Regional Operational Plan CF.2020.03

Afognak Lake Sockeye Salmon Stock Monitoring Project Operational Plan, 2020–2022

by

Darin Ruhl

January 2020

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

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

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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AFOGNAK LAKE SOCKEYE SALMON STOCK MONITORING PROJECT OPERATIONAL PLAN, 2020–2022

by

Darin Ruhl

Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

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Division of Commercial Fisheries

January 2020

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This document should be cited as:
Ruhl, D. 2020. Afognak Lake sockeye salmon stock monitoring project operational plan, 2020–2022. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Operational Plan ROP.CF.4K.2020.03, Kodiak.

SIGNATURE PAGE

Project Title:	Afognak Lake Sockeye Salmon Stock Monitoring Project Operational Plan, 2020–2022
Project Leader(s):	Darin Ruhl, Fishery Biologist II
Division, Region and Area:	Division of Commercial Fisheries, Region IV, Kodiak
Project Nomenclature:	AKSSF
Period Covered:	April 2020 through September 2022
Field Dates:	May 1–August 31
Plan Type:	Category I

Approval

Title	Name	Signature	Date
Project Leader	Darin Ruhl		
Section Supervisor	Kevin Schaberg		

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PURPOSE

This operational plan provides the instruction and procedures to properly operate the Afognak Lake adult salmon escapement weir and successfully meet each project objective. The primary function of maintaining a weir at Afognak River is to enumerate sockeye salmon *Oncorhynchus nerka* returning to Afognak Lake for the Alaska Department of Fish and Game (ADF&G) management of the Afognak Bay commercial, subsistence, and sport fishery. All fish passing up or down through the weir are identified, enumerated, and reported to the ADF&G office in Kodiak daily. Enumeration at the weir serves a secondary purpose by providing run timing and escapement information for Kodiak Regional Aquaculture Association (KRAA), which uses Afognak Lake sockeye salmon as an early run brood stock source for various enhancement projects on Kodiak Island. Project activities at Afognak River weir include installation, operation, maintenance of the weir, salmonid enumeration, record daily physical weather observation, and the collection of age, sex, and length (ASL) samples and corresponding data.

BACKGROUND

The Afognak Lake (also referred to as "Litnik" by local residents) watershed is located on the southeast side of Afognak Island, approximately 45 km northwest of the city of Kodiak (Figure 1). Afognak Lake (58°07′ N, 152°55′ W) lies 21.0 m above sea level, is 8.8 km long, and has a maximum width of 0.8 km (Schrof et al. 2000; White et al. 1990). The lake has a mean depth of 9.2 m, a maximum depth of 26.0 m, a total volume of 44.6 x 10^6 m^3, and a surface area of 5.5 km^2 (Figure 2). The marine climate, shallow nature of Afognak Lake, average annual precipitation of approximately 155 cm, and a watershed area of 90 km^2 result in a very short lake-water residence time of 0.4 years. Afognak Lake drains in an easterly direction into the 3.2 km long Litnik River, which in turn flows into Afognak Bay. Afognak Bay is part of the Alaska Maritime National Wildlife Refuge and is where most localized subsistence salmon (*Oncorhynchus nerka*) fishing occurs. The Afognak Native Corporation owns the land surrounding the Afognak Lake watershed down to tidewater.

A counting weir for adult salmon was first established on Afognak River in 1921 just below the lake outlet and was operated intermittently through 1977. From 1978 to the present, the weir has been consistently operated. In 1986, the weir was relocated to its current location, approximately 200 meters upstream of the Afognak River mouth. The ADF&G has conducted annual weir counts in conjunction with sockeye salmon *O. nerka* age, sex, and length (ASL) sampling at the current site. Catch data have been documented through the ADF&G commercial landing fish ticket system, statewide sport fish surveys, and subsistence fishing permits since the late 1970s (Anderson et al. 2014).

In response to declining adult returns, in 1987, ADF&G, in cooperation with KRAA, initiated pre-fertilization fisheries and limnological investigations at Afognak Lake (Honnold and Schrof 2001; Schrof et al. 2000; White et al. 1990). Results of these investigations indicated that sockeye salmon production was limited by rearing capacity (White et al. 1990). Nutrient enrichment was recommended and implemented in 1990 with the intention to increase sockeye salmon rearing capacity in the lake. ADF&G and KRAA jointly fertilized Afognak Lake for 11 years (1990–2000) and stocked a total of 2,054,000 sockeye (1,530,500 million fingerling and 523,500 pre-smolt) in 1992, 1994, and 1996 through 1998 (Schrof et al. 2000).

Afognak Lake sockeye salmon runs substantially declined once fertilization was discontinued (2001), and escapements from 2001 through 2004 were below the established sustainable escapement goal (SEG) range of 40,000 to 60,000 sockeye salmon (Baer 2011; Honnold et al. 2007; Anderson et al. 2014; Nemeth et al. 2010). As a result of these poor runs, the commercial sockeye salmon, subsistence, and sport fisheries in the Southeast Afognak Section (Figure 1), which includes all of Afognak Bay and surrounding waters, were closed or restricted from 2001 through 2005.

In 2004, new sustainable salmon management policies, 5 ACC 39.222 and 5 ACC 39.223, provided the framework for a team of ADF&G biologists to re-evaluate the existing Afognak Lake sockeye salmon escapement goal. The team recommended changing the escapement goal from an SEG of 40,000 to 60,000 sockeye salmon to a biological escapement goal (BEG) of 20,000 to 50,000 sockeye salmon (Nelson et al. 2005). This new BEG was implemented in 2005. The recommendation was based on analysis of a Ricker spawner-recruit model and limnological data, excluding data from years in which the lake was fertilized. In 2007 and 2010, the escapement goal was re-evaluated with additional years of data and was recommended to remain unchanged (Honnold et al. 2007; Nemeth et al. 2010).

Escapements during the last two decades have been just below (2002, 2004, and 2018) to just above (2001, 2003, 2005–2017, and 2019) the lower bound of the BEG. The Afognak River sockeye salmon run has only recently regained sufficient numbers to meet the escapement goal (20,000–50,000) and support commercial harvest.

In addition to sockeye salmon, other fish species in the Afognak Lake drainage include pink salmon *O. gorbuscha*, coho salmon *O. kisutch*, rainbow trout (anadromous and potamodromous) *O. mykiss*, Dolly Varden *Salvelinus malma*, threespine stickleback *Gasterosteus aculeatus*, and coastrange sculpin *Cottus aleuticus* (White et al. 1990). Chinook *O. tshawytscha* and chum *O. keta* salmon have been observed in the Afognak River on occasion but have not established discernible spawning populations (White et. al 1990).

Prior to 2003, sockeye salmon production had been assessed by adult escapement and harvest estimates; juvenile (smolt) production estimates of the Afognak Lake sockeye salmon stock had not been reliably assessed. In 2003, a sockeye salmon smolt project was initiated at Afognak Lake outlet to estimate the number, age, size, and condition of the smolt emigration. From 2004 through 2016, the smolt project was continued, and the rearing environment (limnology) was monitored. A bioenergetics analysis of rearing juveniles was conducted at Afognak Lake from 2010 through 2013. Smolt operations were discontinued in 2017. Limnology data will continue to be collected and will assist in the development of appropriate strategies to improve returns. In addition to limnology data, the operation of an adult weir will enable accurate escapement counts to be obtained as well as adult age, sex and length (ASL) data.

OBJECTIVES

The project objectives are to operate the adult counting weir, monitor adult returns, collect ASL data from returning adult sockeye salmon, and monitor seasonal stream, lake, and air temperatures. Fulfillment of these objectives supports the development of inseason and long-term management strategies to maximize the production of Afognak Lake's sockeye salmon stock.

CREW OBJECTIVES

1. Enumerate adult salmon escapement through the weir and estimate salmon build-up below the weir, in the river, lagoon, and bay.
2. Estimate the average age, sex, and length (ASL) from the sockeye salmon escapements into Afognak Lake. Methods are designed to estimate the parameters within d=0.07 of the true proportion (for each age group within each stratum) with 95% confidence.
3. Install temperature data loggers in Afognak Lake to monitor temperature.
4. Conduct hands-on capacity building exercises and youth training with local native groups.

LIMNOLOGY SAMPLING OBJECTIVES

Limnology sampling and analysis will be conducted by Kodiak Island Limnology Laboratory (KILL) staff following the methods described in Hopkins (2017).

1. Evaluate water chemistry, nutrients, zooplankton, phytoplankton, temperature, and solar input in Afognak Lake.

TASKS

General

1. Set up camp. Target date: 1 May.
2. Install temperature data loggers in Afognak Lake at limnology station 2 (Figure 2). Target Date: 1 May.
3. Collect physical data daily: air temperature, water temperature, water level, cloud coverage, wind direction and velocity, and precipitation.
4. Collect water and zooplankton samples at station 1 and zooplankton samples at station 2 approximately every four weeks from May to September at Afognak Lake. This will be conducted by KILL staff.
5. Collaborate with Afognak Native Village and Natives of Afognak to conduct educational field seminars for youth groups attending the Dig Afognak Summer camp. Target date: July.

Adult Monitoring

6. Install, operate, and maintain an adult counting weir. Target dates: approximately 5 May–15 August.
7. Install, operate, and maintain an upstream steelhead *Oncorhynchus mykiss* trap to enumerate and pass steelhead downstream of weir. Target dates: (approximately 5 May–15 August).
8. Enumerate adult salmon escapement through the weir by species and provide accurate daily escapement reports. Record the number of net-marked and "jack" (400 mm or less) sockeye salmon escaping through the fish pass.
9. Collect representative scales (for age determination), sex, and length from sockeye salmon escaping to Afognak Lake. Note: Wattum and Foster (2017) lists the minimum of number of samples as 600. Ensure representative samples are collected weekly throughout the season. Refer to Appendix A1 for the statistical sampling weeks and associated calendar dates.

METHODS

ADULT SOCKEYE SALMON MONITORING

A 27 m weir will be installed near the terminus of the Afognak River to enumerate adult salmon escapement. The weir will be constructed perpendicular to the stream flow and consist of 10 wooden tripods (each tripod consisting of three 4″ x 6″ x 8′ spruce timbers and 2″ x 6″ x 6′ horizontal cat-walk supports), ten cat-walk boards (2″ x 12″), 33 aluminum pipes (2″ x 10′), 44 picketed aluminum panels (1″ aluminum pipe with 1″ spacing totaling 30″ x 6′), and 2 framed panel gates (Figure 3). All materials will be secured with sandbags and lashed together to create a fish-tight structure that conforms to the stream substrate.

Two counting gates will be placed between panels in the two deepest channels of the river enabling fish to be counted as they pass through the weir. A white flash panel will be placed on the substrate beneath each gate to enhance visibility and aid in speciation. Fish will be counted by field technicians using handheld tally denominators as fish migrate upstream through the gates. The counting gates will remain closed until field technicians are present to count fish through the weir for escapement enumeration or when fish are being collected in the live trap for ASL sampling.

Fish passing up or down through the weir will be visually identified and enumerated by field technicians using handheld tally denominators and recorded daily on the *Weekly Weir Camp Reporting Form* (Figure 4). Technicians will be trained while in the field on how to properly identify salmonids and how to collect ASL data. Crew members should minimize delaying salmon passage through the weir.

Installing the Weir

Weir installation generally occurs on approximately 5 May.

1. Move tripods from their staged location on the far bank into the river and evenly space them across the river. The back legs of each tripod will lean against the next tripod. Place a few large rocks or sandbags (2 to 4 depending on stream height) on each tripod platform to weigh them down.
2. Place the two outer tripods (nearest the stream banks) slightly upstream from the rest of the tripods and string a taught line (use contractor's colored line) across the river. Move the remaining tripods upstream until they touch the line. Square the tripods perpendicular to the upstream river flow.
3. Fine-tune tripod spacing and leveling. Level each tripod by digging under the highest rear leg to level it out. Leveled tripods make it easier to install and level the boardwalk. Place as many boulders as will fit on each tripod platform.
4. Lay upper and lower aluminum stringers in an alternating pattern across all tripods. At both stream banks, insert the upper and lower stringers into the Nu-Rail® fittings installed into the stream bank for stability.
5. Begin installing weir panels from the near bank. Lay each panel flat against the stringers with the base of the panel up off the riverbed approximately 10 inches. Rake and dig a channel in the river bottom to accept each panel. Once a channel is dug, set the panel into the channel and make sure it is straight and level. Next, backfill the channel with stream gravel and rock to ensure it is fish tight. The first (and last) panel may require minute bank modifications and

sandbags to fill gaps. Continue setting weir panels the length of the weir. Sandbags may need to be placed at the base of the panels to maintain a fish-tight weir.

6. Install two counting gate frames along with the weir panels. These will be counting gates and one will also have the "Scott trap" (Figure 3) upstream of it. Install them where water flow is greater, and depth is adequate for fish passage.
7. Secure weir panels to each other and to the upper and lower stringers with 18-inch zip-ties.
8. Place white flash panels upstream in front of and against each counting gate (gates one and two) on the river bottom and weigh down the corners with large rocks or sandbags. To assist in identification of jacks, scribe a 400 mm line with permanent marker on the flash panels prior to placing them in front of each counting gate.
9. Install the entire boardwalk shiplap (overlapping) on the posterior portion of the tripod arms. Starting at one end of the weir, place a 2"x 12" x 12' board across the first set of tripod arms ensuring it rests on the next consecutive tripod arm. Continue laying out the boardwalk the length of the weir.
10. Level the boardwalk with spacers or leveling blocks nailed to the tripod arm and fine tune the straightness of the boardwalk. Screw the boardwalk boards to the tripod arms and each other. Make sure the end of each individual board rests on a tripod arm.
11. Install "keep off weir" sign, stream gauge, and counting deck behind each counting gate.
12. Inspect the weir for gaps. Walk along the front of the weir backfilling the base of panels where necessary to ensure the weir is fish tight. Use an Aqua-scope® to improve underwater visibility.
13. Install the "Scott trap" upstream at the near bank gate (Figure 3) after it is configured on the shoreline. Use two 10-foot panels and two 4-foot panels (entrance deflectors), to form a "W" coming out from the gate frame and resting on either side of the frame. Use two 6-foot panels (must be the ones with the smaller pipes) as the upstream 45° angle and interlock them with each other and the 10-foot panels. Use seine twine or zip-ties to affix all panels together. Insert the marked exit gate on the upstream side of the Scott trap. Use the pre-cut triangle panels to shore the trap to the sides of the gate frame; affix them to the weir and the trap. Place loose panels on the lead edges of the trap so that fish can't jump out of the trap, and place one panel across the very rear of the trap on the deflectors so fish can't jump out the back. Backfill gravel at the bottom of all panels and surround the outside underwater side of the trap with sandbags to ensure the trap is fish tight.
14. Feed a thick line through each individual tripod and secure to opposite sides of the weir. This will prevent the tripods from floating too far downstream for safe retrieval in the event of a weir washout.

Operating the Weir

1. Monitor the weir throughout the day and pass fish as soon as there is a migration pulse or buildup of salmon. Mornings and evenings are typically the best times for fish passage. The crew leader will organize a schedule.
2. The project leader, supervisor, or designee will train personnel to visually recognize the different salmon species and their swimming patterns. When fish have accumulated behind the weir, take time to visually study them and note differences as they pass through the weir. If the

crew is unable to identify fish species, they can trap them to get a closer look or send in photos to their supervisor.

3. Count fish by opening a gate and enumerating them as they pass through with handheld tally denominators, one for each species. Regulate the gate opening by using a wedge to lock the gate into position. Opening the gate too far will enable fish to pass too quickly and make it difficult to accurately count and identify them. Monitor the quality of passing fish, including the numbers of net-marked and "jack" (< 400 mm) sockeye salmon.
4. If a counting gate will not open, it is probably locked up by gravel or a rock wedged into the framework. Free up the gate by inspecting for wedged rock or gravel and removing it with your fingers or a fish pew.
5. When counting fish and conducting surveys, wear polarized glasses for greater visual recognition.
6. Check handheld tally denominators before each count to ensure they are working properly.
7. When finished counting, make sure the counting gate is closed completely and that counting event is recorded inside of the cabin on the whiteboard.

Maintaining the Weir

1. The weir must be cleaned and inspected daily. Debris build up on the weir may cause poor water flow, leading to scouring at the base of weir panels and weir washout during periods of high water.
2. Cleaning the weir includes getting into the river to remove sticks, logs, leaves, grass, gravel, fish carcasses, and garbage.
3. Throw all debris (except garbage) over the weir, allowing it to flow down river.
4. Inspect the weir daily to ensure it is fish tight; look for scouring, panels out of place, gaps between panels (greater than a finger's width), boulders that have been pushed off of tripods by bears, and unsecured flash panels. Make repairs as needed. Use the Aqua-scope® to enhance visibility.
5. Make sure the framework of the weir is sound and secure. If any of the boardwalks are loose, or any section or parts of the weir broken or unsafe, repair it immediately.
6. If the water level increases to the point where the bottom of the boulders on the tripod platform are submerged, weir panels and the trap will need to be pulled to avoid a weir washout. If a weir washout is possible, closely monitor fish build-up below the weir for fish pass estimation. If pulling the weir is needed, pull the trap and the two gates. If the visibility allows, count fish passing through the gates. If the water level continues to rise, pull panels from the center of the weir or where the current is the greatest.
7. Keep bears away from and off the weir as much as possible to minimize damage. Try to maintain a perimeter around the camp that is a No-Bear Zone. Only scare (haze) bears if the crew is comfortable doing so and it does not pose a dangerous situation.

Age, Sex, Length (ASL) Sampling

Details and procedures for adult ASL sampling and entering adult data are outlined in the Kodiak Management Area Sockeye Salmon Catch and Escapement Sampling Operational Plan (Appendix A2; Wattum and Foster 2017).

A "Scott" 6-panel live box trap (Figure 3) will be constructed on the upriver side of the weir to capture fish for ASL sampling. Field crews should attempt to collect ASL samples on days of medium to high fish abundance at the weir to best represent the age and size composition of the escapement (Wattum and Foster 2017). Fish that are holding behind the weir tend to size segregate; often jacks and larger adults will hold in different areas in relation to the gate. To alleviate initial size bias when opening the trap or counting gate, fish will be allowed to transit for 2 minutes prior to opening the gate to the trap; ideally this will create equilibrium of fish passage. Additionally, it is important to only allow those number of fish needed for the sample into the trap to avoid bias encountered from subsampling using the net (i.e., sample all the fish in the trap).

To ensure proportional ASL sampling, a minimum of 600 adult sockeye salmon passing through the weir will be sampled as described by the International North Pacific Fish Commission (1963) and Wattum and Foster (2017). Sex will be determined by observation of external morphological characteristics (example: form of skull) and length will be determined by measuring the distance from mid-eye to tail fork using a metric ruler, to the nearest millimeter. Age, sex, and length data of each sockeye salmon sampled will be recorded in a "Rite in the Rain" field book during a sampling event.

ASL data will be recorded in a logbook, which will be kept in a binder at camp until the end of the season. This data will also be entered into a netbook and electronic data will be sent bi-weekly to the ADF&G Kodiak office.

All scales, when possible, will be collected from the preferred area of each fish (Wattum and Foster 2017; INPFC 1963). Scales will be mounted on scale "gum" cards and returned to the Kodiak ADF&G office where impressions will be made on cellulose acetate (Clutter and Whitesel 1956).

Fish ages will be determined in Kodiak by examining scale impressions for annual growth increments using a microfiche reader fitted with a 60X lens following designation criteria established by Mosher (1968). Ages will be recorded using European notation (Koo 1962), where a decimal separates the number of winters spent in fresh water (after emergence) from the number of winters spent in saltwater (e.g., 2.3). The total age of the fish includes an additional year representing the time between egg deposition and emergence of fry.

ADDITIONAL GUIDELINES AND PROCEDURES

COMMUNICATION

Throughout the season data will be relayed first to ADF&G management daily at 0810 hours using the dispatch radio system. The crew leader will be responsible for ensuring the previous day's data is completed and ready for transmission each morning. At approximately 0830 hours, the crew's supervisor will hail the crew on the dispatch to discuss any issues or concerns and resupply plans.

The morning radio communication is an important tool which provides the most recent escapement data to fishery managers who utilize this information to make daily management decisions and provides local air charter pilots with current weather conditions. The Commercial Fishery

Management section also maintains an afternoon radio schedule for their management weirs at 1630 hours, which is an optional radio communication, and are on standby during business hours. If contact to the Kodiak office is necessary at other times, information can be transmitted via the satellite telephone, with the satellite dispatch service, or via Garmin InReach device.

DATA REPORTING REQUIREMENTS

The crew leader will ensure all field camp reporting requirements are met. Hard copies of data forms and the camp journal will be completed daily. “Rite in the Rain" logbooks will be used for ASL sampling. After completing a sampling event and upon returning to the cabin, the data will be transferred to the corresponding data forms and entered into the netbook. In preparation for the resupply flights, the activity report, data thumb drive, and the adult scale samples will be properly packaged and clearly labeled with *ADF&G Attn: Darin Ruhl 486-1872*. MAKE SURE TO DOUBLE CHECK DATA BEFORE PASSING THEM ON TO TOWN.

Data reporting requirements can be categorized into three groups:

1. Provide daily: daily adult counts and daily weather observations,
2. Provide biweekly: biweekly crew leader report (Appendix C), timesheets (Appendix D), adult scale cards, and adult ASL data on jump drive provided,
3. Provide seasonally: *Weekly Weir Camp Reporting Form* (Figure 4), and *Daily Physical Observation Form* (Figure 5) completed daily camp activity logbook, adult ASL data logbooks, and an end of season crew leader report.

Collect climate data at noon each day. These data will include water and air temperatures (^{o}C), stream height (cm), estimated percent cloud cover, and wind direction and velocity (km/hr). Measure the stream height with a stream gauge from the historical location. The stream gauge is secured to a pipe that has been driven into the substrate on the cabin side of the stream located approximately 3 meters from the weir. The bottom of the stream gauge should be flush with the substrate of the river.

CAMP OPENING

The crew leader will ensure all items necessary for camp opening are in working order and refer to last year’s end-of-season crew leader report and inventory to make sure project needs and repairs can be accommodated. The camp keys are labeled and located in the finfish research office.

Camp Equipment Check Out and Check In

Items with state identification stickers need to be inventoried yearly. To make this process accurate and prompt requires cooperation from camp personnel. Stickered items remaining at camp must be listed on the closing inventory placed in the camp binder each year (i.e. outboards, ATVs, refrigerators). Stickered items stored in town must be checked in and out for the season and returned to their proper location (i.e. radios, shotguns, Gamin InReach).

ORDERING FOOD AND SUPPLIES

Field crews will purchase the first round of groceries and commodities prior to leaving Kodiak. Resupply items (e.g., groceries, fuel, mail, etc.) will be sent via chartered float plane or by boat on a biweekly basis, near the 1st and 15th of each month. Completed timesheets, crew leader reports,

scale gum cards, and electronic data should be put on the resupply flights and addressed to the project leader.

All air charter flights will be set up through the Kodiak office. Appropriate information regarding fight logistics and times will be relayed via the daily radio communications. Small lists can be relayed over Garmin InReach or satellite phone; however, these lists should be limited to just a few items. Blank grocery lists will be available in the field so the crew can place orders 2 weeks in advance for preparation of the next supply flight. It should also be remembered that the grocery budget allocates $30/day/person, and this allocation will not be exceeded. If it becomes apparent that the grocery budget is being surpassed, the project leader will notify staff so appropriate reductions can be made.

When planning for the resupply flights, it is important to prepare back-haul items and maximize the use of the chartered aircraft or empty vessel. Items to send back to town include empty fuel containers, non-burnable trash, biological data, and reports. It is important to notify office personnel prior to backhauling items via chartered flights.

Alcoholic beverages, personal grooming supplies, newspapers, magazines, and tobacco must be purchased with personal funds. Please purchase as many of these personal items as possible prior to leaving for the field and be sure to set up a slush fund for incidentals before departure.

CAMP CLOSURE

The crew leader will ensure the camp is winterized and all items left at camp are inventoried. Make sure all stickered items are brought back to town and checked in or inventoried. Items to return include all radios (satellite phone/dispatch system, and VHF's), and the shotgun. Items to include on the inventory list (with state ID #) include the lake skiff and outboard, refrigerator, and the ATV. Include the inventory and a list of project needs and repairs in the crew leader's report so they can be accommodated the next year.

CAMP POLICIES

- Alcoholic beverages are not to be stored or consumed in areas open to public view. If alcohol is consumed at a camp, the employee must be 21 years of age or older and it must be consumed after work hours. Under no circumstances shall he or she engage in the operation of any State equipment, nor shall he or she return to duty status under the influence of alcohol. The abuse of alcoholic beverages will be grounds for immediate dismissal.
- All employees will be required to act in a professional manner and be especially courteous to the public.
- Injuries must be reported to the project supervisor within 24 hours.
- Loss or damage of equipment must be reported to the project supervisor within 24 hours.

VISITORS/PUBLIC INTERACTION

The weir site will get many visitors. Visitors come by the camp to watch fish passing through the weir and ask about fish passage. Keep the camp clean and be courteous and helpful to visitors, but also inform them of the boundaries. The general public is not allowed to access the weir. Make sure the "keep off weir" sign is posted in a visible location. Remember, your primary role is to

operate and maintain the weir and accomplish the associated responsibilities of the project. Under no circumstance should any employee accept gratuities or payment.

Violations

If a violation is observed, try to record the incident by photo or video and write down any pertinent details. Approach the situation with caution, introduce yourself, and be courteous. If the situation escalates, leave. If the situation seems unsafe, do not approach. Inform your supervisor and the management team by dispatch radio or satellite phone either at the next schedule or as soon as possible, depending on the level of the violation (examples; snagging is low level and commercial vessels fishing inside the markers is high level).

The use of the five Ws can aid in obtaining sufficient information pertaining to a violation.

1. What is the violation?
2. When did the violation take place?
3. Where did the violation occur?
4. Who is in violation and who are the witnesses?
5. Why was the violation committed?

SAFETY

State of Alaska safety regulations and Standard Operating Procedures (SOPs) must always be followed. On-site personnel will exercise extreme caution when considering safety issues. Employees not following state safety regulations may be subject to disciplinary action, including termination. Employees are expected to review, understand and sign the following SOPs before field deployment. Sections of the SOP that are required reading for field personnel include:

111-700	Safety Policies and Standards	111-750	Vehicle Safety
111-710	Office/Warehouse Safety	111-760	Laboratory Safety
111-720	Field Camp Safety	111-770	Small Tool Handling
111-730	Aircraft Safety for Passengers	111-780	Firearm/Bear Safety
111-740	Boating Safety		

All employees are required to hold a current American Red Cross First Aid/CPR certification. First Aid/CPR classes will be held in Kodiak prior to the field deployment. An approved personal flotation device will always be worn while boating. A survival kit including matches, VHF radio, flare gun, spare motor parts, tools, and a first aid kit will always be in the boat. In addition, all employees will participate in firearms/bear safety, and small tools safety training prior to departure to the field.

Emergencies

Follow the emergency response flow chart provided in the camp binder and on the USB flash drive provided to the crew leader with additional emergency information.

In the event of a medical emergency, administer first aid to stabilize the situation. If an injury is life threatening and occurs on the water, immediately notify the US Coast Guard Sector Anchorage at **907-428-4200** on the satellite phone. If an injury is life-threatening and occurs on land,

immediately notify the Alaska State Troopers at **907-486-4121** on the satellite phone. If in doubt notify the US Coast Guard Dispatch first at **907-487-5889**. The US Coast Guard can also be reached on SSB radio frequency 4.125 MHz or on VHF channel 16. See appendix B for details on how to use satellite phones. A USB thumb drive has been provided to the crew leader with additional emergency information.

When contacting the U.S. Coast Guard or troopers, have the following information ready to pass along:

The Afognak Lake Cabin is located at **58°4.5′ N latitude and 152°49.3′ W longitude**.

1. Name and phone number of supervisor,
2. General nature of medical emergency,
3. Number of patients,
4. Specific information regarding the patient (name, age, primary complaint, and vital signs),
5. Your assessment and treatment,
6. Wind and weather conditions, and
7. Other information pertinent to a possible medical evacuation.

First Aid and Fire Safety

The crew leader will ensure that a fully stocked first aid kit and fully charged, operable fire extinguishers are in camp and that all personnel know where they are located and how to use them. Make sure smoke and carbon monoxide alarms are installed and operational.

In the event of a fire use the emergency response flow chart and try to contain the fire with water pumps and fire extinguishers. The camp has a small water pump and a larger one is in the Afognak Native Corporation's conex van; keys are on the camp key ring.

Firearms

A Remington 870 shotgun will be provided for camp use. Training on safe handling and shooting of firearms will be conducted for all personnel. Employees will need to pass a qualifying round during the training course to be able to operate the Department's shotguns. Loaded guns (with a round in the chamber of the gun) are prohibited inside camp facilities. **Anyone handling a firearm should always treat it as if it is loaded.** Clean guns frequently. Make certain that firearms are completely unloaded while doing so. Firearms will be stored on site, unloaded, with the chamber open, in a location out of sight from the public. Any misuse of firearms will not be tolerated and may be cause for immediate dismissal. Always unload a firearm of all ammunition before boarding a vehicle, vessel, or aircraft.

It is not uncommon to encounter Brown bears while stationed at the Afognak weir camp. A Wildlife Safety Guide will be provided to employees to further enhance their knowledge of encounters with wild animals. Supervisors will discuss the content of the guide with all crew members early in the field season.

Garbage

Completely burn garbage in the burn barrel to prevent attracting bears. Do not burn during windy or dry weather conditions. Never start fires with fuel. To prevent grass fires, keep grass and brush trimmed to at least fifteen inches away from the burn area. A fire extinguisher will be present and

fully charged when burning trash. It is best to burn trash early in the morning or late in the evening when the wind is minimal, and humidity is high. Never leave a fire unattended. Tin cans should be burned with burnable garbage to eliminate residual food and odors that attract bears. Send in burnt cans and non-burnable items on supply flights. All garbage that is sent to town must be double bagged.

Biodegradable garbage should be placed into a slop bucket (food scraps, etc.) and dumped away from camp in the river downstream of the weir. Don't compost biodegradable food because it attracts bears.

Drinking Water

Stream and lake water may be contaminated with bacteria or harmful parasites. A "Micron" water filter is provided in the camp to filter all drinking water. If filter cartridges are damaged, replace them immediately. If filters are not available, boil your drinking water for at least 1 minute. Be sure to read the instruction manual with each filter for cleaning and care information.

ALL-TERRAIN VEHICLES

Afognak field camp is furnished with an All-Terrain Vehicle (ATV). The ATV has been provided to transport materials, supplies, and equipment between the camp and supply planes or skiff. It may be used for transportation to and from sites of assigned field duties, such as surveys. It is not intended for personal use or recreational purposes. The ATV will only be driven on designated trails per the ADF&G land use agreement with Afognak Native Corporation. The ATV may be accessed and operated only by trained personnel and will be secured when not in use. Always be safety conscious; do not speed or drive recklessly and always wear an ATV helmet. Store the ATV in the ATV shed at the end of the day and secure the door to prevent bear damage.

Unauthorized use of the ATV will result in a notation on your evaluation or dismissal from employment.

MAINTENANCE

Facility maintenance is an important aspect of camp life; the cabins and weir must be kept structurally sound and safe. Refer to last year's end-of-season crew leader report and inventory for a list of needed projects and repairs prior to field departure. Provide a list of materials needed to accomplish the projects and repairs to your project leader. Repairs and maintenance should be scheduled on days when fish passage is slow to keep this work within normal work periods. A USB flash drive has been provided to the crew leader with equipment manuals and maintenance information.

The generator, outboard motors, and ATV must be kept in good operating condition and require regular maintenance. At the end of each season, equipment should be winterized, inventoried, and tagged with a description of the equipment's condition on the tag.

COMPLIANCE WITH ADF&G REGULATIONS

All employees are responsible for complying with local sport fishing and hunting regulations. Copies of State and Federal regulations will be available to all field camp personnel and kept in camp. Any violation will be recorded on your evaluation and may be cause for immediate dismissal.

SCHEDULE AND DELIVERABLES

The annual schedule of activities for the 2020–2022 seasons is as follows:

Date:	Activity:
May 5 – August 15	Weir installed and operating. Daily escapement data are reported to ADF&G Kodiak management. A minimum of 600 ASL samples collected.
Daily	Crew lead records daily weather observations and participates in morning radio by SSB/Dispatch at 0810 hours with the ADF&G Kodiak office, and as assigned by the project biologist. Fish are passed through the weir as needed during daylight hours. Crew lead makes journal entry in camp log.
Weekly (adults)	40–120 ASL samples are collected weekly.
Every two weeks	Send in scale samples, accompanying data, timesheets, and grocery list to ADF&G Kodiak on resupply flights or by skiff. Crew lead composes biweekly report detailing activities that occurred during that two-week period.
Post-season	Crew lead authors a 1-2-page end-of-season report summarizing happenings, escapement data, and jack percentages. Crew lead also makes a field inventory and town inventory for future use. Scale data analyzed; escapement information entered into ADF&G Kodiak management reports.

RESPONSIBILITIES

Fisheries Biologist II:	Off-site supervisor responsible for data quality management, logistics, maintaining communication with the field camp, and ensuring the field crew is trained correctly. Supervises project, runs logistics, trains crew, assists in field as necessary, and writes annual and final reports.
Fish and Wildlife Technician III:	On-site crew lead; performs duties as assigned by FB II and I. Field crew; assists with enumeration, data collection, and camp chores.
Fish and Wildlife Technician II:	Field crew member; assists with enumeration and data collection, duties assigned by crew lead, and camp chores.

SPECIAL PROJECTS

ADF&G in collaboration with Afognak Native Corporation (ANC) and Afognak Native Village (ANV) will work together on an annual educational project. The collaborative effort is designed to cross-train and educate student interns in fisheries management and research practices and educate ADF&G staff about subsistence harvesting methods and traditional ways of life.

1. Native Village of Afognak will bring Dig Afognak participants at the Traditional Harvesting Camp to the ADF&G monitoring station for half a day each season. ADF&G staff will teach the students about how and why fish stocks are monitored and how this activity relates to subsistence fishing. ADF&G will have the students help them count and sample fish. Native Village of Afognak will provide the transportation to and from the monitoring station.
2. ADF&G will send their Afognak Lake site staff to Dig Afognak for half a day during the traditional harvesting camp so they can learn hands-on from Elders and other subsistence gatherers about why subsistence foods are important to the Alutiiq people. Ideally, they will not only participate in some subsistence activities but also listen to stories from Elders about the importance of our food.
3. In a communal effort, all three groups may participate in a subsistence fishery, sharing in all aspects from net sewing and mending to fishing, processing, drying and fish smoking.

The collaboration and consultations described above will help develop partnerships and build the capacity of individuals, agencies, and organizations to meaningfully participate in traditional harvests, and for the management of federal subsistence fisheries. The study site is located in an area of high recreational use, and frequent interaction with the public will occur. Employees will be encouraged to provide accurate information to the public regarding the goals and objectives of the project, which will promote increased interaction among subsistence users, organizations, the community, and agencies. This will encourage information gathering and information sharing, which will help capacity building.

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FIGURES

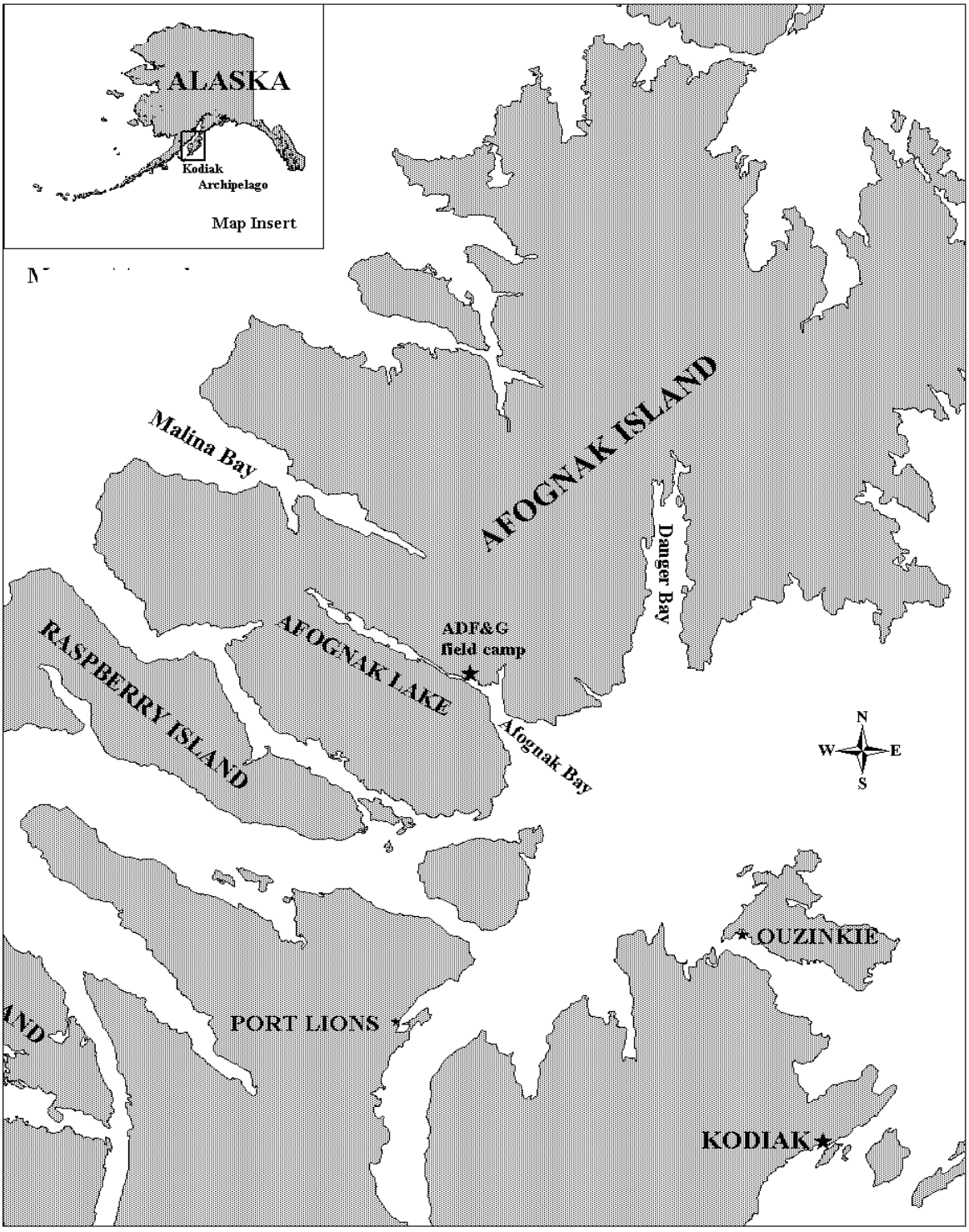

Figure 1.–Location of the ADF&G field camp along the Afognak River and Afognak Lake on Afognak Island.

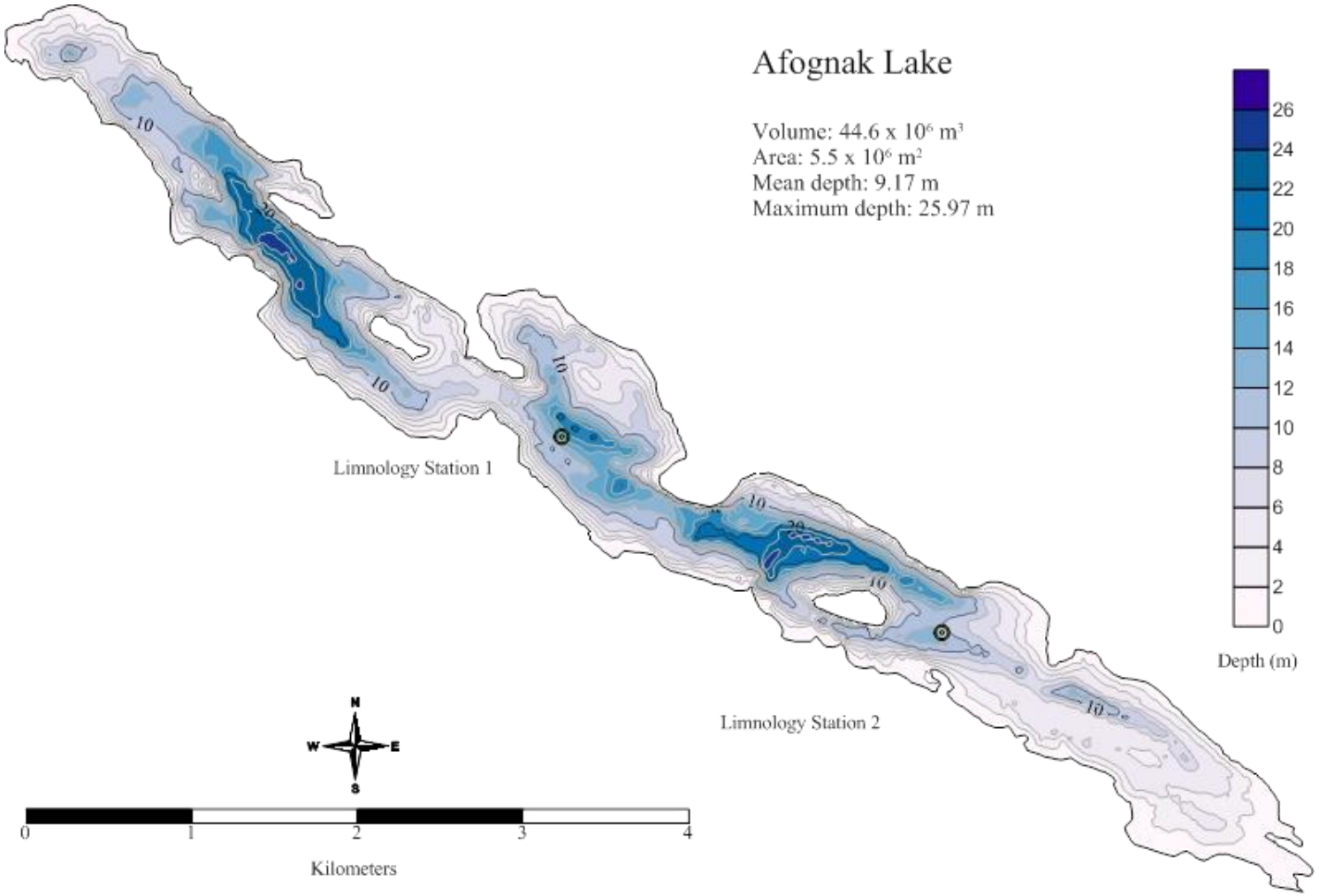

Figure 2.–Bathymetric map of Afognak Lake depicting limnology stations.

Figure 3.–View of the adult salmon enumeration weir and “Scott” trap in Afognak River, 2019.

WEEKLY WEIR CAMP REPORTING FORM

Location: Personnel: Weekly Report no: For Week Ending Saturday:

Date	Daily Total Salmon Escapement						Daily Totals	Steelhead		Jack No.	Jack % Sockeye	Net Mark Sockeye	Reds Sampled	Dollys up	H_2O Level	H_2O Temp.	Weather		
	Sockeye	L. Sockeye	Chinook	Pink	Coho	Chum		Down	Up								Ceiling	Vis.	Wind Dir/Sp
Sun. D																			
C																			
Mon. D																			
C																			
Tue. D																			
C																			
Wed. D																			
C																			
Thur. D																			
C																			
Fri. D																			
C																			
Sat. D																			
C																			
Total for week																			

Additional Comments: Bear and people problems, smolt migration, weir problems, estimated escapements, cabin repair, etc.

Figure 4.–Weekly weir camp reporting form.

DAILY PHYSICAL OBSERVATION FORM

PROJECT: _____ YEAR: _____ page_____ of _____

DATE	TIME	TEMPERATURE		CLOUD COVER		VISIBILITY	WIND		STREAM	COMMENTS
		AIR (°C)	WATER (°C)	(%)	Ceiling	(mi)	DIRECTION	VEL. (MPH)	(cm)	

Figure 5.–Daily physical observation form.

APPENDIX A. SAMPLING PROCEDURES

Appendix A1.–Statistical sampling weeks and associated calendar dates.

Week	Calendar Dates
15	April 5–April 11
16	April 12–April 18
17	April 19–April 25
18	April 26–May 2
19	May 3–May 9
20	May 10–May 16
21	May 17–May 23
22	May 24–May 30
23	May 31–June 6
24	June 7–June 13
25	June 14–June 20
26	June 21–June 27
27	June 28–July 4
28	July 5–July 11
29	July 12–July 18
30	July 19–July 25
31	July 26–August 1
32	August 2–August 8
33	August 9–August 15
34	August 16–August 22
35	August 23–August 29
36	August 30–September 5
37	September 6–September 12
38	September 13–September 19
39	September 20–September 26
40	September 27–October 3
41	October 4–October 10
42	October 11–October 17
43	October 18–October 24
44	October 25–October 31
45	November 1–November 7

Adult Sampling Procedures

Position Salmon

Place the salmon on its right side (the head should face toward the left).

Measure the length

Adult salmon length is measured from mid-eye to tail fork because the shape of the salmon's snout changes as it approaches sexual maturity. Slide the fish in place so that the middle of the eye is in line with the edge of the meter stick and hold the head in place with your left hand. Flatten and spread the tail against the board with your right hand. Read and record the mid eye to tail fork length to the nearest millimeter. Please look at Figure 1.

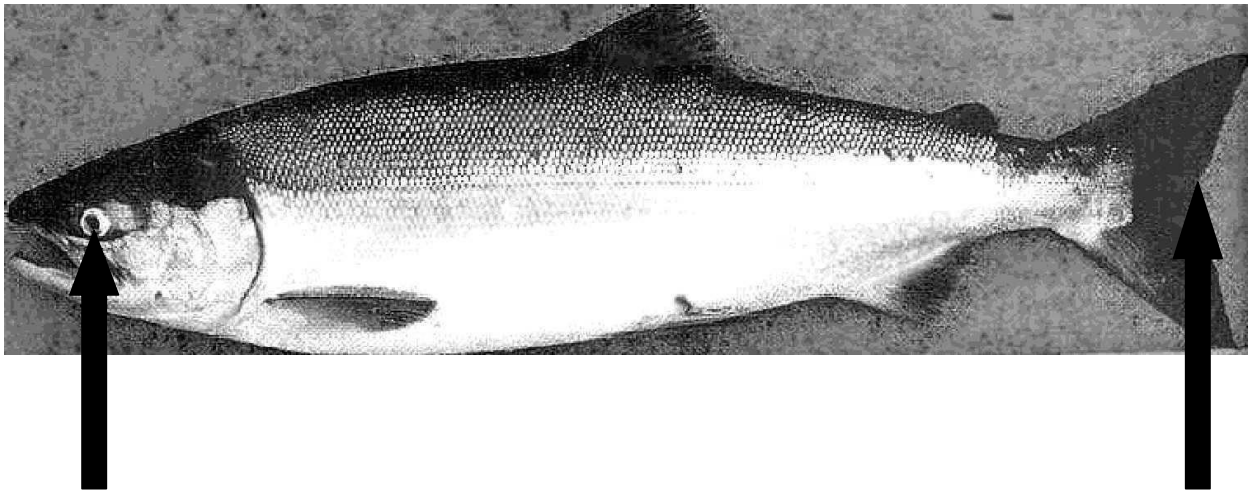

Figure 1.–Measuring fish length from mid-eye to tail fork.

Sex

The determination of the sex of the fish is typically done by examining external characteristics of the salmon.

Remove the preferred scale and place on scale card

The preferred scale is located 2 rows up from the lateral line, on a diagonal from the insertion (posterior) of the dorsal fin toward the origin of the anal fin (Figure 2). Remove all silver from the scale. Samplers should be careful to make sure that the scale is not flipped over before it is placed on the scale card. The preferred scale should be properly placed on a labeled scale (gum) card (Figures 2 and 3). If sampling commercial catch, write the date the fish were caught on the card (not the sampling date).

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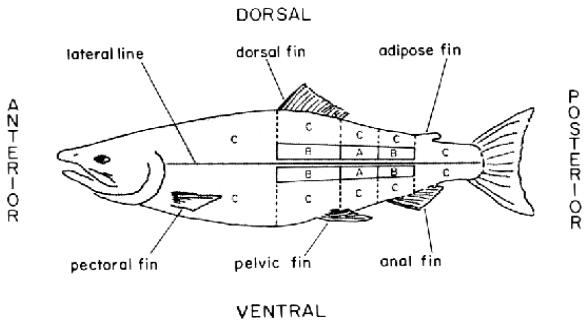
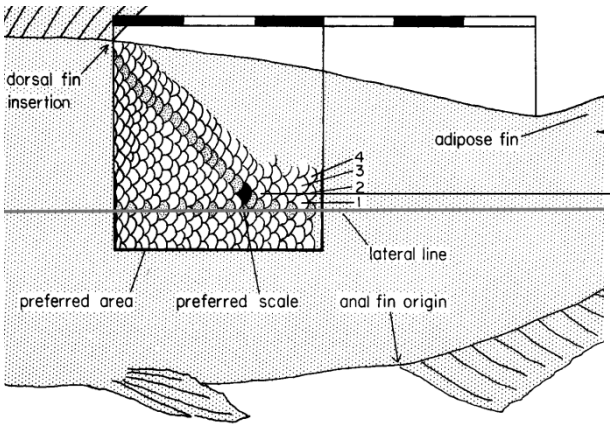
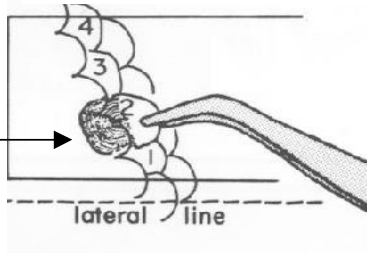


Area A is the preferred area. If scales on the left side are missing, try the right side. Area B is the second choice if there are no scales in Area A on either side of the fish. Area C designates non-preferred areas.



Do not turn scale over.



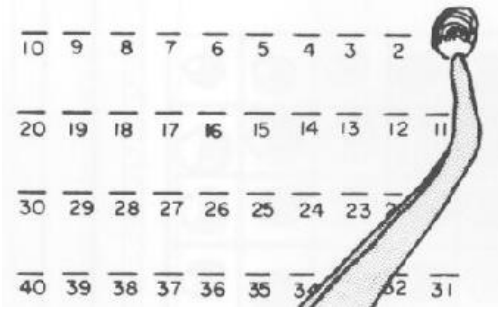


Figure 2.–Removal and placement of the preferred salmon scale onto the scale card.

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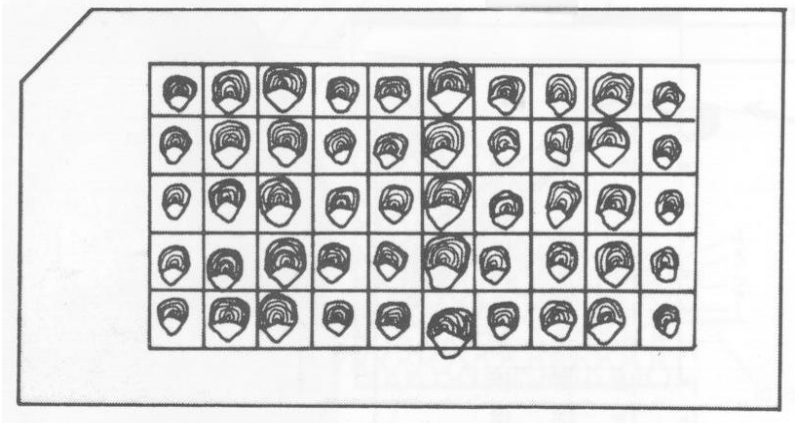
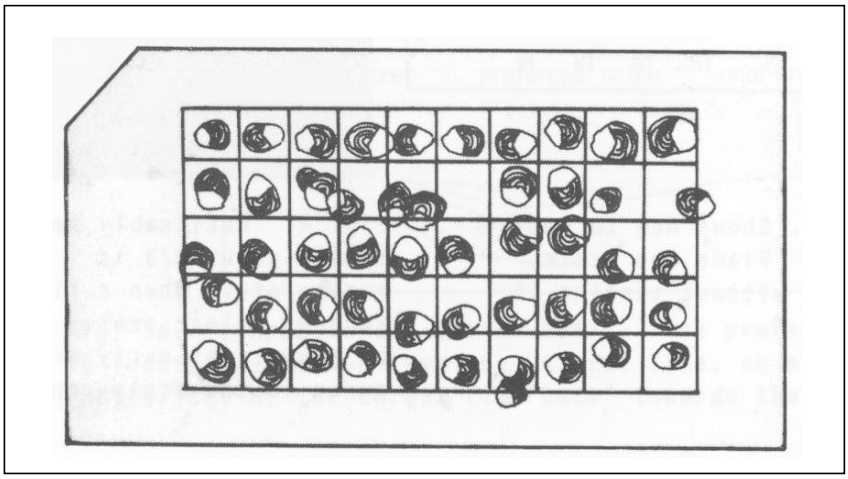


The scales are all correctly oriented on the card in the same direction, with the anterior portion of the scale pointed toward the top of the card and the posterior portion (which is that portion of the scale held in the forceps) pointed toward the bottom of the card.



The scales are incorrectly oriented in different directions. This increases the time spent to age samples.

Figure 3.–Scale orientation on scale card.

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Data Entry and Management

Data will be digitally recorded on a computer found in the sampling kit using a web application developed by the Kodiak analysts/programmers (Neil Moomey and Ric Shepard).

Turn the computer on

In order to access the application, a USB device with the application (hereafter referred to the dongle) must be inserted into a USB port on the computer. Turn the computer on after inserting the dongle. The computer will boot off the dongle. A black screen with *Ubuntu on the top of the screen indicates the dongle has been recognized. If you see Microsoft Windows, the computer is not booting from the dongle. It may take several minutes for the computer to boot up.

Please note that data cannot be entered without the dongle, so take care to ensure it is not misplaced or damaged.

Data Entry Portal

The computer will boot and automatically open Firefox web brower at the Netbook Homepage. If the Netbook Homepage does not automatically load, you can click on “Firefox Web Browser on the desktop, or click on Applications and then Web Browser on the top left of the desktop. The netbook homepage has the links for entering, reviewing, and exporting data. To begin entering data click on “Sample Adults” or “Sample Smolt AWL” (Figure 4).

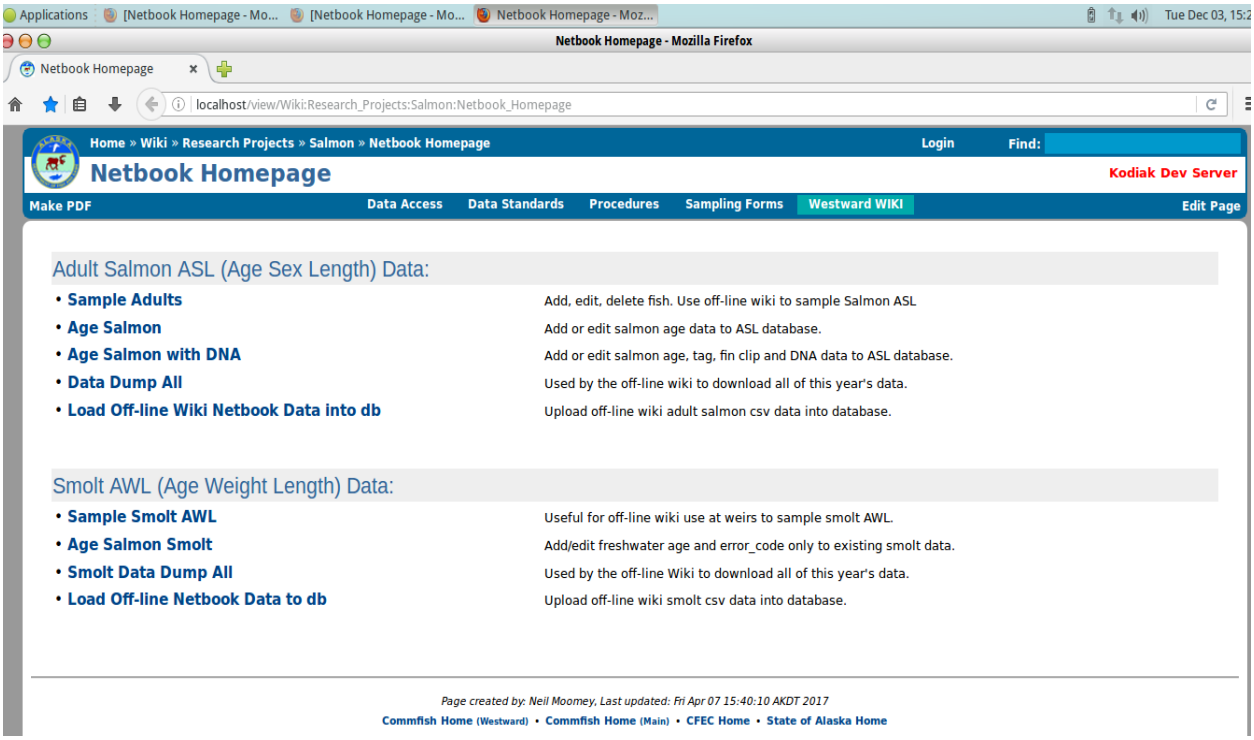

Figure 4.–Netbook Homepage

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Data Entry Portal

Select Sample

A screenshot of the sample selection page of the data entry portal is shown in Figure 5. Select the project you would like to add data to or edit by using the dropdown arrow on the top of the screen. The project selected in Figure 5 is 2019 Saltery River Sockeye Escapement. Data can only be entered/edited for the current year. Please contact your project leader for clarification before entering data if there is confusion about which project to select. If the sample collected is not an option on the dropdown menu, click "Can't find sample" to add it to the list. There are three buttons on the sample selection page, New Sample, Edit Sample, and Exit. New sample is used for entering new data, edit sample is used for editing existing data, and exit is used to return to the Netbook Homepage.

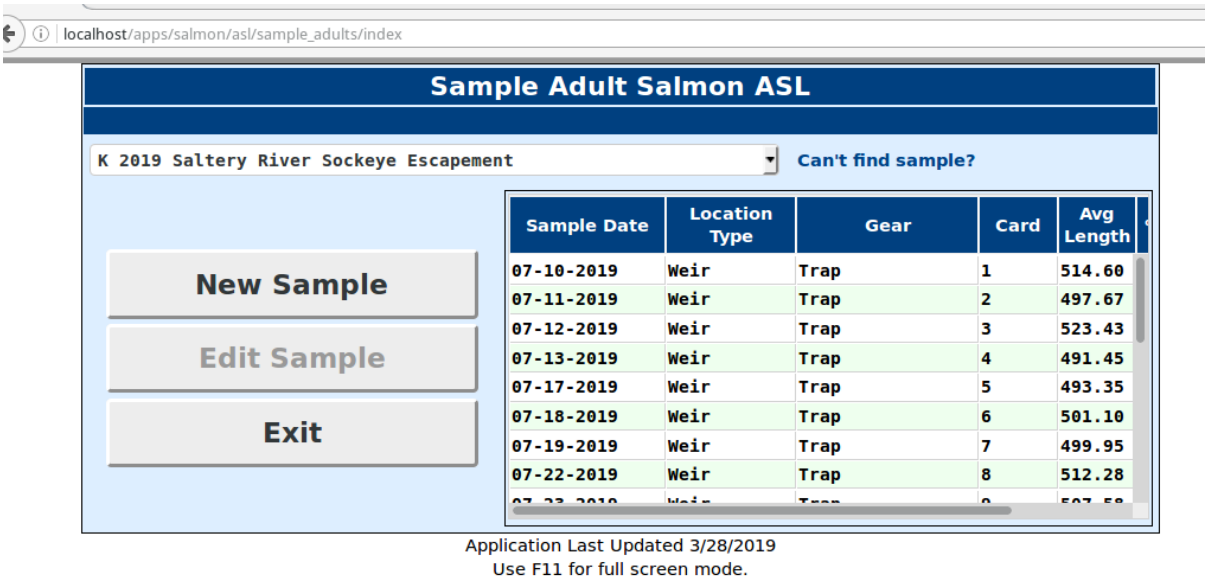

Figure 5.–Sample selection page.

Enter Data

Sample Information

Sample information must be entered at the start of each sampling event. Adult ASL sampling information includes: Location Type, Project, Measurement Type, Gear Type, Sample Date, and Sampler Initials. Smolt AWL sampling information includes: Location Type, Location ID, Gear Type, Sample Date, and Sampler Initials. Please contact your project leader if there are questions about any of these sample criteria. It is important to press New Sample when any change in sampling information occurs. After sampling information is entered click on the "Save Background Data" button to create a new card or slide. Sample information is visable on the top portion of the screenshot shown in Figure 6.

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Some notes on Sample Date: For adult escapement sampling the date the fish are sampled should be entered. Catch samples should have the date the fish were caught entered as the sample date, even though this commonly differs from the sample date. Since smolt are collected in the middle of the night, the smolt sampling day is the 24-hour period from noon of the first day to noon the following day, and is identified by the calendar date corresponding to noon on the first day. The date can be entered as mm-dd-yyyy.

Card_number or slide_number

Scale (gum) cards or slides should be numbered sequentially by date throughout the season starting with 1. A separate numbering sequence will be used for each species or major location change. It is crucial to make sure the number written on the scale card or slide matches the scale card or slide number entered into application.

After sample information is entered, card or slide number 1 or the next card/slide number will automatically appear under card_number/slide_number. After fish are entered for the first card/slide, additional cards/slides (with the same sample information) can continue to be entered. To add cards/slides, click on the box under the previously entered card/slide, type in the next card/slide number, and press enter. It will then be necessary to click on the card/slide number in order to enter specific fish data on the right side. Card/slide numbers for a particular sample are visable on the left side of the screenshot shown in Figure 6.

Fish Information

To enter specifc fish information click on the card/slide number on the left side of the application, and then on first row on the right side of the screen, under Fish Number. Tab or enter can be used to advance through the fish fields. It is not necessary to type in fish numbers, as they will automatically increment by using the tab or enter buttons. A 10-key numeric keypad will be provided to enter fish data (make sure the Num Lock button on the 10-key is selected). Sex can be entered in numeric form (0=unknown, 1=male, and 2=female). In order for a line of data to be saved, the user must tab or enter completely off of the row. Fish information is shown in on the bottom right side of the screenshot shown in Figure 6. If it is not necessary to enter Fin Clip, Tag, or DNA vial information press the + button after entering the length to jump to the next fish.

Exit

Press the exit button to return to the sample selection page. The exit button is in the middle of the screenshot in Figure 6.

-continued-

Edit Sample

If edits need to be made to a previously entered sample, highlight the sample (organized by date on the right side of the screen) and click on the "Edit Sample" button. This will bring the user back to the screen shown in Figure 6. The data previously entered for the highlighted sample is visible. To edit, click on the card/slide number and then the fields that need to be edited. Make changes as necessary. It is important to click or tab off of the row that data was edited on in order for it to save. If a line of data needs to be deleted click on the row to highlight, and press Control and Delete. If an entire card needs to be deleted (must be done if you enter the incorrect sample date) delete each fish, and then delete the card_number. Press the Exit button to return to the sample selection page of the data entry portal.

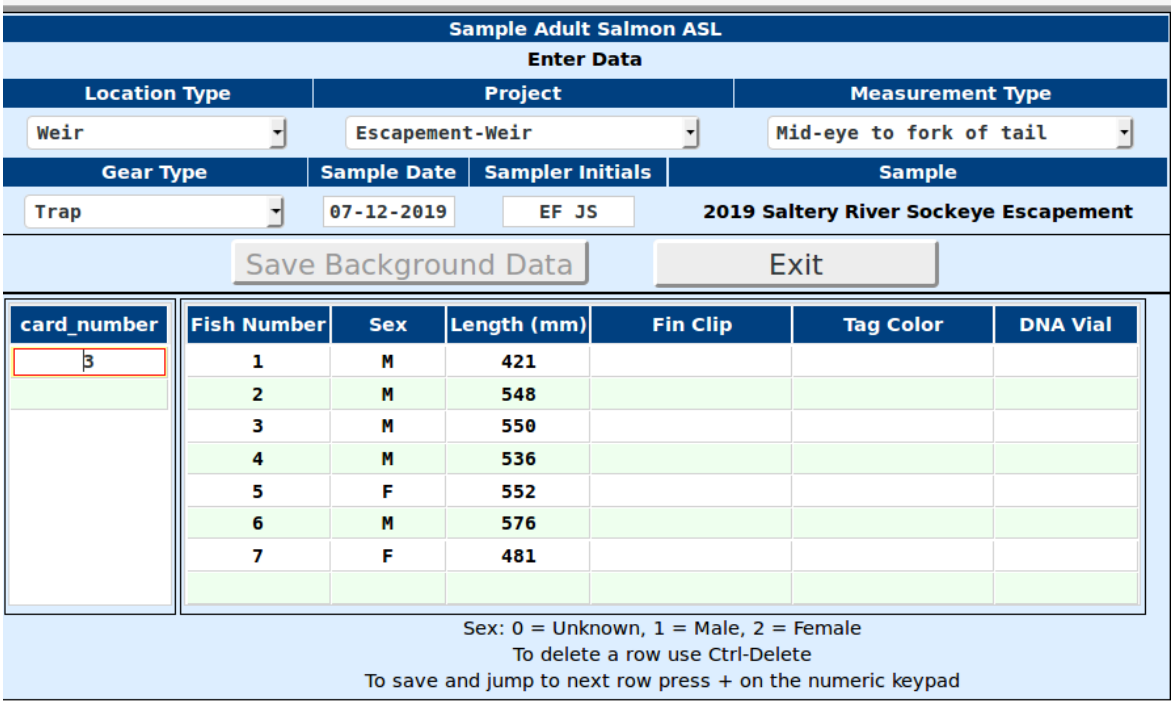

Figure 6.–This screenshot shows the screen that will be displayed when entering sample and fish information.

Saving Data

After each sample, a .dbz file should be created and saved on a USB flash drive for transporting to the office. Exit out of the data entry portal by pressing Exit twice (Figures 6 and 5). To create a file with the entered data, click on the Data Dump All or Smolt Data Dump All (Figure 4) links. A window will pop up which allows you to save the file. Click Save File and OK. Type a file name that includes the area and date, e.g., Saltery Weir 7-20-19.csv, navigate to an inserted USB storage device, and click the save button. The file will automatically save to the location you selected. Files can be also be emailed to michelle.wattum@alaska.gov.

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To verity the .dbz file saved on the USB flash drive, click on File Manager on the desktop. The USB flash drive will be under DEVICES. Click on the USB flash drive and a list of all files saved onto the drive will be visible. To safely remove the device, click on the eject symbol ⏏ to the right of the drive name.

Turn Computer Off

To turn the computer off click on Applications on the top left of the desktop, and then Log Out. Press the Shut Down button to turn the computer off. It is important to turn the computer off after entering data. **The dongle can crash when the battery dies on the computer.**

Notes and Reminders

- It is best to leave the USB storage device that runs the computer inserted into the USB port. If it is necessary to remove the device, make sure the computer is completely shut down to prevent any file corruption.
- Responsibility for accuracy lies first with the primary data collector(s) and finally with the project leader. Sloppy or incomplete data or gum cards will be returned to individual collectors for correction.
    - Each length, sex, and scale **must** correspond to a single fish! It is the responsibility of the crew leader to ensure the data has been entered correctly.
    - Never put data from different dates onto one gum card, and always enter new sample information when the date changes.
    - ALL edits should be made in the web application.
    - If a page on the application appears to have a bug, close and open a new browser window.
    - To delete a row in the application press Control and Delete. A card cannot be deleted without first deleting all of the individual fish.
- Be careful when collecting and mounting scales in wet conditions (rain, high humidity, etc.). If glue dries on top of the scale, it often obscures scale features, resulting in an unreadable scale. In addition, scales frequently adhere poorly to a wet gum card. Protect the cards and keep them dry to avoid having to remount the scales on a new card. If the cards get wet, try to dry them in a protected area or remount if necessary. **Use a pencil** when filling out gum cards, because ink can come off during pressing.
- Ensure that all equipment is well kept. Electronics should be stored in a clean safe place. Computers can only be charged with the provided AC power adaptors, so plan generator use accordingly.
- The computer may not boot correctly if extra USB drives are inserted into any of the USB ports. If you see the error “Invalid System Disk” try removing anything extra from the USB ports and restarting.
- If the web browser will not load, restart the computer.

APPENDIX B. SATELLITE TELEPHONE AND DISPATCH INSTRUCTIONS

The following information serves as a Policy Statement regarding the allowable uses of ADF&G satellite phones and Instructions on the proper method to successfully set up and operate the satellite phone system assigned to your camp.

These systems are not like standard telephones or cell phones, nor are they like a single side band or VHF radio. Communication is sent through the transmitter to low level satellites, then is beamed down to ground stations, either directly to another satellite phone system or to a switching station linked to standard telephone lines. As such, there is a much higher cost involved in operation than with standard telephone long distance or cell phone charges.

Under no circumstances may you use this satellite phone system for personal calls, unless a family or personal emergency exists. This does not mean that field crew leaders may grant permission for personal use of this phone. Only the project biologist may give you such permission. ANY DELIBERATE MISUSE OF THIS SYSTEM, SUCH AS MAKING UNAPPROVED, NON-EMERGENCY, OR PERSONAL CALLS, WILL RESULT IN DISCIPLINARY ACTION, WHICH MAY INCLUDE SUSPENSION OR DISCHARGE.

The primary purpose for having this satellite phone is for secure, reliable communications between remote field stations and ADF&G offices (Kodiak, Chignik, Cold Bay, Sand Point, or Port Moller), ADF&G research vessels (Resolution or K-Hi-C), Fish and Wildlife Protection vessels and offices, or other field camps that are similarly equipped. The secondary purpose is for your SAFETY. With these phones you are capable of directly dialing emergency services at any time of the day or night. It is essential that these phone systems are maintained in good working order, are fully charged or hooked to sufficient power at all times and remain free for official or emergency use.

INSTRUCTIONS

The portable satellite phone unit must be fully charged. There is an internal battery pack, and a 12-volt adapter is available in order to hook the phone to a larger battery bank, that may in turn be recharged by generator or solar panels.

Turn the unit on using the power switch in the lower left corner. A green light, just above the switch, should come on indicating that the unit is sufficiently powered. If no light or a red light comes on, you will need to charge the unit, or attach it to your 12-volt battery bank via the appropriate connections.

The back, or top, of the briefcase-like unit is the antenna, and it must be oriented correctly in order to access the receiving satellite. The top of the case should be open and pointed in a general east-southeast direction. You must have a clear line-of sight to the horizon in that direction; this unit will NOT work through walls or mountains. The angle of the antenna should be almost vertical; remember to lock the support arm that attaches the lid to the main body of the unit, along the right side.

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This system has two means for calling; a telephone-like handset (for dial in or dial out phone calls), and a push-to-talk microphone (for 'dispatch', unit to unit, calls). All calls made with the handset are billed per minute of use, at an expensive rate. All calls on the 'AlaskaNet' dispatch system, using the microphone, are essentially FREE.

When first turned on, the handset and microphone should become active, with the display panels on the top of the phone handset and microphone lighting up (one LED panel, hopefully the one on the handset, should read SLEEP). The display will show, after a few moments, whether a connection has been established with the satellite, and how strong the signal is (ex. *B05 S* 21). Turn the unit slightly and raise or lower the lid/antenna slightly until the highest possible signal strength is indicated (normally above 20 but will work down to 8). Lock the lid/antenna in place and do not turn the unit again, until your communications are finished. Once a strong signal is acquired push the "*" button for 2 seconds. Wait until there is a "beep" and the LCD screen displays '00:DN ??', then dial the number.

Alaska Dispatch System

Because all calls made on the dispatch system are FREE, this is the method of choice for using the satellite phone units. There are several ADF&G offices, many field camps, and two research vessels on the AlaskaNet dispatch system, as well as Fish and Wildlife Protection/State Troopers offices and vessels, plus many canneries, fishing vessels, and tenders. You should have received a 10-12 page directory with your phone.

First, make sure the unit is turned on, and that there is sufficient power. Set the unit up so that the signal strength is at the maximum for your location. You should see the signal strength on the microphone display (ex. *B05 S* 21), and the handset display should read SLEEP. Once a strong signal is acquired push the "*" button for 2 seconds. Wait until there is a "beep".

On the microphone display, below the signal strength, there should be a query, '00:DN ??'. This is asking you to 'dial' in the 4-digit dispatch number that you wish to call. After you have entered the 4-digit dispatch number of the unit you wish to contact, hold in the microphone key and a connection will be made with the satellite, which will then try to connect with the dispatch number you punched in. IF a connection is made you will hear two beeps ("bird chirps") and the microphone display will read SELF. While continuing to hold in the microphone key, call the station you wish to talk to. USE ALL THE SAME FORMALITIES AS WHEN CALLING ON A SSB RADIO. For example, say "Calling the ADF&G Kodiak Office, Calling the ADF&G Kodiak Office; this is Karluk Weir". When you release the microphone key, the unit will beep again.

BE PATIENT. It will take some time for the signal to go up to the satellite, down to the number you called. It may take the other party some time to get to the microphone and respond (this is especially true for calls to the ADF&G office; supervisors have to walk down to the radio room to respond). When they respond, their 4-digit dispatch number (DN) will show on the microphone display. This is a private conversation, unlike the previous dispatch service.

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Just remember to be patient; wait until the other party stops speaking and you hear the unit beep (indicating that they are finished with this portion of their communication), the display should read SELF, and you may key microphone to talk. Then you must again wait for the other party to respond. If the other party is not there, they simply will not answer. If the satellite connection cannot be made, the display will read 'Unable to Connect' or 'Not Available'.

Phone System

DO NOT USE THE HANDSET TO PLACE CALLS UNLESS ABSOLUTELY NECESSARY. All calls made with the handset are billed per minute of use, at an expensive rate. Calls should only be made to supervisors, either when radio or dispatch contact is not possible or when a confidential message needs to be relayed. Calls are made by dialing out, almost like a standard telephone. Punch in the area code and telephone number, then PRESS SEND (button located in the upper right corner of the handset). Because there is a satellite relay, there will be a slight delay between when you speak and when the other party hears you, so be patient.

Note EVERY call in a phone logbook. The system will show you the amount of time you've used on the call, on the LED panel. Note the number called, the date, approximate time, and the length of the call (minutes and seconds). When the call is completed, you MUST push the END button (top right corner of handset buttons), otherwise the system will remain active and YOU will be billed for the time (at almost a dollar a minute). Remember, PRESS END.

If someone calls in to this unit, it will ring, like a standard telephone. Press the SEND button to start the conversation but remember to PRESS END to finish the call. ADF&G is billed for all calls made using the handset, both the calls you dial out and any calls dialed in.

IN CASE OF EMERGENCY:

If there is a medical emergency, or a real danger to life or health, IMMEDIATELY call the US Coast Guard Rescue Coordination Center at **800-478-5555**. Be ready to tell them your name, exact location (latitude and longitude or nearby major landmark), and the exact nature of your emergency. They may question you extensively, so be prepared. There are emergency doctors on-call that can advise you. After the call is completed, immediately call your supervisor, at work or at home, and relay the details of your experience.

If there is an enforcement emergency, use the dispatch microphone to call the Kodiak office or the Alaska State Trooper, Fish and Wildlife Protection (DN 6370).

APPENDIX C. BIWEEKLY REPORT EXAMPLE

Appendix C1.–An example of a biweekly report.

Litnik Weir Biweekly Activity Report #5

July 5 – July 18

Salmon Escapement and Sampling

Escapement

From July 5th to July 18th, 2,333 sockeye (including 697 jacks) were passed, for a total of 23,885 sockeye (including 1,988 jacks). Daily counts were relatively steady throughout this period, albeit with a sharp dip from July 12th-14th when an average of 32 fish were passed. The proportion of jacks remained high at 30.0% (8.3% for the season). The first pink was sighted on July 15th, and to date, 14 have been passed. No steelhead were passed or found dead. Weir remained fish tight throughout this time.

Adult Sockeye Sampling

109 sockeye were sampled in this period for a total of 516. Standard sampling procedure was not followed on July 6th, as low passage prevented us from allowing fish to transit before taking the sample. In this period, samples were 51.4% male and 48.6% female, with 32% jacks. To date, samples have been 56.0% male and 44.0% female, with 20.2% jacks. Weekly goals were met for all sampling weeks.

Physical Observations and Weather Conditions

Weather was remarkably sunny and dry for much of this period, with no rain until July 13th (the first rain in roughly a month). As a result, water level was extremely low. When delivering our June 15th resupply, Darin remarked that the river was the lowest he had ever seen it. Shockingly, at the time stream height was roughly two inches above our low-water mark! However, due to heavy rain, stream height has increased sharply in recent days. Average water temperature for this period is 17.4ºC, and has ranged from a low of 15ºC on July 14th to a high of 20ºC on July 7th. Stream height reached its lowest point on July 12th-13th at 22 cm, and has since increased to 38 cm on July 18th.

Miscellaneous

Visitors

Visitors were minimal in this period, with no odd interactions to report.

Crayfish

We have continued to snorkel and wade in search of crayfish, but no crayfish were observed.

Dolly Varden

A significant number of Dolly Varden are still washing up dead and nearly dead. Numbers have increased, with 10-20 per day being typical. Darin proposed that this is the result of a fungus that encrusts the gills, causing the fish to suffocate. This is consistent with our observations of many weak and lethargic dollies, along with the white crust covering parts of many dollies.

Camp Projects and Maintenance

Camp Projects Planned

Continue adding gravel to paths, paint cabins exterior, paint cabin floor, and caulk window frames.

APPENDIX D. TIMESHEET INSTRUCTIONS

Appendix D1.–Instructions for filling out a timesheet.

All ADF&G employees must fill out a time sheet biweekly, and these timesheets must be turned in to the Administrative staff in Kodiak in a timely manner. Please follow these instructions when filling out your time sheets to avoid payroll problems. When a flight comes out to drop off groceries, or for any other reason, near the end of a pay period, camp personnel need to send in their timesheets. Fill in the time sheet up to the day you send them in and attempt to project your remaining hours worked.

EVE TIMESHEET INSTRUCTIONS

PLEASE MAKE SURE THE FOLLOWING ITEMS ARE CORRECTLY FILLED OUT ON THE TIMESHEET.

1. Pay Period End Date
2. Employee ID Number (NOT Social Security Number)
3. Name
4. Division
5. Enter time as actual hours worked
6. Ensure time calculated equals time worked (Work Hours Total = Daily Start/Stop Times)
7. No less than 37.5 hours need to be met weekly starting Monday and ending Sunday
8. Enter the Appropriate hours for sea duty, standby, or hazard
9. **If working past midnight—write 23:59** on the day worked and **on the next day—write 00:01**. (Ex: On the 24th you worked until 01:30 AM, you would put 23:59 as your stop time on the 24th and your start time as 00:001 on the 25th).
10. Clock out for lunch and back in when you return.
11. Supervisors make sure all leave is entered—be it personal, annual, sick, holiday, flex, etc.
12. Enter the total hours worked **IN EACH COLUMN** for each individual code—1,2,3, or 4
13. **Supervisors make sure the pay code is correct for the time charged** and in the "**Charge To**" box (left center) before you sign.
14. In the "**Comments**" section—please list the following if applicable:
    a. Departure and return time via boat, EX: 10:00 am dep. Port via F/V Hasta La Pasta, 3:00 am arr. Port.
    b. Departure and return time of low level aerial survey (for each flight if more than one), and type of plane being used (180, 206, Beaver).
    c. Hazard pay for aerial surveys is in **4-hr increments** at the time the survey begins—**NOT**—4 hours hazard pay for each survey.
    d. Explain the reason for hazard pay for each day—**no one hired after July 1, 1996 gets hazard duty pay unless working under the 4-hour increment rule qualifier:**
        i. DIVING
        ii. NON-PILOT AERIAL

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iii. TRANSPORTATION BY HELICOPTOR OR WORKING ON/UNDER IT
iv. WORK FROM 25 FT TOWER

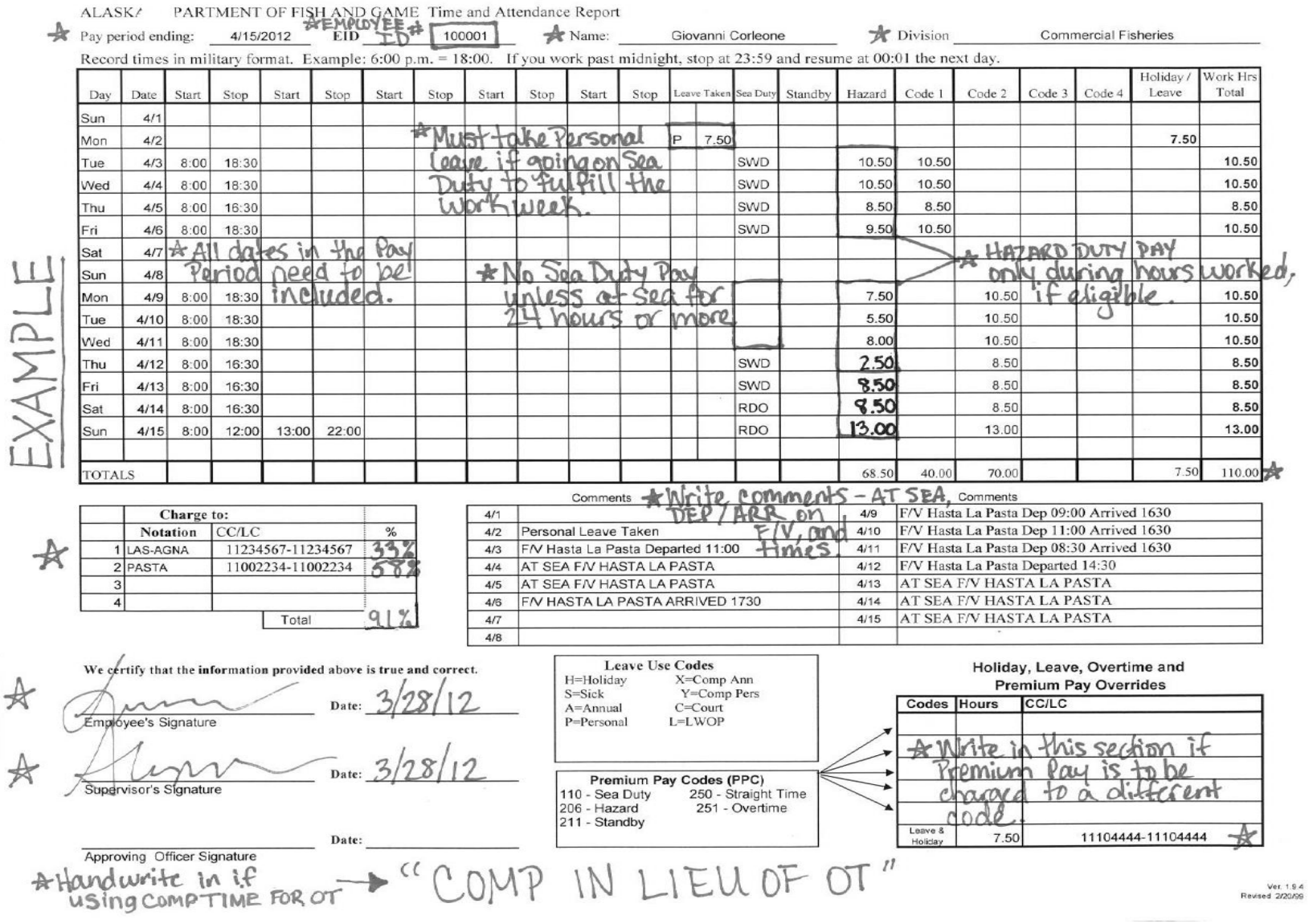
e. Explain whether you worked or did not work on holidays
f. Explain Standby pay (Ex: 1000-1500 standby for boat gate). Must be on standby roster prior to claiming standby pay. **Standby hours cannot be the same as hours worked. The only hours not documented as 15-min increments are 2359/0001. Hours can start/stop on the same hour as shift time (Ex: Start/stop for work—0800-1200, standby hours can be 1200-2359, or 0001-0800).**
g. SU Employees—Floating Holiday forms must be faxed in for approval prior to the holiday worked. If at sea, premium pay is more pay than floating the holiday.
h. SU Employees—FlexTime agreements must be submitted for approval **prior** to working the hours.
i. If using **Comp in Lieu of OT**—write in LARGE LETTERS at the **bottom** of EACH TIMESHEET it applies to: "**COMP IN LIEU OF OT**."
j. Explain any other variances from the normal in this area for each day.
k. If Flexing the last work week of the pay period, write "Flexing Work Week" on the **last day of the pay period**.

15. Premium Pay—if premium pay is to be charged to a **DIFFERENT** pay code than regular hours worked—log the hours and codes at the bottom right section in "**OVERRIDES**."
16. Make sure both the employee and supervisor have signed and dated the timesheet. IF the employee is in the field the supervisor may sign for the employee and write "For John Doe." Fax or scan and e-mail the timesheet WITH signatures as soon as possible. If the hours are different, please write "**Amended**" on it.
17. **MOST IMPORTANTLY—PLEASE WRITE LEGIBLY.** The faxed copies are very hard to decipher—the neater they are written the less time spent on the phone or e-mail confirming hours.
18. **PLEASE DO NOT USE** pencils, pink or red pens (they do not show up well when faxed or scanned).

EVEN IF WORK IS STARTED IN THE MIDDLE OF THE PAY PERIOD, ALL DATES NEED TO BE WRITTEN IN FOR THE PAY PERIOD

Crew leaders are responsible for reviewing each crew member's timesheet before sending them to town to ensure that they are properly filled out.

Appendix D2.–Example of a completed timesheet.



ALASKA PARTMENT OF FISH AND GAME Time and Attendance Report

★ Pay period ending: 4/15/2012 ★EMPLOYEE ID# EID ID# 100001 ★ Name: Giovanni Corleone ★ Division Commercial Fisheries

Record times in military format. Example: 6:00 p.m. = 18:00. If you work past midnight, stop at 23:59 and resume at 00:01 the next day.

EXAMPLE

Day	Date	Start	Stop	Start	Stop	Start	Stop	Start	Stop	Start	Stop	Leave Taken		Sea Duty	Standby	Hazard	Code 1	Code 2	Code 3	Code 4	Holiday / Leave	Work Hrs Total
Sun	4/1																					
Mon	4/2											P	7.50								7.50	
Tue	4/3	8:00	18:30											SWD		10.50	10.50					10.50
Wed	4/4	8:00	18:30											SWD		10.50	10.50					10.50
Thu	4/5	8:00	16:30											SWD		8.50	8.50					8.50
Fri	4/6	8:00	18:30											SWD		9.50	10.50					10.50
Sat	4/7																					
Sun	4/8																					
Mon	4/9	8:00	18:30													7.50		10.50				10.50
Tue	4/10	8:00	18:30													5.50		10.50				10.50
Wed	4/11	8:00	18:30													8.00		10.50				10.50
Thu	4/12	8:00	16:30											SWD		2.50		8.50				8.50
Fri	4/13	8:00	16:30											SWD		8.50		8.50				8.50
Sat	4/14	8:00	16:30											RDO		8.50		8.50				8.50
Sun	4/15	8:00	12:00	13:00	22:00									RDO		13.00		13.00				13.00
TOTALS																68.50	40.00	70.00			7.50	110.00

★Must take Personal Leave if going on Sea Duty to fulfill the work week.

★All dates in the Pay Period need to be included.

★No Sea Duty Pay unless at sea for 24 hours or more

★ HAZARD DUTY PAY only during hours worked, if eligible.

★

	Charge to: Notation	CC/LC	%
1	LAS-AGNA	11234567-11234567	33%
2	PASTA	11002234-11002234	58%
3			
4			
		Total	91%

Comments ★Write comments – AT SEA, DEP/ARR on F/V, and times.

	Comments		Comments
4/1		4/9	F/V Hasta La Pasta Dep 09:00 Arrived 1630
4/2	Personal Leave Taken	4/10	F/V Hasta La Pasta Dep 11:00 Arrived 1630
4/3	F/V Hasta La Pasta Departed 11:00	4/11	F/V Hasta La Pasta Dep 08:30 Arrived 1630
4/4	AT SEA F/V HASTA LA PASTA	4/12	F/V Hasta La Pasta Departed 14:30
4/5	AT SEA F/V HASTA LA PASTA	4/13	AT SEA F/V HASTA LA PASTA
4/6	F/V HASTA LA PASTA ARRIVED 1730	4/14	AT SEA F/V HASTA LA PASTA
4/7		4/15	AT SEA F/V HASTA LA PASTA
4/8			

We certify that the information provided above is true and correct.

★ Employee's Signature Date: 3/28/12

★ Supervisor's Signature Date: 3/28/12

Approving Officer Signature Date:

★Handwrite in if using COMPTIME FOR OT → "COMP IN LIEU OF OT"

Leave Use Codes

H=Holiday	X=Comp Ann
S=Sick	Y=Comp Pers
A=Annual	C=Court
P=Personal	L=LWOP

Premium Pay Codes (PPC)

110 - Sea Duty	250 - Straight Time
206 - Hazard	251 - Overtime
211 - Standby	

Holiday, Leave, Overtime and Premium Pay Overrides

Codes	Hours	CC/LC
★Write in this section if Premium Pay is to be changed to a different code.		
Leave & Holiday	7.50	11104444-11104444 ★

Ver. 1.9.4
Revised 2/20/09