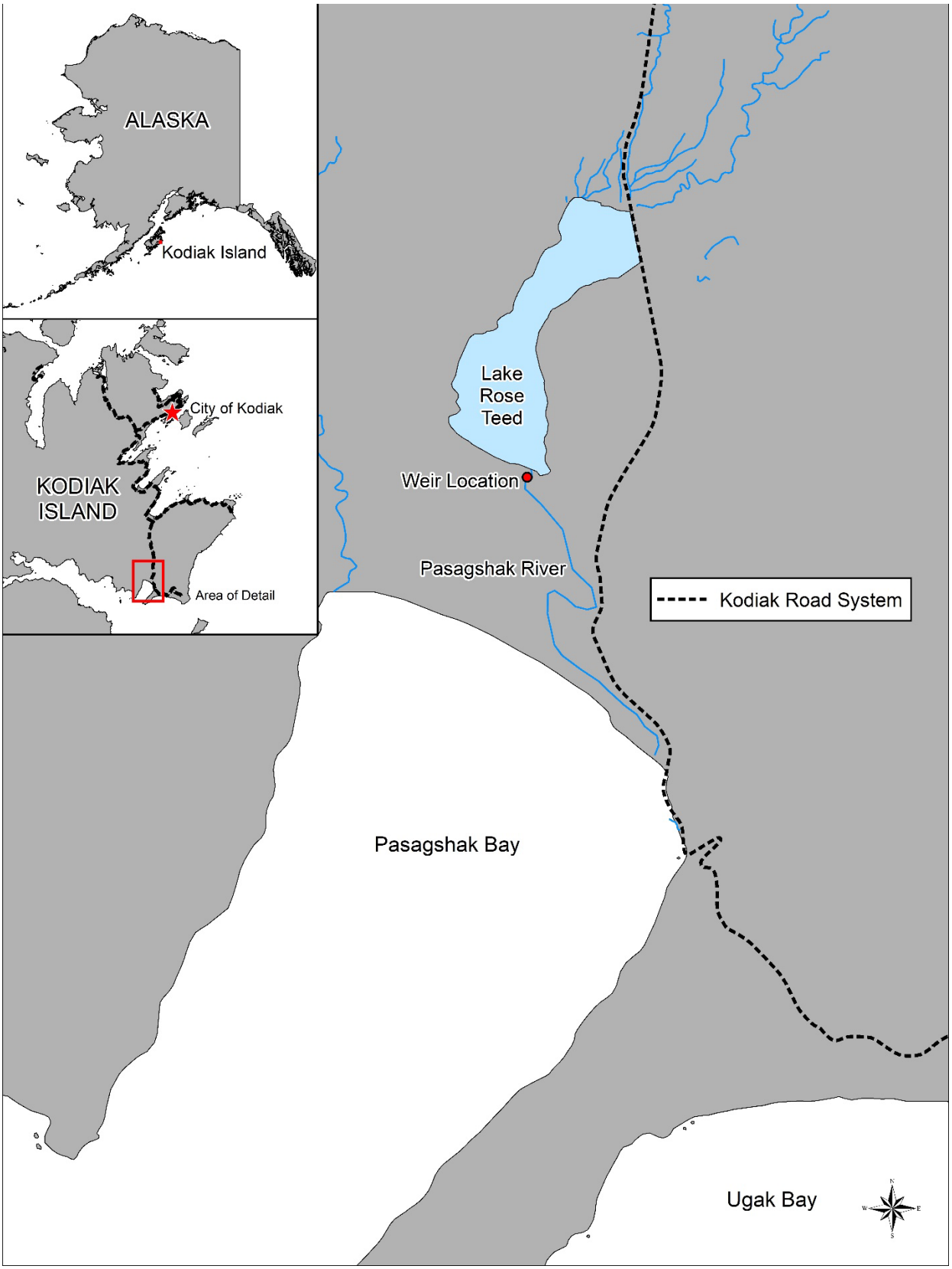

Figure 1.–Map depicting the location of Pasagshak River Weir

Figure 2.–Aerial view of the mouth of the Pasagshak River, the Pasagshak River State Recreation Area, the Pasagshak River, and Lake Rose Teed.

Figure 3.–Photograph of the Pasagshak River floating weir in 2021.

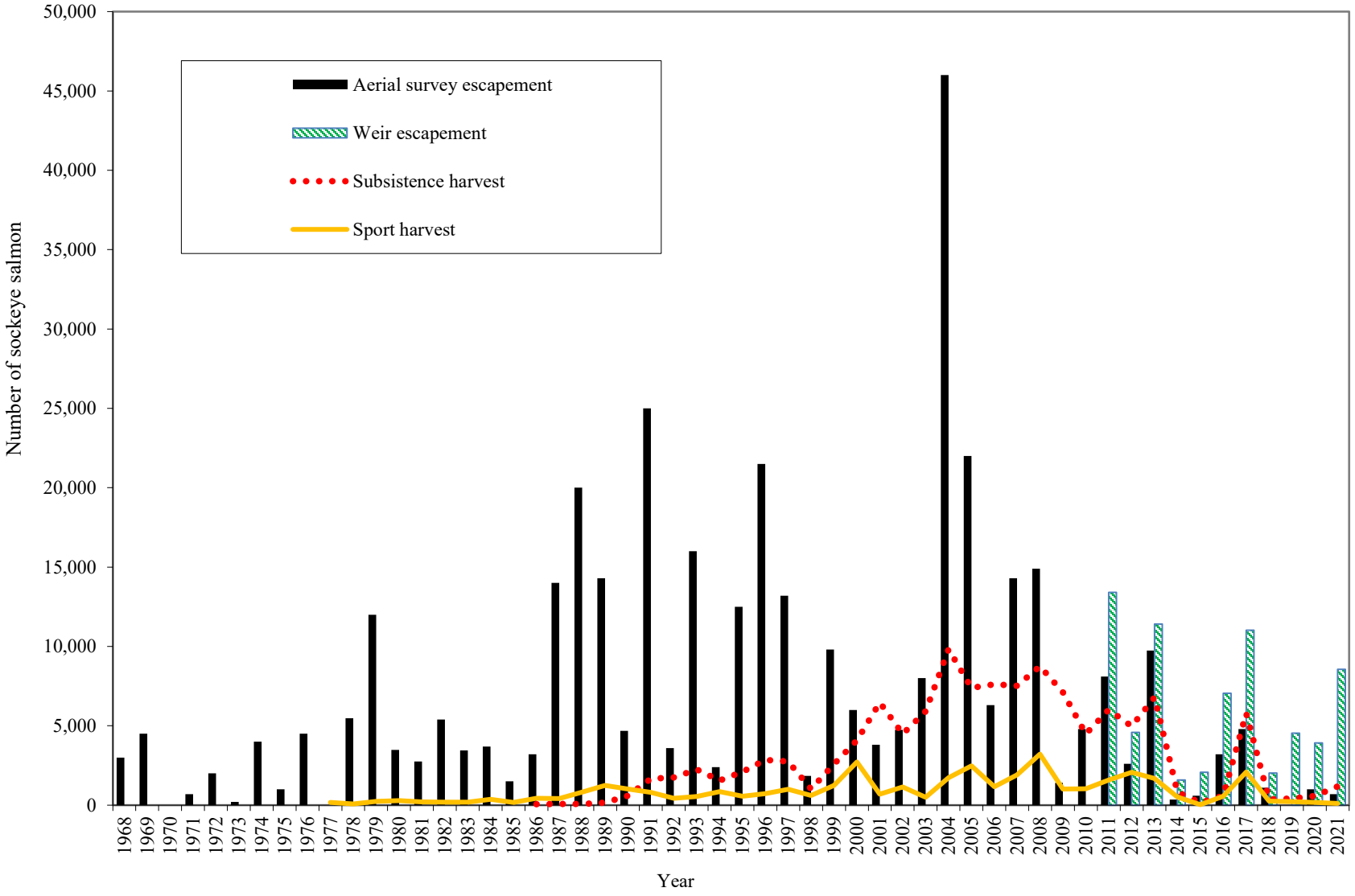

Figure 4.–Historical estimated sockeye salmon escapement and sport and subsistence harvest at Pasagshak River.

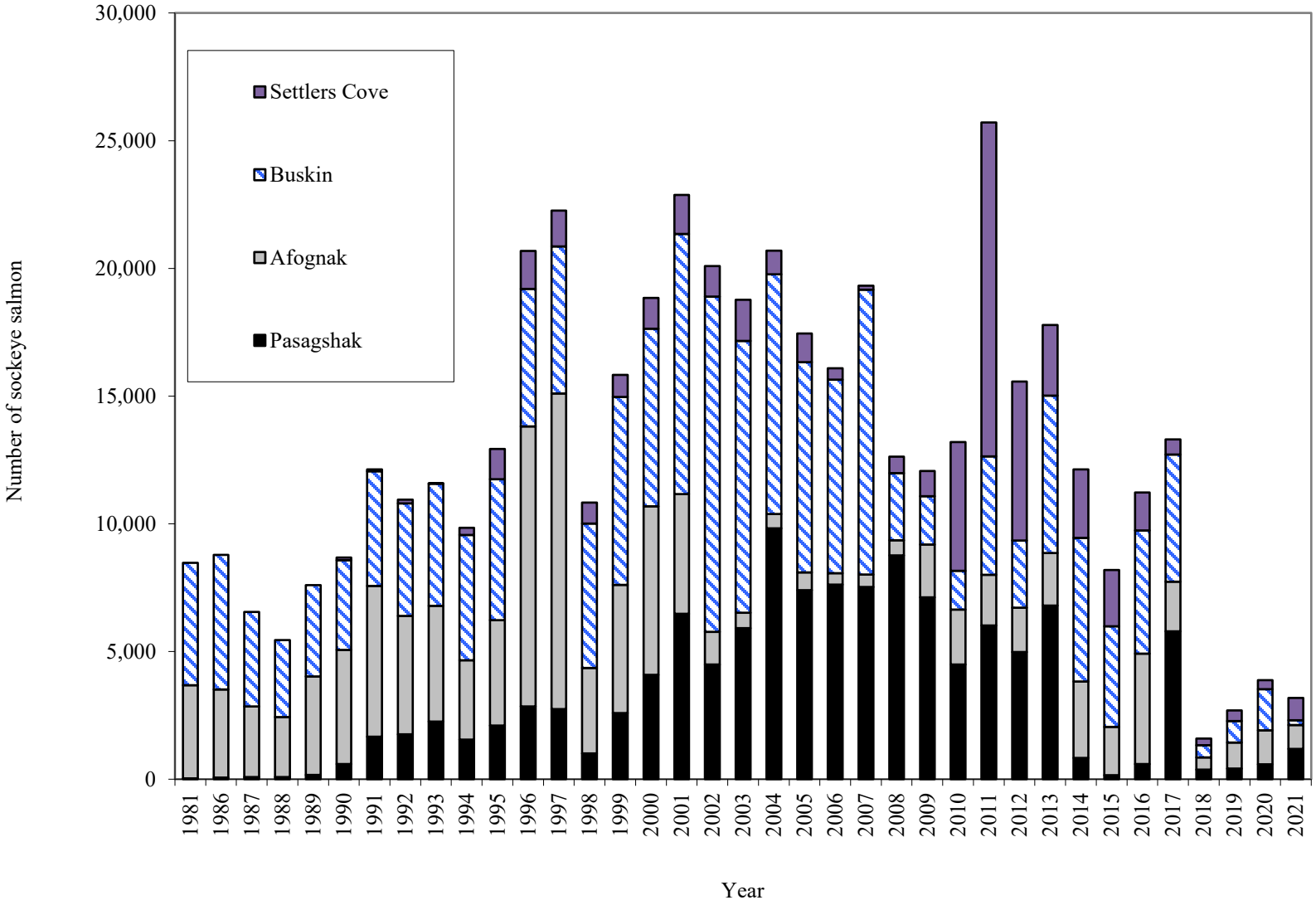

Figure 5.–Historical sockeye salmon subsistence harvest estimates for important subsistence systems near the City of Kodiak.

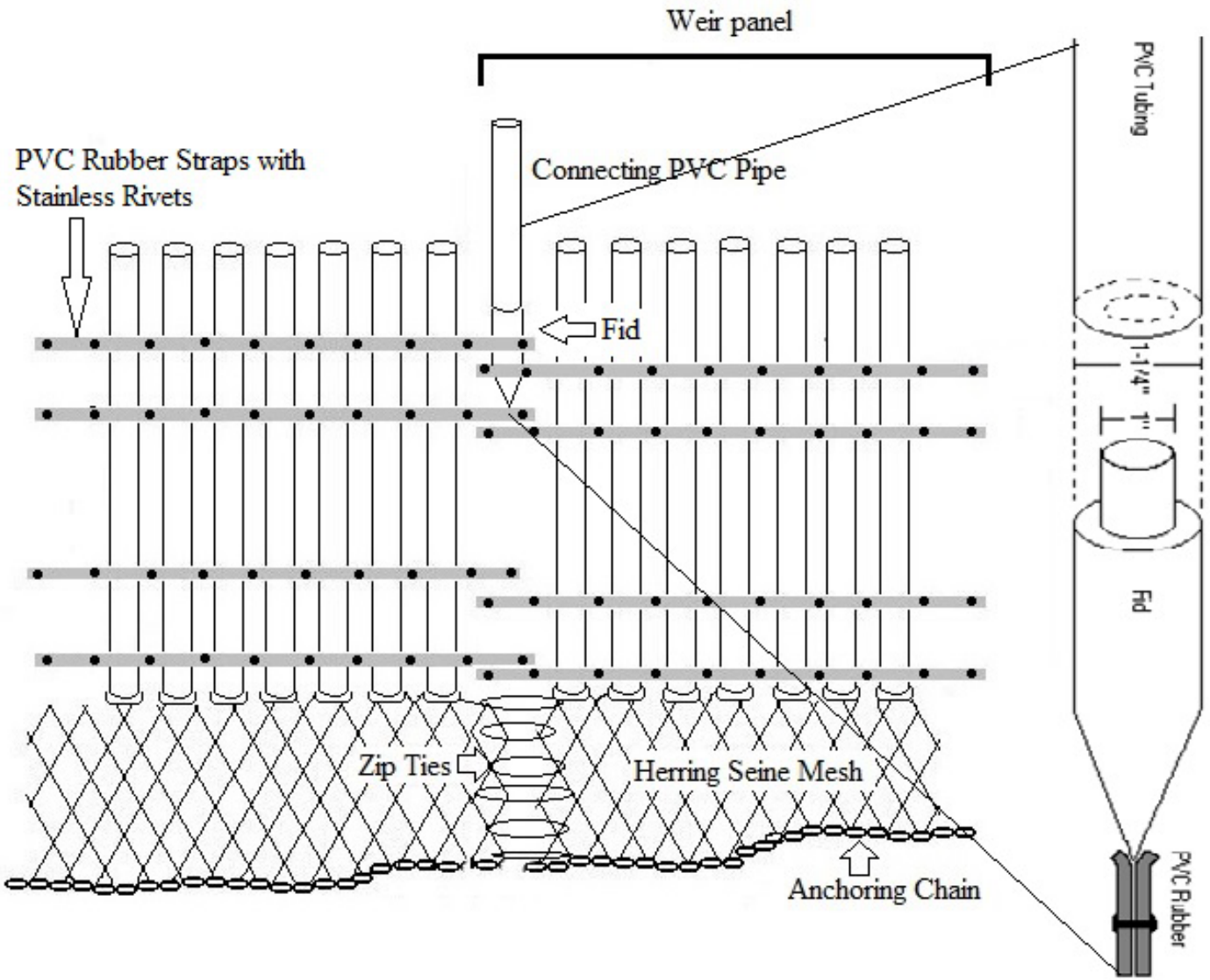

Figure 6.–Front view of two weir panels with a close-up of the fid used to guide the connecting PVC tubing through riveted rubber strapping of the two panels.

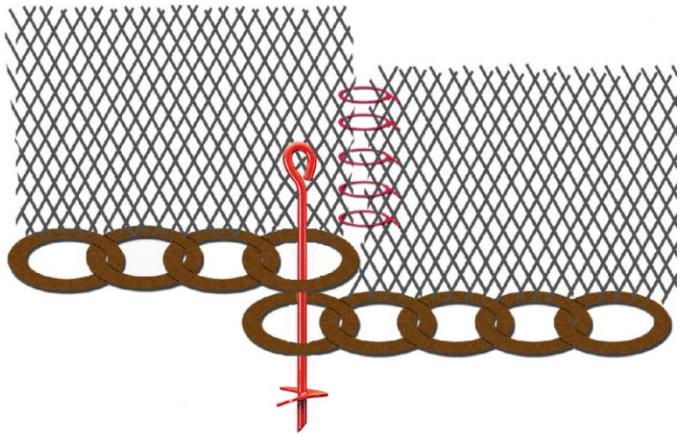

Figure 7.–An earth anchor is used to keep the bottom chains from adjacent panels together. Zip ties are used to connect the herring seine mesh.

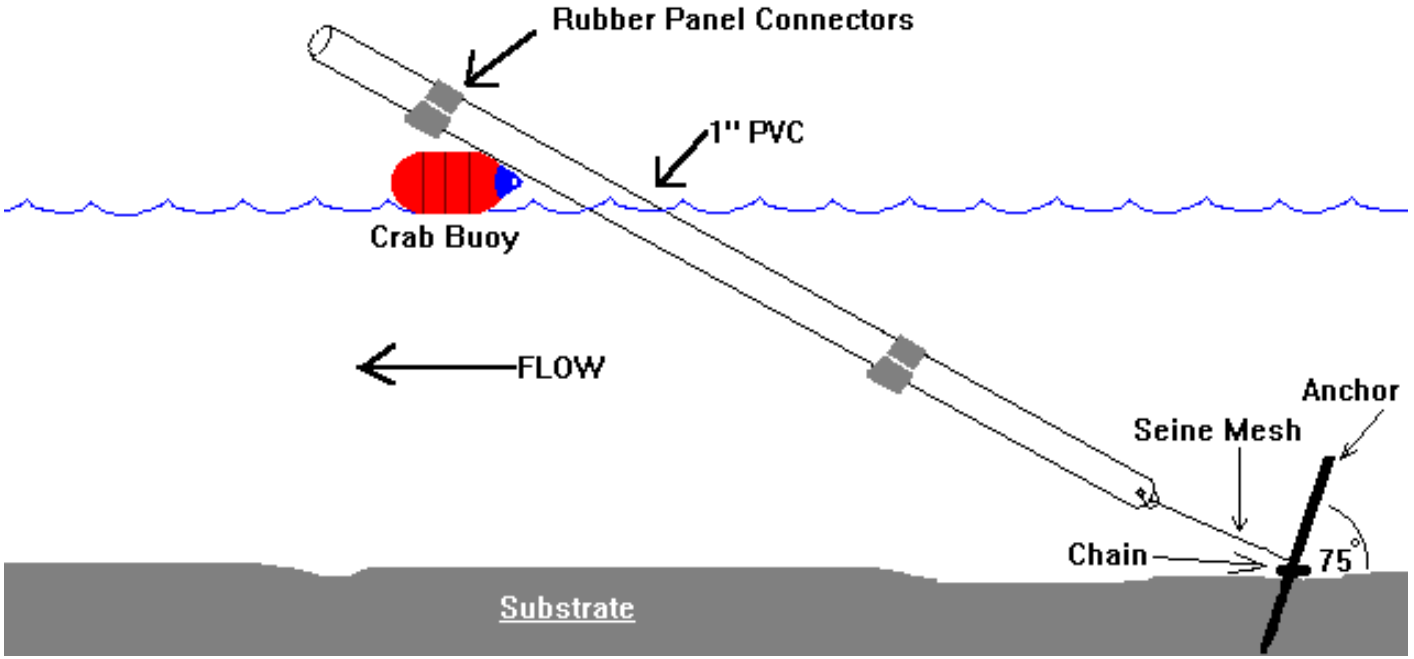

Figure 8.–Side view of floating weir, showing ideal anchor placement for keeping weir in place.

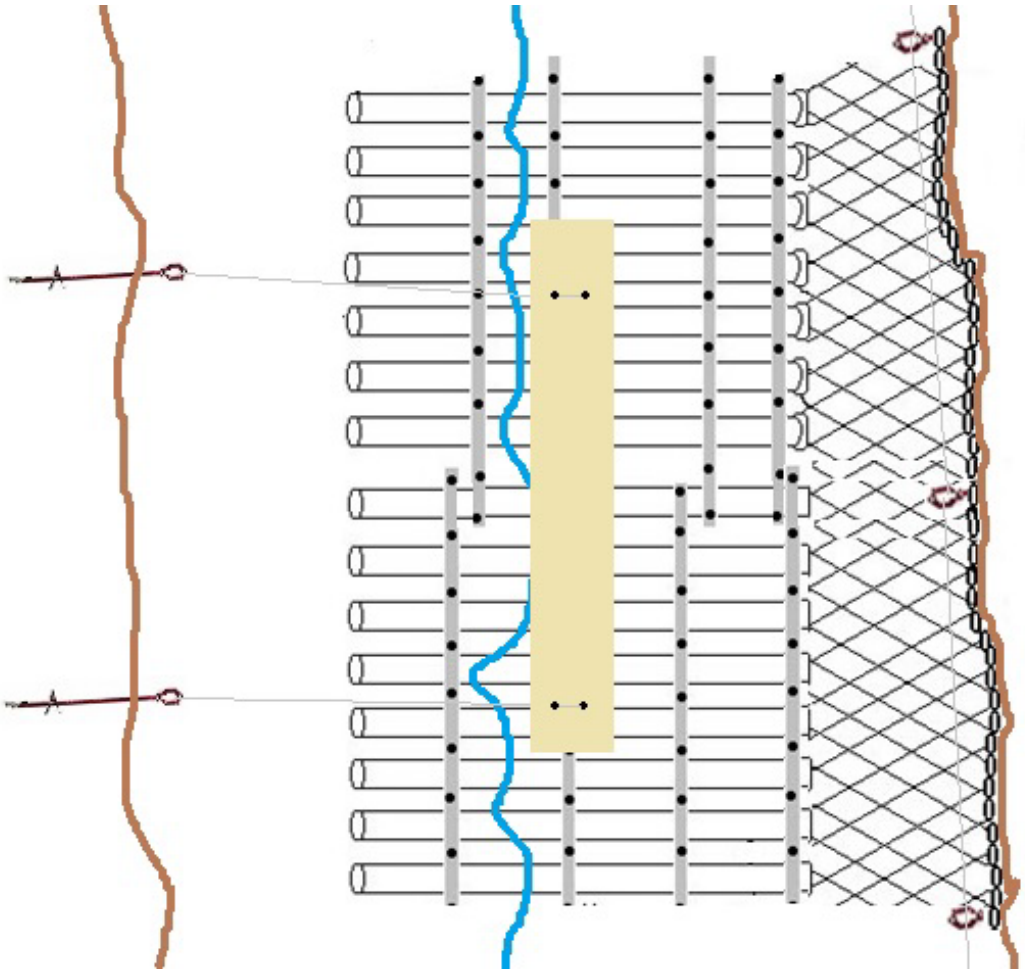

Figure 9.–Diagram of “Flip Board” on a portion of the weir.

Daily Pasagshak Subsistence Fishery Data Sheet 2023

Date: ________________ Personnel: ____________________________________

Daily total # of subsistence boats seen _______________
Daily total # of nets seen _________

Fishermen Interviews *Make sure fishermen being interviewed were fishing in Pasagshak Bay, not Saltery

Fisherman Name (Optional)	Number of Nets	Mesh Size	Hours Fished	Number of Sockeye Salmon Caught	# Collected For ASL	Card #	Fish #

Comments: ____________________

Fisherman Name (Optional)	Number of Nets	Mesh Size	Hours Fished	Number of Sockeye Salmon Caught	# Collected For ASL	Card #	Fish #

Comments: ____________________

Fisherman Name (Optional)	Number of Nets	Mesh Size	Hours Fished	Number of Sockeye Salmon Caught	# Collected For ASL	Card #	Fish #

Comments: ____________________

Fisherman Name (Optional)	Number of Nets	Mesh Size	Hours Fished	Number of Sockeye Salmon Caught	# Collected For ASL	Card #	Fish #

Comments: ____________________

Fisherman Name (Optional)	Number of Nets	Mesh Size	Hours Fished	Number of Sockeye Salmon Caught	# Collected For ASL	Card #	Fish #

Comments: ____________________

Fisherman Name (Optional)	Number of Nets	Mesh Size	Hours Fished	Number of Sockeye Salmon Caught	# Collected For ASL	Card #	Fish #

Comments: ____________________

Figure 10.–Subsistence fishery interview form.

Daily Pasagshak River Weir Count Form 2023

Date: Personnel: Pearson and Annie

Count Time		Personnel:	Sockeye						Dolly Varden		Comments
Count Begin	Count End	(circle)	Adult	Jack	Total	Pink	Chum	Coho	Up	Down	(# net marked; seal bites; fungus; visibility)
		PB AO									
		PB AO									
		PB AO									
		PB AO									
		PB AO									
		PB AO									
		PB AO									
		PB AO									
		PB AO									
Daily Cumulative											
Previous Day Cumulative											
Total Cumulative											

Figure 11.–Daily weir counting form.

Daily Physical Observation Form

Pasagshak River Weir, 2023

Date	Time	Temperature(°C) Air	Water	Cloud Cover Percent	Ceiling	Visibility (Miles)	Wind Direction	Speed	Water Depth	Highest Tide	Comments

Figure 12.–Daily physical observation form.

Weekly Weir Camp Reporting Form 2023

Pasagshak River Weir

Personnel:

		Escapement											Subsistence		
		Sockeye			Pinks		Chum		Coho		Number of	Harvest	#	# Sockeye
	Date	Adults	Jacks	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Sockeye Sampled	Effort	Interviews	Sampled
Tuesday														
Wednesday														
Thursday														
Friday														
Saturday														
Sunday														
Monday														
Weekly Total														

Notes:

Figure 13.–Weekly weir camp reporting form.