

Situk River Salmon Enumeration and Sampling Procedures

by

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April 2013

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g			base of natural logarithm	e
hectare	ha			catch per unit effort	CPUE
kilogram	kg	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
kilometer	km			common test statistics	(F, t, χ^2 , etc.)
liter	L	at	@	confidence interval	CI
meter	m	compass directions:		correlation coefficient	
milliliter	mL	east	E	(multiple)	R
millimeter	mm	north	N	correlation coefficient	
		south	S	(simple)	r
Weights and measures (English)		west	W	covariance	cov
cubic feet per second	ft ³ /s	copyright	©	degree (angular)	°
foot	ft	corporate suffixes:		degrees of freedom	df
gallon	gal	Company	Co.	expected value	E
inch	in	Corporation	Corp.	greater than	>
mile	mi	Incorporated	Inc.	greater than or equal to	≥
nautical mile	nmi	Limited	Ltd.	harvest per unit effort	HPUE
ounce	oz	District of Columbia	D.C.	less than	<
pound	lb	et alii (and others)	et al.	less than or equal to	≤
quart	qt	et cetera (and so forth)	etc.	logarithm (natural)	ln
yard	yd	exempli gratia (for example)	e.g.	logarithm (base 10)	log
		Federal Information Code	FIC	logarithm (specify base)	log ₂ , etc.
Time and temperature		id est (that is)	i.e.	minute (angular)	'
day	d	latitude or longitude	lat. or long.	not significant	NS
degrees Celsius	°C	monetary symbols (U.S.)	\$, ¢	null hypothesis	H_0
degrees Fahrenheit	°F	months (tables and figures): first three letters	Jan,...,Dec	percent	%
degrees kelvin	K	registered trademark	®	probability	P
hour	h	trademark	™	probability of a type I error (rejection of the null hypothesis when true)	α
minute	min	United States (adjective)	U.S.	probability of a type II error (acceptance of the null hypothesis when false)	β
second	s	United States of America (noun)	USA	second (angular)	"
		U.S.C.	United States Code	standard deviation	SD
Physics and chemistry		U.S. state	use two-letter abbreviations (e.g., AK, WA)	standard error	SE
all atomic symbols				variance	
alternating current	AC			population sample	Var
ampere	A				var
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				

REGIONAL OPERATIONAL PLAN CF.1J.13-04

**SITUK RIVER SALMON ENUMERATION AND SAMPLING
PROCEDURES**

by

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Signature Page

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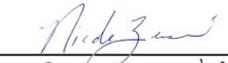
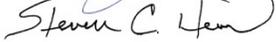
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PURPOSE

The Alaska Department of Fish and Game, Division of Commercial Fisheries, monitors annual escapements of salmon returning to the Situk River system near Yakutat, Alaska. A weir provides the primary mode of enumeration for sockeye and Chinook salmon escapements into the Situk River. These weir counts are used for inseason management of commercial fisheries that target sockeye *Oncorhynchus nerka* and Chinook *O. tshawytscha* salmon returning to the drainage. The weir crew will enumerate all species of salmon through the Situk River weir and sample adult sockeye salmon and Chinook salmon escapements for biological characteristics (age, sex, and length). This report provides operational guidelines for the Situk River adult salmon weir project including salmon enumeration, sampling procedures, weir protocol, and general camp policies.

Key words: Yakutat, Southeast Alaska, Situk River, Chinook salmon, *Oncorhynchus tshawytscha*, sockeye salmon, *Oncorhynchus nerka*, weir, age composition, escapement, operational plan, commercial salmon harvest.

OBJECTIVES

1. Enumerate the adult salmon escapement by species through the Situk River weir annually from approximately June 10 to August 15.
2. Estimate the age, sex, and length composition of adult sockeye and Chinook salmon in the Situk River.

BACKGROUND

The Situk River is a small river located approximately 14 km southeast of the city of Yakutat, Alaska (Figure 1). The river is approximately 35.2 km (22 miles) in length and empties out of Situk and Mountain lakes which make up the headwaters of the drainage. The Situk, Ahrnklin, and Lost rivers all flow into the Situk-Ahrnklin Lagoon before entering the Gulf of Alaska. The Situk River sustains relatively large populations of sockeye *Oncorhynchus nerka*, coho *O. kisutch* and pink *O. gorbuscha* salmon and steelhead *O. mykiss*, a moderate population of Chinook salmon *O. tshawytscha*, and a small population of chum salmon *O. keta*. Sockeye salmon returning to the Situk River support commercial set gillnet, sport, and subsistence/personal use fisheries. The commercial set gillnet fishery takes place in the Situk-Ahrnklin Inlet and accounts for approximately 50% of the commercial salmon harvest in the Yakutat Management Area.

Situk fisheries are actively managed to achieve specified annual levels of sockeye and Chinook salmon escapement. The Alaska Department of Fish and Game (ADF&G) adopted a biological escapement goal (BEG) of 30,000–70,000 sockeye salmon through the Situk River weir (Clark et al. 1995, 2002). This was the escapement range predicted to produce 90% or more of the estimated maximum sustained yield of sockeye salmon to fisheries. In 1991 the Alaska Board of Fisheries (BOF) adopted a management plan for Chinook salmon in the Situk River (5 AAC 30.365). The plan specifies action points designed to achieve a BEG of 730 large (age-.3, -.4, and -.5 fish) Chinook salmon with a range of 450–1,050 fish (McPherson et al. 2005). Plan trigger points regulate the sport and troll fisheries that target Chinook salmon, the Situk-Ahrnklin Inlet set gillnet fishery that targets sockeye salmon and incidentally captures Chinook salmon, and the subsistence/personal use fishery.

Inseason management of both Chinook and sockeye salmon fisheries is based on current harvest statistics and daily weir counts. The Situk River weir has been used to count salmon escapements and facilitate inseason management of the fisheries in 1971 and annually since 1976. The weir was located about 50 meters downstream of Nine Mile Bridge (Forest Highway 10) in 1971 and

from 1976 to 1987. In 1988, the weir site was moved downstream to the lower Situk River, about a mile above tidewater and in closer proximity to the commercial fishery (Figure 1), in order to provide more timely information for inseason management of the commercial set gillnet fishery. The weir is operated until the sockeye salmon run is essentially over in early August, or until high water from autumn rains threatens the safety of the weir. Escapements of pink and coho salmon are still in progress when the weir is disassembled, thus only partial counts are obtained for these species. Sockeye salmon escapements have averaged approximately 62,000 since 1988, and escapements met the BEG of 30,000–70,000 in all years but 2008 (Table 1). In 2008, high winds and major flooding occurred, washing down debris and a large tree which caused great damage to the weir. The weir was pulled earlier than normal years (July 23); therefore a full escapement estimate could not be made for that year. Inclement weather along with poor sockeye salmon returns resulted in an estimated weir count of only 22,500 sockeye salmon, thus not meeting escapement goals.

Chinook salmon escapements have averaged 2,100 fish since 1988, and all but recent escapements met the BEG of 450–1,050 fish. Chinook salmon returns in the past three years (2010–2012) have been in decline and did not meet the BEG (Table 1). Partial pink salmon counts have ranged from 20,000 to over 300,000; however, the weir is usually removed prior to the end of the pink salmon run (BEG range of 42,000–200,000 during that time; Clark 1995). In 2012, the pink salmon BEG was modified to a lower-bound sustainable escapement goal (SEG) of 33,000 fish counted through the weir by August 5, because of uncertainty in the total run size and because pink salmon have so far been harvested incidentally in the commercial set gillnet fishery (Piston and Heintz 2011). A very small run of summer chum salmon is also present. Escapements between 5,000 and 15,000 steelhead have been counted annually since the early 1990s.

The age composition of salmon stocks is determined through sampling portions of the escapement and commercial catch. Sockeye and Chinook salmon harvested in the Situk-Ahrnklin Inlet set gillnet fishery, along with escapements in the Situk River, have been sampled for age, sex and length composition annually since 1982. For runs in which specific salmon escapement and catch data can be combined to estimate age structure, brood tables can be generated for more accurate run reconstruction and run projections. The purpose of this report is to provide ADF&G personnel with the project design, objectives, and protocol for seasonal operation of the Situk River adult salmon weir.

METHODS

GENERAL WEIR PROTOCOL

The weir is half aluminum bi-pod, channel-and-picket design and half floating panels with resistance boards (in the center of the weir). A live trap is assembled off the upstream side of the weir for enumerating and sampling salmon. A white board is placed on the stream bed in front of a fish passing gate to assist with identifying and counting fish through the weir. Optionally, an underwater video camera may be used during high water events. This camera may also be used to help facilitate the capture of Chinook salmon for sampling.

The main responsibility of the weir crew is to install and maintain the salmon weir for the purpose of escapement enumeration and sampling. Two ADF&G staff will be assigned to this project and additional assistance, if needed, will be provided during weir installation and

removal. The weir is installed on the Situk River during the first week of May and operated by the Division of Sport Fish to count and sample emigrant steelhead kelts for biological data prior to the startup of this project (Marston *In prep*). Around 10 June, the downstream migrant trap will be dismantled and an upstream trap will be installed. Weir operations will shift to counting, live-capturing and sampling adult sockeye and Chinook salmon by the Division of Commercial Fisheries for the collection of biological data as described in this operational plan.

Weir maintenance is very important to keep the weir fish-tight and prevent washout. The weir will be kept clean of debris and the river substrate will be checked frequently to make sure that holes do not develop through which fish might escape uncounted. Fish are sometimes seen swimming through the gap at the bottom of the floating panels so weir personnel should pay close attention to this area of the weir. In deeper channels, a dry suit and diving mask will be needed to visually inspect the weir for holes.

Large numbers of fish (>200) should not be allowed to build up behind the weir. If fish accumulate behind the weir, they should be counted through the gate. It is important to keep a daily logbook (Rite in the Rain®)¹ to document daily events in detail, such as weather information, water levels, maintenance performed, number of fish sampled, bear activity, personnel changes in camp, and so on. Daily physical conditions will be recorded at the weir, including water level (cm), and water and air temperatures (°C). In addition, the weir crew will relay the total daily and cumulative counts for each species to the ADF&G office each morning by VHF radio (channel 10) or satellite phone to assist the area managers with inseason management decisions.

Throughout the season, completed ASL forms and scale cards will be turned in to the Yakutat ADF&G office to be sent off to Juneau to be analyzed inseason. When the project is completed, all remaining forms will be brought to the ADF&G office including daily counting forms, radio forms, and camp log books. General Camp policies and equipment use can be found in the Appendices.

COUNTING PROCEDURES

All salmon are counted using “tally whackers or “clickers”. Chinook salmon are counted and visually classified by size (small, medium, and large) as they pass through the weir. Small-sized fish are 20” or less in total length and are age-.1 males (1-ocean-age “jacks”). Medium-sized Chinook salmon are 20” to 28” total length and are nearly all age-.2 males. Large fish are over 28” total length and are mostly age-.3 to age-.5 fish. When making size determinations, weir personnel will be viewing the passing fish relative to reference marks (20” and 28” long) painted on a white flash panel that is secured on the river bottom near the upstream opening of the passing gate.

Small age-.1 (jack) Chinook and small sockeye can, to a small extent, squeeze through weir pickets and avoid the weir opening and trap for biological sampling. If you witness this happening, proceed to count and/or sample as you normally would. Total counts of small Chinook salmon are assumed to be biased low and do not count towards the escapement goal.

¹ Product names used in this publication are included for completeness but do not constitute product endorsement.

The daily and cumulative counting forms will be used to record the daily escapement counts as described in Appendix B1. Note the time period that the weir gate is opened, and record the daily and cumulative counts for Chinook and sockeye salmon. In the comments section to the right of the page, document other salmon species, net marked fish, holes in the weir, predation, etc. The daily totals for all species will also be recorded on a radio form (Appendix B2). This form will be used to relay the total daily counts (from the previous day) to the Yakutat ADF&G office via VHF radio each morning at 10:00 a.m.

ESCAPEMENT SAMPLING FOR AGE, LENGTH, AND SEX

The crew stationed at the Situk River weir site will conduct salmon escapement sampling for age, length, and sex data during each statistical week. The standard statistical week starts on **Sunday** and ends on the following **Saturday**. Refer to Appendix A for statistical calendar weeks. Procedures for sampling adult sockeye and Chinook salmon can be found in Appendix C.

Sockeye and Chinook salmon will be the only species sampled. Scales will be mounted on a gum card with the corresponding data (sex and length) recorded on an (ASL) optical scan form (Appendix C). Length (mm) will be measured from mid-eye to tail fork (Appendix C 2), and sex will be recorded for each fish sampled. Scales will be collected from the preferred area of the fish (i.e., the left side of the fish, two scale rows above the lateral line on the diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin; INPFC 1963; see Appendix C 3), placed on a gum card, and prepared for analysis as described by Clutter and Whitesel (1956). Scale samples will be analyzed at the ADF&G salmon-aging laboratory in Douglas, Alaska. The weekly age distribution, the seasonal age distribution weighted by week, and the mean length by age and sex weighted by week will be calculated using standard methods (1977).

SAMPLING GOALS FOR SOCKEYE SALMON

The age composition of the sockeye salmon escapement at the Situk River will be determined from a minimum of 800 scale samples collected from live fish at the weir over the course of the entire season. The sample size was selected based on work by Thompson (1992) for calculating a sample size to estimate several proportions simultaneously. A sample size of 510 fish is needed to ensure the estimated proportion of each adult sockeye salmon age class would be within 5% of the true value with at least 95% probability. We increased our scale sampling goal to 800 samples to ensure the sample size target would be met, even if approximately 35% of the samples are unreadable. Daily sampling goals for sockeye salmon will be determined by **multiplying the total weir passage since the last sampling event by 1% (.01)**. That number will be the sampling target for that day. As long as 1% of the sockeye run since the last sampling event are sampled, the sampling events can be spread out to 3 times a week over 3 non-consecutive days. This will yield a more representative sample for the week (statistical week). Once sampling goals are calculated, weir staff will open the trap long enough to approximately achieve the sockeye salmon goal for that day. In the event that the trap contains many more sockeye than desired, a systematic sample of the sockeye (e.g., every-other sockeye handled) will be sampled.

SAMPLING GOALS FOR CHINOOK SALMON

The sampling goal is to obtain 200 or more Chinook salmon samples by the end of the project. As with sockeye salmon, the ultimate goal is to spread sampling proportionally over the

immigrating population. An optimum sampling goal for Chinook salmon is to sample 15% (0.15) of the Chinook run that passed the weir since the last sampling event. However, due to low Chinook returns in recent years, **all Chinook salmon encountered in the trap will be sampled!** When immigration rates are very low (as in the first and last several weeks of most years when daily movements may be only a few fish per night), all of the sockeye and Chinook salmon will be sampled.

SCHEDULE AND DELIVERABLES

Each year the weir will be installed on approximately 10 June and operated until approximately 15 August. Information on daily and accumulative salmon escapements will be communicated to managers on a daily basis. Scale samples will be forwarded to the ADF&G aging lab in Douglas every two weeks throughout the season.

RESPONSIBILITIES

Gordon F. Woods, Fish and Wildlife Technician V, Area Manager for the Division of Commercial Fisheries. Oversight of all aspects of project, including operational planning, permit acquisition, equipment inventory.

Nicole L. Zeiser, Fishery Biologist I, Project Leader. Supervises project field technicians. Assists with all aspects of the project, including operational planning, field work, personnel, training, data analysis, and technical report writing.

Chet J. Woods, Fish and Wildlife Technician III, Crew Leader. Under general supervision responsible for all aspects of field operations, and equipment and camp maintenance. Ensure that scheduled field work is conducted and completed in a safe and timely manner. Direct the work of field assistants and ensure consistency and accuracy of data. Collects data and reports inseason escapement estimates to ADF&G management staff.

Vacant (to be determined), Fish and Wildlife Technician II, Crew. Under direct supervision assist with all aspects of field operations, data collection, equipment and camp maintenance, and general field camp duties.

Rhonda R. Coston, Fish and Game Program Technician. Provides administrative support to the project and personnel, and budgeting.

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Table 1.–Situk River weir escapement counts, 1988–2012.

Year	Dates of Operation	Chinook^a	Sockeye^b	Coho^c	Pink^d	Chum
1988	6/7–8/21	885	46,404	1,694	78,754	228
1989	5/31–8/17	637	84,383	0	288,246	0
1990	6/1–7/28	1,274	61,375	0	0	0
1991	6/10–7/27	1,613	67,737	0	4,168	3
1992	4/18–8/5	1,985	63,877	0	29,278	0
1993	6/10–8/5	4,091	62,110	0	16,285	0
1994	5/21–8/4	4,416	72,474	4	79,055	4
1995	5/10–8/3	8,231	42,463	4	66,273	17
1996	5/6–8/6	4,151	61,269	65	157,012	15
1997	5/7–8/8	5,001	42,051	18	466,267	35
1998	5/3–8/5	5,329	50,546	8	97,392	0
1999	5/9–8/6	2,786	61,544	2	27,586	0
2000	5/10–8/8	3,091	41,544	189	332,510	53
2001	5/20–8/8	696	60,330	20	121,267	13
2002	5/10–8/8	1,024	68,743	40	98,190	22
2003	5/8–8/8	2,615	89,720	1	375,333	12
2004	5/8–8/9	798	42,544	184	145,914	111
2005	5/8–7/31	613	66,476	137	279,648	0
2006	5/11–8/13	749	90,383	320	115,079	283
2007	5/11–8/15	677	61,799	39	224,024	18
2008	5/11–7/23	414	22,540	0	1,275	6
2009	5/12–8/5	904	83,959	10	62,287	2
2010	5/11–8/5	170	47,865	2,706	84,594	1
2011	5/9–8/7	240	89,993	46	169,908	112
2012	6/1–8/7	321	62,467	17	33,620	11
1988–2012 Average		2,108	61,784	220	134,159	38

Note: In 1992 and from 1994 to the present, the weir has been operated by Sport Fish Division in May and early June to count emigrant steelhead.

^a Chinook salmon weir counts are for large, three-ocean or older fish. The biological escapement goal range is 450–1,050 large fish.

^b The Sockeye salmon biological escapement goal range is 30,000–70,000 fish.

^c The Situk weir is not operated through the end of the coho salmon run and is not a useful measure of escapement for this species.

^d The pink salmon lower-bound sustainable escapement goal is to pass 33,000 fish by August 5.

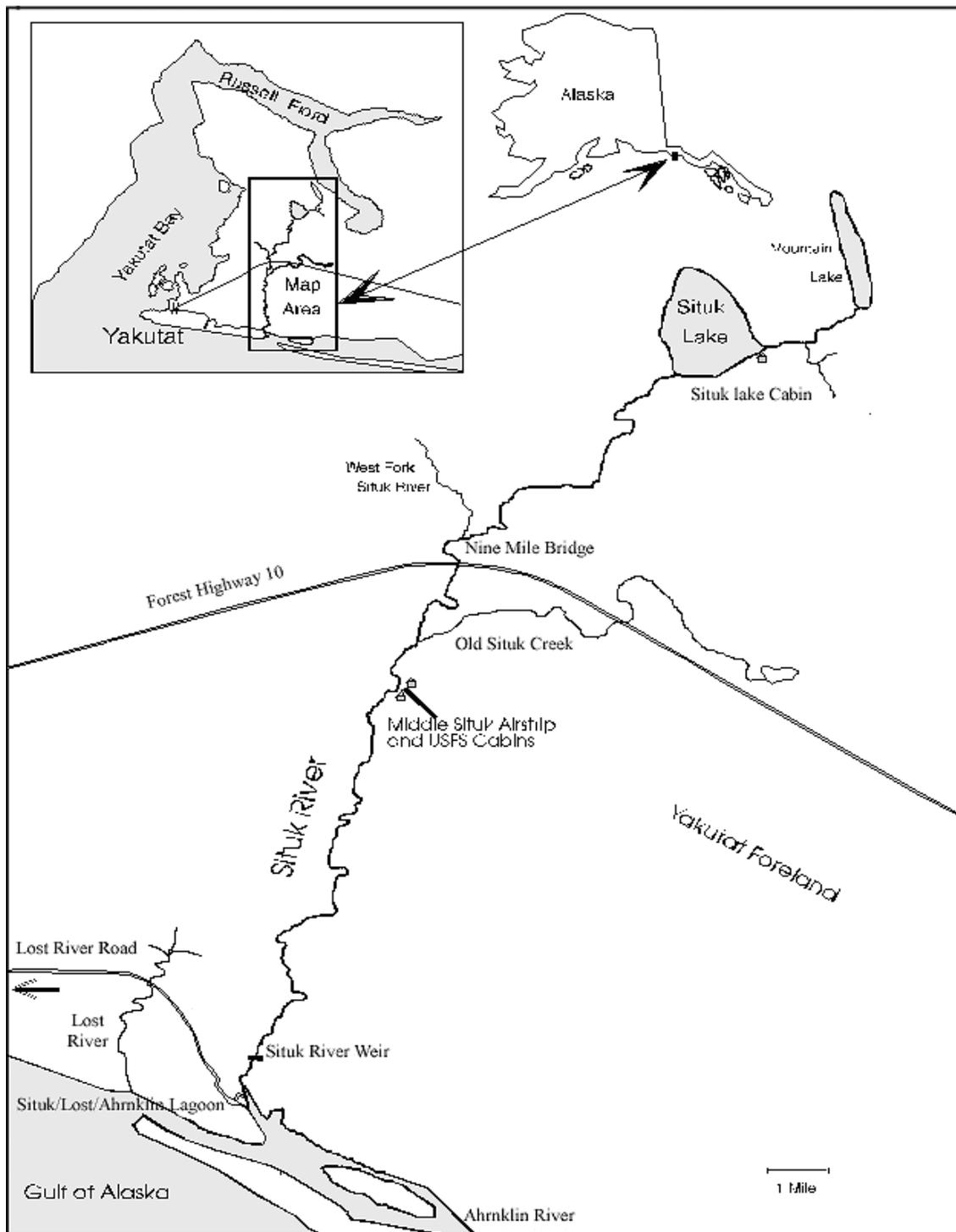


Figure 1.—Map of the Situk River drainage, Situk-Ahrnklin Lagoon, and present weir site.

APPENDICES

Appendix A 1.–Statistical weeks (sampling periods) and corresponding calendar dates, 2013–2015.

Statistical Week	2013		2014		2015	
	Beginning Date	Ending Date	Beginning Date	Ending Date	Beginning Date	Ending Date
23	2-Jun	8-Jun	1-Jun	7-Jun	31-May	6-Jun
24	9-Jun	15-Jun	8-Jun	14-Jun	7-Jun	13-Jun
25	16-Jun	22-Jun	15-Jun	21-Jun	14-Jun	20-Jun
26	23-Jun	29-Jun	22-Jun	28-Jun	21-Jun	27-Jun
27	30-Jun	6-Jul	29-Jun	5-Jul	28-Jun	4-Jul
28	7-Jul	13-Jul	6-Jul	12-Jul	5-Jul	11-Jul
29	14-Jul	20-Jul	13-Jul	19-Jul	12-Jul	18-Jul
30	21-Jul	27-Jul	20-Jul	26-Jul	19-Jul	25-Jul
31	28-Jul	3-Aug	27-Jul	2-Aug	26-Jul	1-Aug
32	4-Aug	10-Aug	3-Aug	9-Aug	2-Aug	8-Aug
33	11-Aug	17-Aug	10-Aug	16-Aug	9-Aug	15-Aug
34	18-Aug	24-Aug	17-Aug	23-Aug	16-Aug	22-Aug
35	25-Aug	31-Aug	24-Aug	30-Aug	23-Aug	29-Aug

Appendix B. 1–Situk River daily and cumulative escapement counting form and procedures

Situk River Salmon Weir Daily Counting Form, 2009										Page <u>1</u> of <u> </u>		
Date: <u>July 4</u>												
Time Period	Sockeye		Chinook						Daily Other Species			Comments: Weather, net marks, predation, holes in the weir, visibility, behind the weir count estimate, etc.
	Daily Counts	Cum Daily	Daily Counts			Cum Daily			Pinks	Chum	Coho	
			L	M	S	L	M	S				
00:00/03:30	22	22	0	1	0	0	1	0		-	-	6 net marked
10:20/10:45	4	26	5	0	1	5	0	1				
13:00/13:30	13	39	10	4	0	15	4	1				2 net marks
16:00/16:15	57	96	0	10	0	0	14	1	12			
17:15/17:30	18	114	7	6	2	22	20	3				
21:00/21:20	23	137	2	0	1	24	20	4				~300 Sockeye behind weir
23:00/23:30	100	237	10	1	2	34	21	6	5			5 others below weir
Daily Total		237				34	21	6	17			
Previous Days Cum		34,500				268	102	29	0			
Total Cumulative		34,737				302	123	35	17			

FOLLOW THIS PROCEDURE FOR FILLING OUT A DAILY ESCAPEMENT FORM:

- Begin a new reporting form every day and record date.
- A counting/sampling day begins at 00:01 hours and ends at 23:59 hours. Record times in military format (e.g., 3:00PM = 15:00 hours).
- Each day, copy the season total cumulative for sockeye and Chinook (large = L, medium = M, and small = S) salmon and other species over from the previous day’s sheet and enter them into the appropriate fields marked “Previous Day’s Cum” at the bottom of the form.
- After each count, record the time interval when the fish pass gate was opened and closed under the “Time Period”.
- After each count, add the count from that time period (under “Daily Counts”) to the running **daily cumulative** columns (under “**Cumulative Daily**”) for sockeye salmon. For Chinook salmon add the daily counts to the daily cumulative for each size class (e.g., add daily count for large to daily cumulative for large Chinook salmon).
- At the end of each day, the last daily cum number you have for sockeye salmon and each size class of Chinook salmon should be the same number you record next to “Daily Total” at the bottom of the sheet. The “Daily Total” is added to the “Previous Days Cum” to equal the “Total Season Cum”.
- Record other species counts in the appropriate columns.
- Enter notes such as bad water visibility, holes in the weir, etc., into the “comments” section.
- Double-check all computations before reporting numbers to the Area Management Biologist during radio schedules.

Appendix B. 2–Situk River daily and cumulative escapement radio form and procedures.

2013			CHINOOK		SOCKEYE		PINK		REMARKS	SAMPLING			
DATE	Water		L / M / S	L / M / S	Daily	Cum	Daily	Cum		CHINOOK		SOCKEYE	
	Level	Temp	Daily	Cum						Daily	Cum	Daily	Cum
7/1/2013			/ /	/ /									
7/2/2013			/ /	/ /									
7/3/2013			/ /	/ /									
7/4/2013			/ /	/ /									
7/5/2013			/ /	/ /									
7/6/2013			/ /	/ /									
7/7/2013			/ /	/ /									
7/8/2013			/ /	/ /									
7/9/2013			/ /	/ /									
7/10/2013			/ /	/ /									
7/11/2013			/ /	/ /									
7/12/2013			/ /	/ /									
7/13/2013			/ /	/ /									
7/14/2013			/ /	/ /									
7/15/2013			/ /	/ /									
7/16/2013			/ /	/ /									
7/17/2013			/ /	/ /									
7/18/2013			/ /	/ /									
7/19/2013			/ /	/ /									
7/20/2013			/ /	/ /									
7/21/2013			/ /	/ /									
7/22/2013			/ /	/ /									
7/23/2013			/ /	/ /									
7/24/2013			/ /	/ /									
7/25/2013			/ /	/ /									
7/26/2013			/ /	/ /									
7/27/2013			/ /	/ /									
7/28/2013			/ /	/ /									
7/29/2013			/ /	/ /									
7/30/2013			/ /	/ /									
7/31/2013			/ /	/ /									

Every morning at 10:00AM the weir counts will be relayed to the Yakutat Fish and Game office by VHF radio on channel 10. If there are problems with the radio a satellite phone will be used. It is imperative that you contact the office every day at this time otherwise staff will assume there is an emergency and come out to the weir site to check on you.

VHF RADIO COMMUNICATION PROTOCOL AND ETIQUETTE:

- When you call another person on the radio, clearly identify the recipient and yourself. For example, “Fish and Game, Fish and Game, this is Situk River Weir on Channel 10.”
- Once you’ve established clear communications and the recipient is ready to record your information, you will relay the data on the radio form recorded for the previous day.
- You can read the numbers straight across the row without specifying what each number represents as long as you are clear and give a short pause between each number.
- The remarks are used for other species such as steelhead, chum, and coho. Say “over” when you are done talking, and “Situk weir clear” when getting off the radio.
- Channel 16 is for hailing and distress messaging only. This channel should never be used for casual conversation or performing a radio check.

ESCAPEMENT SAMPLING FOR SCALES

The following is a detailed explanation on how to collect salmon scale samples. If you have not collected scale samples before, or if you have any questions, ask someone who has experience with scale sampling. Scales must be readable and properly organized to be useful, so follow proper technique when sampling.

For sampling you will need:

- Clipboard with ASL forms
- Pencils (No. 2)
- Pre-labeled Gum Cards
- Wax paper inserts
- Forceps (tweezers)
- Plastic scale card holders (optional)
- Measuring tape/measuring board
- Dip net
- Gloves

SCALE GUM CARDS

A scale card (also called a gum card) is a gum-backed sheet with 40 positions, numbered 1 through 40, and used for mounting individual scales taken from a fish. Scale samples are placed on the cards in sequential order.

It is important to keep the gum card dry at all times. A wet gum card is useless as the scales will fall off and prevent a readable impression from being taken. If the gum card does get wet, the scales should be remounted onto a new gum card with care taken to keep each scale in its original position. The completed gum card should be allowed to dry fully before storing long-term. All gum cards should be stored with a sheet of wax paper placed between them, to keep the cards from sticking to each other, and kept in a moisture-proof container.

Pluck the "preferred scale" from the fish using forceps (tweezers). The preferred scale is located on the left side of the fish, 2 rows above the lateral line on the diagonal from the posterior insertion of the dorsal fin to the anterior origin of the anal fin (See Appendix C 3). If the preferred scales are missing, reabsorbed, or obviously deformed, try the right side of the fish. If preferred scales are missing from both sides, collect a scale from an area as close to the preferred area as possible or sample a different fish.

After removing the scale from the salmon, clean the scale by wiping the under-surface (the side adhering to the fish) on the back of your hand or between 2 fingers to remove all the skin (silver color). Make sure no dirt, slime, or skin remains on the scale. Moisten the scale and mount the scale on the gum card with the ridged side up. The ridged side is the same side that is exposed on the salmon. Finally, mount the scale so the anterior end (the end of the scale closest to the salmon's head when plucked) is oriented toward the top of the gum card (Appendix C 3).

-continued-

Scales should be neat, clean, orderly, and properly oriented on the card. This is essential for the scales to adhere to the gum card and to make determination of the salmon's age possible by a scale reader (the purpose of the entire sampling process). If all the silver-colored skin is not removed and the scale is not totally clean, it will not adhere to the gum card or it will not be legible when it is viewed for aging or other evaluation.

SOCKEYE SCALE SAMPLING:

A **new scale card along with a new ASL form is started for each new sampling event** for sockeye salmon, even if the previous card is not filled up. It is important that scale card number and information match the information entered on the corresponding optical scan form (ASL). When sampling sockeye salmon, you will take one scale from each fish. Mount scale on gum card in sequential order starting with placement #1. The next scale sample will be placed on #2 and so forth (See Appendix C 3 and C 4).

CHINOOK SCALE SAMPLING:

The **same scale card and same ASL form** will be used for Chinook during a statistical week (Sunday through Saturday), unless you trap more than 10 Chinook during that week. For example, only 5 Chinook are sampled one day, then the next day you only sample two Chinook. These scales will go on the same scale card until it gets filled. On the ASL form, you simply write the sample date on the line in the right margin of the form that corresponds to the fish number (see Appendix C 6) The reason for this is the Chinook salmon run is much smaller than the sockeye run, and are not as easy to trap. When sampling Chinook, you will take 4 scales from each fish. Mount the first 4 scales on scale #1, 11, 21, and 31 (working down in a column instead of rows). Mount the second set of scales (from fish number 2) on scale #2, 12, 22, and 32 etc as shown in Appendix C 4.

Always start a new scale card and new ASL form for BOTH species when you begin a new statistical week!

Record the following information on each **gum card**:

Species:

Write out completely (e.g., sockeye).

Card Number:

Gum cards are numbered sequentially beginning with “001” and continue through the entire season. .
Do not repeat or omit gum card numbers.

Locality:

Write out the name of the system being sampled (e.g., Situk River weir).

Statistical code:

Transfer the appropriate digits from the optical scan form, starting with the 3-digit district, then the 2-digit subdistrict, then a 3-digit stream number (e.g., 182-70-010 for Situk River).

-continued-

Sampling date:

Record the date when fish were sampled.

Gear:

Write out completely (e.g., weir trap).

Collector(s):

Record the last name of the person(s) sampling and their respective jobs (e.g., plucker/recorder – Smith, Wrestler – Johnson).

Remarks:

Record any pertinent information (e.g., 1 scale/fish, ASL #)

COMPLETING THE FORMS

Salmon from many systems throughout the state are sampled for length, sex, and age annually by field crews. This database is essential for sound management of the State's salmon resources. To be useful, data must be recorded on the optical scan forms neatly and accurately.

Complete each section of the left side of the optical scan form using a No. 2 pencil and darken the corresponding ovals as shown in the figures. It is imperative that you darken the oval completely and neatly. Make every effort to darken the entire oval because the optical scanner that reads and records the data from the optical scan forms often misses partially filled, or lightly filled ovals, but avoid pressing so hard as to indent the paper. Do not stack forms when filling them out and label only one form at a time to avoid "the carbon paper effect" and resulting stray marks. It is necessary to review the forms after each day and ensure that all the data is filled in and appropriately marked.

Fill out the entries along the left side of the **optical scan form** (Appendix C 5 and C 6) as described below:

Description:

Write out the name of the species, District, sub-district system and the type of sampling being done (e.g., Sockeye or Chinook/ Dist. 182-70-010/weir/Situk River Esc./Wk 29).

Card:

Record the gum card number corresponding to the optical scan being filled out. The optical scan forms and corresponding gum cards are numbered sequentially throughout the season starting with 001. Consult your crew leader for the current card number. Each optical scan form will have only one corresponding gum card. Each scale collected must correspond to the same fish on the optical scan form.

Species:

Refer to the reverse side of the optical scan form for the correct digit (e.g., mark 2 for sockeye, or 1 for Chinook).

-continued-

Date:

Day, Month, and Year: use appropriate digits for the date the fish are sampled.

District:

The district code is 182; the first 3-digit number in the Situk River stream number (**182-70-010**).

Subdistrict:

The subdistrict code is 70; the 2-digit number in the middle of the Situk River stream number (**182-70-010**).

Stream:

The stream number is 010; the last 3-digit number in the Situk River stream number (**182-70-010**).

Port:

Leave Blank

Stat. week:

List the appropriate statistical week number from the calendar date in Appendix A (e.g., mark 27 for sampling in the week between 30 June and 6 July 2013).

Project:

Refer to the reverse side of the optical scan form for the correct code (e.g., mark 3 for escapement sampling at a weir site).

Gear:

Refer to the reverse side of the optical scan form (e.g., mark 00 for weir trap).

Harvest code:

Leave blank

Length type:

Mark 2 when sampling adults: mid-eye to tail fork (Appendix C 2).

cards:

This is the number of scale card(s) used that correspond to that optical scan form (e.g., mark 1 for sockeye)

It is extremely important to keep the optical scan forms flat, dry, and clean. Fish slime and water curling will cause the optical scanning reader machine to reject the entire optical scan form. If unnecessary pencil marks, dark spots, etc. are visible, they need to be erased or the machine will misinterpret the mark. It is necessary to fill in all information and darken the circles completely.

-continued-

Additional data columns are available on the reverse of the optical scan for individual project use. If you take weights (as in the case of smolt sampling), you need to transfer the dark boxes (litho code) on the front left margin of the form to the left margin on the back. This code needs to be entered on the back exactly as it appears on the front.

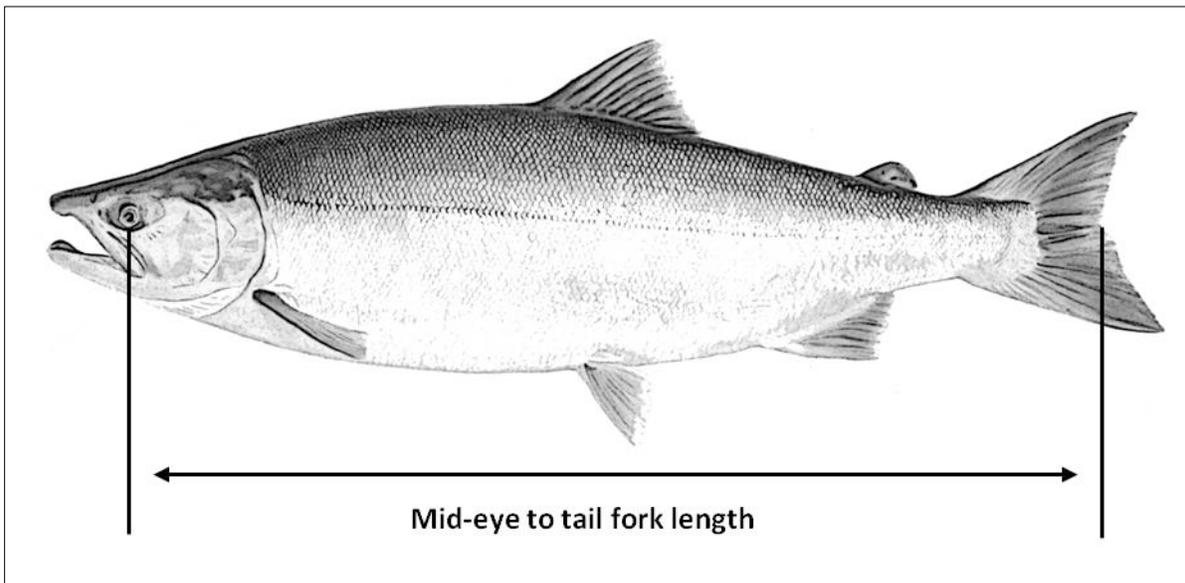
SOME REMINDERS

- Record length by blackening the appropriate column circles on the optical scan form. Column 3 on the optical scan form is used for fish over 999 millimeters long. Measure all salmon to the nearest 5 millimeters.
- Optical scan forms should be carefully edited before submitting to the immediate supervisor. **This is extremely important, and cannot be emphasized enough.** Re-check header information on optical scan forms: make sure all available information is filled in. Card numbers should not be repeated. Crew leaders should take time to ensure that the circles are being blackened correctly, if the circles are not darkened properly or sloppily marked the optical scanner records the information incorrectly or misses it entirely. Keep marks within each circle and completely fill them. Do not go outside the circle.
- Transfer important comments from scale cards to optical scan forms. After pressing scales, the cards are seldom referred to again, and important remarks can be lost. Write any necessary comments in the top margin (not on the left side) or on the reverse side of the optical scan form. If no room is available on the optical scan form to completely explain the remarks, use a separate piece of paper.
- The data processing program requires the "litho code" on the optical scan form (it is located in the upper right margin of the optical scan form). It helps if the optical scan forms are used in the order of this code. It should not be difficult to keep them in order if they are arranged that way from the beginning and kept in a folder.
- If the optical scan forms get wrinkled or blotched they should be copied to a new form before submitting to the area office. The optical scanning machine is extremely sensitive to wrinkles and blotches and will misread or reject the sheets.
- Look down the form from 2 angles after the data has been recorded to pick up any glaring mistakes. A common error, for instance, is placing both the 1 and 9 of a 419 mm fish in the 10's column with nothing in the 1's column.
- It is important for post-season editing that all information is provided on every ASL form and gum card. Include such information as who wrestled the fish, plucked the scale, and filled out the forms. It is the responsibility of the crew leader to make sure all information is entered correctly.

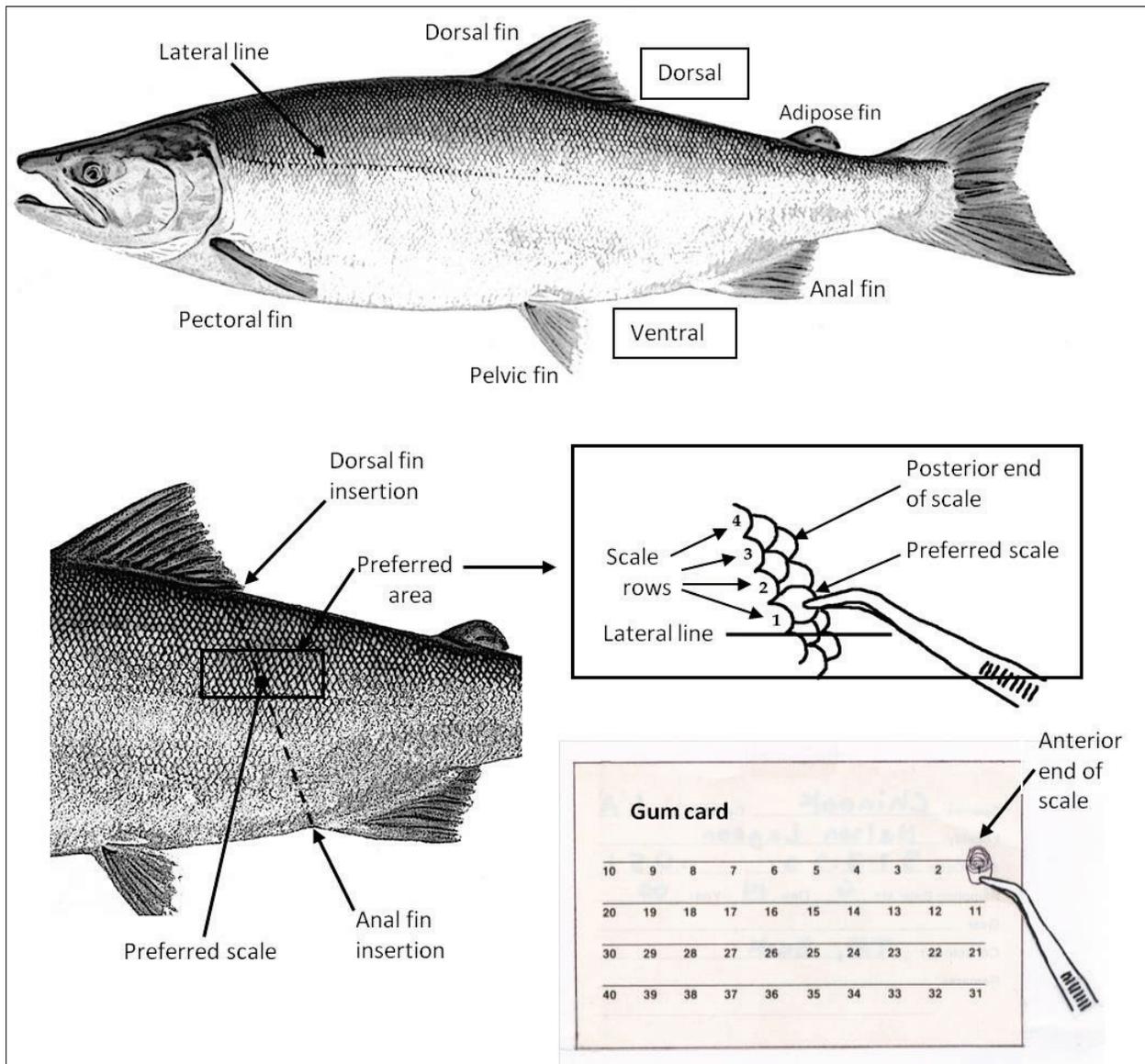
Appendix C. 2–Measuring adult salmon length.

The procedure for measuring mid-eye to fork of tail length is as follows:

1. Place the salmon flat, right side down, on a board that has a ruler mounted on it with a metric scale. Orient the salmon with its head on your right, the tail in your left hand, and the salmon's dorsal surface (back) towards you. This puts the salmon in the correct orientation for the plucker to remove the preferred scale from the fish's left side if the plucker is standing on the other side of the measuring board.
2. Line the eye of the salmon up with the end of the ruler, then hold the salmon's head with your right hand. Gently sliding your thumb into the salmon's mouth and grasping the lower jaw works well for larger fish.
3. Flatten and spread the tail against the board with your left hand. Read the mid-eye to tail fork length to the nearest 5 millimeter and record sex and length on ASL form.



Appendix C. 3–Preferred scale sampling area on an adult salmon.



Do not turn scale over (ridged side should face up, as on fish). Place scales directly over the number on the gum card. Mount scale with anterior portion of scale oriented toward the top of the card, posterior end toward the bottom.

Appendix C. 4—Example of completed Chinook and sockeye salmon scale cards.

Species: Sockeye Card No. 001
 Locality: SITUK Weir
 Stat. Code: 182-70-010-
 Sampling Date: Mo. 07 Day 13 Year 2010
 Gear: Weir Trap
 Collector(s): FEISER (W), Miller (P, R)
 Remarks: 1 Scale per Fish
ASL# 076165

10	9	8							
20	19	18	17	16	15	14	13	12	11
30	29	28	27	26	25	24	23	22	21
40	39	38	37	36	35	34	33	32	31

Species: Chinook Card No. 001
 Locality: SITUK weir
 Stat. Code: 182-70-010-
 Sampling Date: Mo. 07 Day 15 Year 2010
 Gear: Weir TRAP
 Collector(s): WOODS (W), Munoz (P, R)
 Remarks: 4 Scales per Fish
ASL# 076160

10	9	8	7	6	5	4	3	2	
20	19	18	17	16	15	14	13	12	
30	29	28	27	26	25	24	23	22	
40	39	38	37	36	35	34	33	32	

Appendix C. 5—Example of completed optical scan form (ASL) for sockeye salmon.

SOCKEYE / DIST. 182-70-010 / WEIR TRAP / SITUK RIVER ESC. / WK 29

DESCRIPTION: SPECIES / DIST., SUB-DIST. OR STREAM / GEAR / PORT OR ESCAPEMENT SYSTEM / WEEK 076165

CARD:	#	SEX	T	100S				LENGTH				1's				E	FRESH AGE				MARINE				USER CODE						
				0	1	2	3	0	1	2	3	0	1	2	3		0	1	2	3	0	1	2	3	0	1	2	3	0	1	2
001	1	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	2	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	3	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	4	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	5	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	6	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	7	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	8	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	9	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	10	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	11	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	12	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	13	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	14	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	15	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	16	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	17	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	18	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	19	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	20	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	21	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	22	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	23	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	24	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	25	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	26	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	27	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	28	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	29	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	30	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	31	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	32	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	33	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	34	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	35	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	36	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	37	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	38	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	39	M	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
001	40	F	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ADF&G ADULT SALMON AGE - LENGTH FORM VERSION 3.0(4/93) FORM NO. 5096 ACCU-SCAN 60322PC5096 (Rev. 4/94) APPERSON PRINT MANAGEMENT SERVICES

Appendix C. 6—Example of an optical scan form (ASL) for Chinook salmon.

CHINOOK/DIST. 182-70-010/WEIR TRAP/SITUK RIVER ESC./WK 29

DESCRIPTION: SPECIES / DIST., SUB-DIST., OR STREAM / GEAR / PORT OR ESCAPEMENT SYSTEM / WEEK **076430**

CARD:	#	SEX	T	100S	LENGTH	1's	E	FRESH AGE	MARINE	USER CODE
001	1	M	1							
17	2	M	1							
07	3	M	1							
10	4	M	1							
182	5	M	1							
70	6	M	1							
010	7	M	1							
29	8	M	1							
3	9	M	1							
00	10	M	1							
1	11	M	1							
	12	M	1							
	13	M	1							
	14	M	1							
	15	M	1							
	16	M	1							
	17	M	1							
	18	M	1							
	19	M	1							
	20	M	1							
	21	M	1							
	22	M	1							
	23	M	1							
	24	M	1							
	25	M	1							
	26	M	1							
	27	M	1							
	28	M	1							
	29	M	1							
	30	M	1							
	31	M	1							
	32	M	1							
	33	M	1							
	34	M	1							
	35	M	1							
	36	M	1							
	37	M	1							
	38	M	1							
	39	M	1							
	40	M	1							

ADP&G ADULT SALMON AGE - LENGTH FORM VERSION 3.0(4/93) FORM NO. 5296 ACCU-SCAN® 6932PC2166-01/Rev/04/04 APPRECH POINT MANAGEMENT SERVICES

7/18

7/19

Appendix D. 1–General equipment, camp maintenance, and camp policy.

EQUIPMENT MAINTENANCE

Equipment maintenance is one of the most important operations you will perform during the field season. The outboard motors, generators, and other equipment must be kept in good operating condition.

It will be the crew leader's responsibility to see that all equipment is kept in good operating condition.

ENGINE CARE AND OUTBOARD OPERATION

If outboard uses mixed fuel, the correct outboard motor fuel mixture is 50:1. The newer Precision Blend outboards mix the 2-cycle oil and gas automatically, but older engines will need to have their fuels pre-mixed. Always pour the oil into the tank first, then add 2 or 3 gallons of gas and mix thoroughly, then fill tank to capacity always using a large funnel and filter. Some outboards may be 4-stroke engines, which need to have oil level checked routinely. Always mix fuel tanks or equipment under cover to prevent water contamination and always use a funnel and filter. Note that some chainsaws have a fuel mixture of 25:1, but some newer models (e.g., Stihls) use a 50:1 mix. Chainsaw gas should be mixed in a separate can and clearly marked that it is chainsaw fuel to avoid accidentally being used in outboards.

Always place outboard motors in neutral when starting and always make sure a safety line is attached between the boat and motor. Perform a check daily of the clamp screws “dog ears” that hold the outboard to the transom. Also routinely check the motor for loose screws and bolts, cracks, and breaks, especially in the area of the lower unit.

In the normal operation of an outboard, a stream of water is discharged from a hole in the bottom edge of the cowling or from the back of the shaft. If this stream of water stops, the water pump may not be working and the motor should be shut off. On propeller outboards, the side plate over the water intake can be removed for cleaning as it may be plugged. If the pump continues not to function, the outboard should not be run, and a report to base camp should be made. On jet units, a cover on the side of the cylinder head through which water circulates can be removed and cleaned, and the cover over the temperature sensor (thermostat) can also be cleaned to restore flow. Take along a piece of bailing wire to dislodge sand from the small water discharge tube under the cowling.

Check the gear oil in the lower unit of the outboard once a week and drain and replace the gear oil at the end of the season and every 50 hours of operation. Jet units must be greased daily. This is crucial. Grease guns will be provided.

If the skeg or jet unit hits bottom, check the screws to make sure they are still secure and there is no damage to the lower unit. Also, remove any rocks stuck between the grates on the jet unit.

All outboards are to be tilted in the up position when moored to preclude silt accumulation in the jet unit or water pump and skeg or housing damage.

If your outboard will not start, check the following:

- Check to make sure the kill switch is clipped to the engine properly.
- Check to see if the fuel line is connected properly to the motor and the tank and not pinched or kinked, and that the air vent on the tank is open.
- Check to see if there is water in the gasoline.
- If the engine is flooded, wait 5 minutes for the plugs to dry before attempting to start again.
- Check the spark plugs and spark plug wires as they may be fouled or defective (replace if needed).

BOATS

Boats are to be kept clean and free of loose tools and debris, and moored at locations where they are not subject to damage by other traffic or through contact with the river bottom in rock laden areas. Boats must be bailed regularly of rainwater to keep them from sinking.

Further responsibility includes maintaining a bow line on each assigned craft and ensuring that each boat is properly moored at the end of each work day to preclude possible loss or damage.

GENERATORS

Portable generators may be supplied to field camps. Their maintenance is important. Since most of the generators have 4-cycle engines, mixed gas must not be used. The crankcase oil reservoir should be checked daily and maintained at the full level. At the end of the season, and after 25 hours of operation, the oil should be changed. Spark plugs should be checked at every oil change for fouling and gap.

CAMP MAINTENANCE

Keep the cabin, surrounding area, and yourself clean and neat. Appearance is important. You will not always be notified of the intended arrival of visitors, officials, etc. Visitor impressions are often based on your appearance.

Maintaining a clean and efficient field camp is required. Maintenance of living accommodations and other installations will be performed as necessary. All materials necessary will be provided.

Grounds will be kept free of litter. All garbage will be bagged up and disposed of in town. Special precautions should be observed to ensure that garbage does not attract bears and other scavenger species. Dirty dishes should be washed daily and kept inside the cabin, not left in the yard or outdoors where it will attract bears.

Upon completion of the summer season, all camp equipment will be cleaned prior to winter storage. All sampling nets, tarps and life jackets must be dry before being stored. All skiffs will be brought back to the ADF&G compound.

The crew leader at the close of the field season will take a complete equipment inventory. A report detailing the equipment and storage locations will be submitted at the end of the season to the supervisor. A list of equipment needing replacement or repair will also be submitted, along with an equipment need list for next season.

CAMP POLICY

No alcoholic beverages are to be stored in areas open to public view. If alcohol is consumed at a camp an employee must be of legal age and off duty and under no circumstances shall he or she engage in the operation of any State equipment or firearms. Employees will not return to duty status under the influence of alcohol.

The crew leader of each camp shall establish a policy on living standards and personnel behavior in accordance with State guidelines. Time off for individual crew members must be scheduled by the supervisor. All employees will be required to act in a professional manner at all times and shall be especially courteous to the public.

It will be the responsibility of the crew leader to prevent any abuse of State equipment. The crew leader will report within 24 hours to the supervisor any damaged or lost equipment.

FOOD ORDERS

ADF&G will provide all food and non-alcoholic beverages while working at the weir. Groceries will be purchased about once a week by either the field crew when in town or by available office personnel. It is useful to keep an on-going grocery list so you know what is needed or not needed since fridge and freezer space is limited.

VHF MARINE RADIO SCHEDULES

Radio schedules are used to pass on pertinent information to/from the field offices. It is expected that all employees will participate in these schedules to get familiar with radio protocol. Radio schedules will be made every day at 10:00 AM on channel 10. The morning schedule is used for relaying daily weir counts, grocery orders or any gear or equipment needed at the weir site. Keep the conversations short so we do not hold up others using the same channel. In an emergency, the Coast Guard can be summoned using channel 16.

Any employees performing job duties away from the cabins (such as boating trips up/downriver) or hiking/sport fishing/etc. on their own time are required to let others know their plans such as where they are going and when they are expected to return. Also, in each camp is a handheld VHF radio (with spare batteries), backpack with basic survival gear, and firearms and ammunition which the employee is encouraged to carry for their own safety. All employees should be aware of the gear in the camp and should request additional safety/survival items if needed or missing. Employees with any questions or concerns are asked to pass them on to their supervisor.

FIREARMS

A State firearm will be provided at this field camp. If you are unfamiliar with the operation and use of a firearm, please let your supervisor or the crew leader know. Training will be provided for anyone who requests it or is unfamiliar with firearms. Loaded guns are prohibited inside the camp facilities. Anyone handling a firearm should always treat it as if it were loaded. Guns should be kept clean and oiled daily if used and at the end of the project. Any horseplay or misuse of firearms while working for the Department of Fish and Game will not be tolerated and may be grounds for immediate dismissal. Completely unload a firearm of all rounds before cleaning or transporting back to town.

BEARS

Do not encourage bears to come around camp by leaving food or unburned garbage around. Do not shoot at a bear unless, in your best judgment, it is endangering someone's life or damaging personal or state property. Use your best judgment on whether to shoot a bear if property is at stake. When trying to frighten a bear away by shooting, do not fire toward it. You may wound it by pulling the shot, ricochets, etc. Do not use cracker shells at close distance (<30'). If a cracker shell hits a bear at close range, it may penetrate the body cavity and explode inside the bear, killing it.

GARBAGE

Burn garbage as needed, and box up any non-burnable trash to haul back to town. Be sure all burn barrels have proper grates or covers to prevent grass fires from sparks. Never leave a fire unattended and always have adequate fire extinguishing materials handy. Food that is discarded should be contained in a “slop bucket” inside the cabin. As needed, the bucket can be then be dumped into the river downstream of the weir. This should be done in the evenings when there are no sport fishermen down river.

FISH AND WILDLIFE VIOLATIONS

This is not intended as an inclusive procedure for handling violations. Below are guidelines for obtaining the necessary information and/or evidence to document a violation. It is important to be familiar with the commercial fishing, subsistence fishing, sport fishing, and hunting regulations in your area. Violation reporting procedures are printed on the back cover of the commercial fishing regulation book. Request the regulation book if your camp does not have one.

The use of the “4 Ws” can greatly aid the Fish & Wildlife Protection officer in obtaining sufficient evidence for a case.

- What is the violation?
- When did the violation occur (e.g., date, time, tide condition, etc.)?
- Where did the violation occur?
- Who is in violation and who are witnesses?

It is important that specifics about the event be documented so the appropriate officer can follow-up and contact those involved. If you have a camera available, pictures are extremely valuable in prosecuting offenders. Collect as much information as possible and contact your supervisor or a State Trooper from the Alaska Wildlife Troopers Division immediately. If you do not feel comfortable, or your personal safety may be in danger, do not pursue the violation. Contact your supervisor and they will handle the situation. Be aware that you do not have the power to arrest somebody or seize equipment. Just limit yourself to documenting the event as safely as possible.

TRANSPORTATION

Do not endanger life or property by using the skiff in extremely low or high water conditions. If you are unfamiliar with running boats in marine waters and/or on rivers, it is imperative to inform the crew leader of this and proper training should occur. All personnel must wear a Coast Guard approved life jacket when out on any water. Be conservative and use good judgment: if you think it is dangerous, don't go out on the water.

A boat box equipped with all the necessary tools for the outboard should be in the boat at all times and kept as dry as possible. Necessary tools include pliers, wrenches, screw drivers, spark plugs, spark plug wrench, an extra boat plug, and baling wire. Oars and a bilge pump should also be in the boat. A life jacket is mandatory while operating the boat and handheld VHF and flares should also be carried. In case travel at night becomes necessary, carry a flashlight.

State-owned vehicles will be provided for work purposes and used **only** in the conduct of state business. Use of state-owned property for personal convenience is expressly prohibited. Individuals other than those on official state business shall not be permitted to travel in or operate state owned equipment. An official state credit card will be used to fuel up vehicles. Oil levels in the vehicles should be checked frequently. Use of state-owned vehicle, vessels, and equipment after consuming alcohol is explicitly prohibited.

FIRE AND FIRST AID

All remote employees should have up to date First Aid and CPR certificates. The Situk River is not considered remote, therefore; it is not required for this project. Make an effort to avoid intestinal parasites such as *Giardia*. When in doubt, boil your drinking water for 15 minutes.

Check your camp's fire extinguisher. Know where it is and how to use it! Inventory your camp first aid kit, replace items as needed and become familiar with basic first aid treatment. Review the first aid booklet.

COMPATIBILITY OF FIELD PERSONNEL

If you find yourself unable to get along with your camp mate, notify your supervisor and an attempt will be made to resolve the situation.