Regional Operational Plan No. ROP.SF.1J.2026.03

Operational Plan: Blind Slough Chinook Salmon Sport Harvest Survey, 2026

by

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and

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May 2026

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

Symbols and Abbreviations

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Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Mathematics, statistics

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

REGIONAL OPERATIONAL PLAN NO. ROP.SF.1J.2026.03

OPERATIONAL PLAN: BLIND SLOUGH CHINOOK SALMON SPORT HARVEST SURVEY, 2026

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May 2026

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SIGNATURE/TITLE PAGE

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Project leader(s):	Matt Catterson, Jeff Rice
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Field Dates:	May 15 – August 15, 2026
Plan Type:	Category III

Approval

Title	Name	Signature	Date
Project leader	Matt Catterson		4/27/2026
Project Leader	Jeffrey Rice		4/27/2026
Biometrician	Jiaqi Huang		4/27/2026
Research Coordinator	Jeff Nichols		5/1/26
Regional Supervisor	Judy Lum		04.29.2026

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ABSTRACT

Crystal Lake Hatchery, which is owned by the State of Alaska and operated by the Southern Southeast Aquaculture Association, annually releases up to 700,000 Chinook smolt into Blind Slough. Sport anglers in the Petersburg area of Southeast Alaska target and harvest Chinook salmon *Oncorhynchus tshawytscha*, at Blind Slough beginning May 15 each year if the forecasted return is greater than the required broodstock of 1,000 returning adult Chinook to the Crystal Lake Hatchery. Angler effort, catch, and harvest data will be collected from May 15 through August 15 in 2026, from shore-based anglers at Blind Slough. Harvest sampling will be used to collect biological samples and associated data to estimate the age and length composition of the Chinook salmon harvest. Chinook salmon will be inspected for missing adipose fins, indicating the head should be removed to recover a coded wire tag. Coded wire tag recoveries will be used to estimate the return at age of the run. Daily water temperatures, predation of Chinook due to wildlife, and any associated mortality will be observed and recorded.

Keywords: Chinook, *Oncorhynchus tshawytscha,* creel, survey, coded wire tag, CWT, Petersburg, Crystal Lake Hatchery, sport fishery, Southeast Alaska

PURPOSE

The Blind Slough/Wrangell Narrows Terminal Harvest Area (THA) Chinook salmon (*Oncorhynchus tshawytscha*) sport fishery provides an excellent and highly valued opportunity to harvest Alaska hatchery-origin salmon. The Alaska Department of Fish and Game (ADF&G), Division of Sport Fish (DSF) Southeast Alaska Marine Harvest Studies marine boat (MHS-MB) program collects fishery information and biological samples from boats returning to the public docks in Petersburg, but does not interview and sample the freshwater portion of the THA at Blind Slough. In 2025, the Board of Fisheries (board) adopted a new management plan for the THA that allows for additional angling opportunities for Blind Slough in years with forecasted lower returns.

Historically, all catch and harvest data for Blind Slough have come from the ADF&G DSF Statewide Harvest Survey (SWHS; Smith et al. 2025). However, in recent years, response rates have declined in a way that limits the utility of the estimates provided by the survey (Table 1). This operational plan describes objectives, methods, and timelines for conducting the first year of a three-year assessment (2026–2028) to collect sport fishery Chinook salmon fishing effort, harvest information, and biological samples at Blind Slough.

A creel survey, independent of the MHS-MB sampling program (Richards et al. 2025), will be implemented in Blind Slough from May 15 through August 15 to estimate Chinook salmon harvest and effort by sport anglers. Additional information on age and sex composition, daily water temperatures, predation of Chinook, and any associated mortality will be observed and recorded.

Table 1.–Statewide Harvest Survey results for estimates of catch, harvest, and release of Chinook salmon at Blind Slough in Petersburg management area, Southeast Alaska, 1996–2007.

	Large Chinook (≥ 28")			Small Chinook (< 28")			All Chinook Salmon
YEAR	Catch	Harvest	Released	Catch	Harvest	Released	Number of Responses[a]
1996	1,206	491	715	267	181	86	38
1997	1,107	672	435	984	532	452	41
1998	1,577	516	1,061	1,207	257	950	38
1999	3,086	1,092	1,994	2,423	1,251	1,172	51
2000	2,877	1,216	1,661	2,507	784	1,723	63
2001	4,565	2,421	2,144	2,431	1,174	1,257	70
2002	2,377	1,307	1,070	2,220	611	1,609	61
2003	2,001	1,107	894	1,213	418	795	60
2004	3,240	1,629	1,611	922	463	459	56
2005	1,355	1,117	238	808	520	288	35
2006	2,166	1,345	821	1,344	785	559	39
2007	3,694	1,585	2,109	1,809	698	1,111	45
2008	901	449	452	65	65	0	25
2009	409	184	225	123	41	82	26
2010	48	48	0	17	0	17	22
2012	41	41	0	92	28	64	17
2013	0	0	0	0	0	0	14
2014	378	238	140	155	95	60	15
2015	361	182	179	125	18	107	17
2016	1,834	1,560	274	627	267	360	28
2017	809	528	281	796	367	429	16
2018	2,145	675	1,470	165	165	0	27
2019	1,377	314	1,063	522	258	264	14
2020	461	240	221	147	82	65	22
2021	708	532	176	362	42	320	16
2022	928	634	294	558	256	302	14
2023	1,674	722	952	1,418	348	1,070	22

[a] Other than to document that sport fishing occurred, estimates based on fewer than 12 responses should not be used; estimates based on 12 to 29 responses can be useful in indicating relative orders of magnitude and for assessing long-term trends; estimates based on 30 or more responses are generally usable.

BACKGROUND

Crystal Lake Hatchery (CLH) is a State of Alaska-owned facility that has been operated by the Southern Southeast Regional Aquaculture Association (SSRAA) through a contract with the ADF&G DSF since 2000 to produce Chinook and coho salmon (*O. kisutch*). Funding for releases at Crystal Creek is provided by funds dedicated to sport fish enhancement and intended to primarily benefit the sport fishery. The Blind Slough/Wrangell Narrows THA (Figure 1) is made up of a saltwater portion within the Wrangell Narrows and a freshwater portion in Blind Slough. Blind Slough is primarily accessed by anglers on foot who are fishing from the shoreline, and is connected to the road system, with one main point of access. The ancestral stock for Chinook salmon is of Andrew Creek origin, reared and released from and returning to CLH.

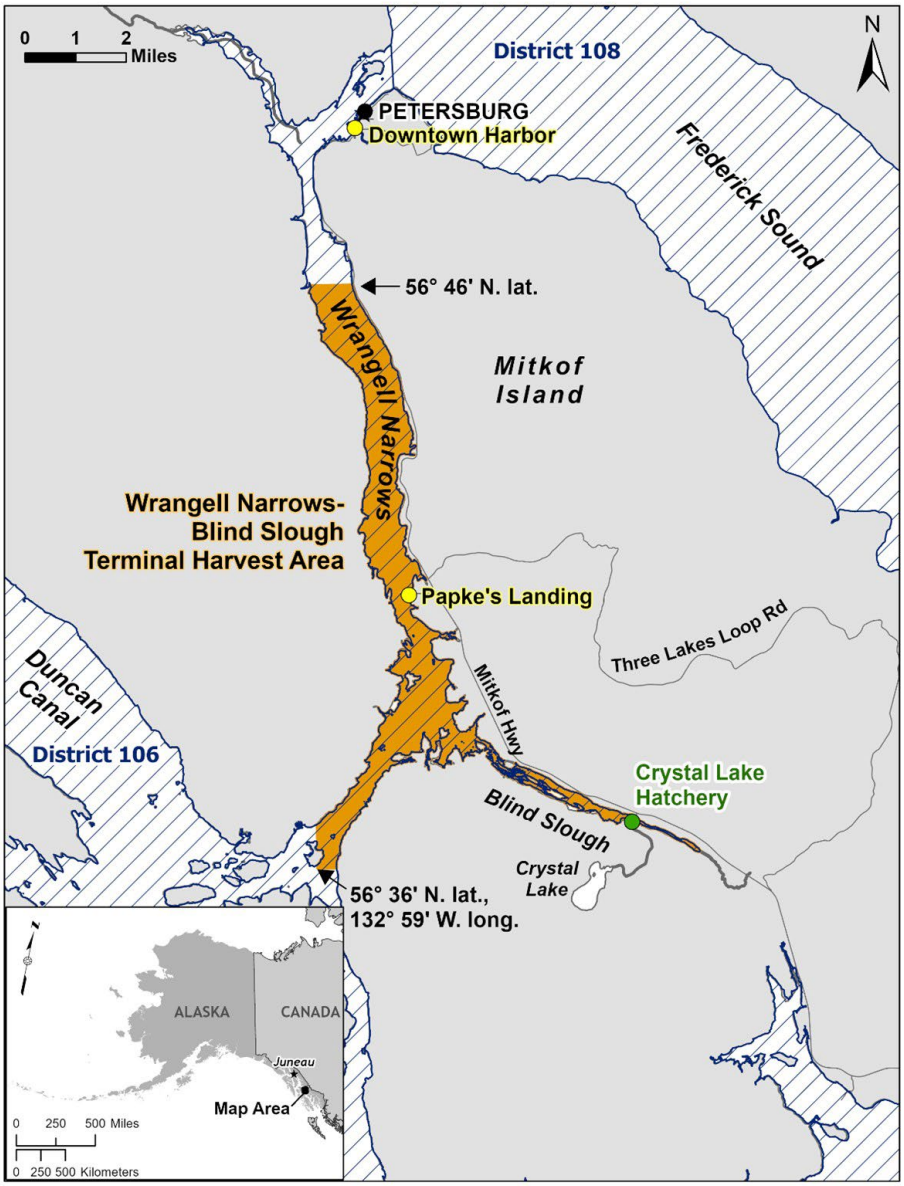

Figure 1.–Blind Slough/Wrangell Narrows Terminal Harvest Area in the Petersburg/Wrangell management area in Southeast Alaska.

Estimation of the Chinook salmon sport harvest and effort across SEAK, and by finer spatial scales for specific time frames, supports management and enhancement strategies employed by the ADF&G. Cooperating hatchery operators, including SSRAA, also utilize data on returning Chinook salmon to evaluate their operations, some of which are derived from internal efforts and evaluation, while others are obtained directly from ADF&G. The *Blind Slough/Wrangell Narrows Terminal Harvest Area (THA) Management Plan* (5 AAC 33.381) was developed by the Petersburg Advisory Committee (PAC) and adopted by the board in 1997. The plan directs the management of fisheries in the saltwater (Wrangell Narrows) and the freshwater (Blind Slough) portions of the THA based on the projected adult return of king salmon to the THA. A new management plan was proposed by the PAC and SSRAA and adopted by the board in 2025. The new management plan includes a resident preference for Chinook bag and possession limits.

The DSF has used various sport fishery estimation programs and projects for over 40 years in the Petersburg area to inform management and resource-driven questions that address domestic and international requirements. The Blind Slough/Wrangell Narrows THA is managed based on a forecasted return of adult Chinook. Harvest occurring within the THA contributes to this forecast, and is based on the MHS-MB sampling program in the Wrangell Narrows portion of the THA, and location-level harvest information from SWHS for Blind Slough.

This project will use a two-stage sample survey conducted by a single sampler to estimate Chinook salmon harvest and effort at the Blind Slough sport fishery (Figure 2). Additional information on angler residency, catch, guided activity, predation, natural mortality or die-offs, and stream temperature will be collected. The creel sampler also provides departmental presence and information to the angling public and others.

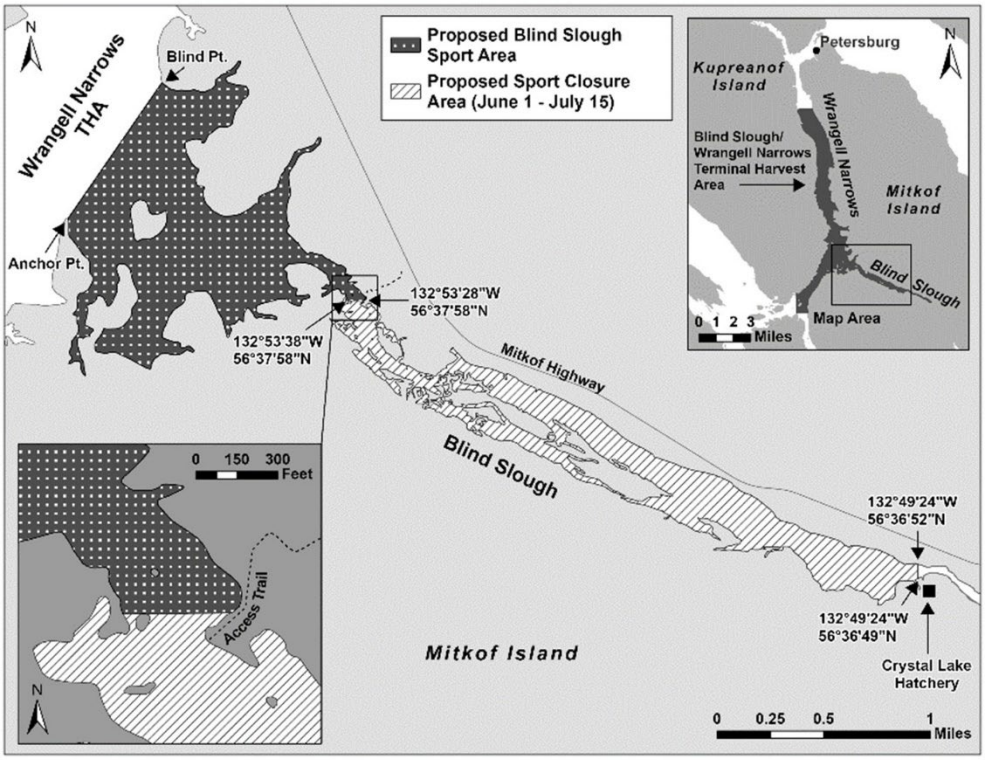

Figure 2.–Location of sampling area within Blind Slough and the Petersburg/Wrangell management area of Southeast Alaska.

OBJECTIVES

Primary Objectives

1) Estimate the sport fishing effort (angler-hours), catch, and harvest (number of large and non-large) of Chinook salmon by anglers fishing in Blind Slough from May 15 to August 15, such that the harvest or catch estimate is within 35% of the true value 95% of the time, and the effort estimate is within 15% of the true value 95% of the time.

Secondary Objectives

1) Collect heads from observed adipose clipped Chinook that signal positive by T-wand for the presence of a coded wire tag (CWT), which is used to estimate the return at age of the run.
2) Collect scales from Chinook for aging.
3) Estimate the age composition for harvested Chinook salmon.
4) Collect genetics on Chinook to confirm the stock of origin.
5) Determine sex on harvested Chinook (when possible).
6) Collect daily water/air temperatures.
7) Observe and record wildlife, and any associated predation.
8) Enumerate Chinook mortality.
9) Estimate the proportions of guided versus unguided trips.
10) Collect catch and harvest data on coho salmon and other species as time allows.

METHODS

Study Design

The study location is Blind Slough in Petersburg, Alaska. Blind Slough is the freshwater portion of the Wrangell Narrows/Blind Slough THA. There is only one true point of entry, which is from the parking lot for the Blind River Rapids, located 14 miles south of Petersburg on the Mitkof Highway (Figure 2). Nearly all sport fishing effort comes down the boardwalk trail connecting the parking lot with the stream. Angling effort for Chinook is focused from the Blind River Rapids to downstream about ¼ mile. The effort is such that one sampler will be sufficient to roam the shoreline to ensure equal sampling over the entire area, as the landscape ensures that any angler is within eyesight.

The sampling schedule (Appendix A1) will include 2 shifts: 7:00–13:30 and 12:30–19:00, 5 days/week. Blind Slough is a wide, shallow body of water that provides little cover. Therefore, Chinook tend to use the incoming tide to enter Blind Slough, making the direction of the tide flow important to the angler's ability to catch. The technician will record for each angler: the time of arrival/departure, the time each Chinook is caught, and whether it is harvested or released. This information will be matched against tide tables to further understand the tidal impact on this fishery.

The survey will use a stratified design based on time of day ("early" and "late" shifts), day type (weekdays and weekends), and biweekly (14-day) periods (Table 2). The early and late shift structure allows a single technician to cover both shifts across sampling days, improving the

distribution of effort throughout the day. This fishery follows the tide, so there is certain to be ideal tide stages during each shift, as well as times when the tide does not allow for ideal fishing. The sampling schedule is constrained to preserve two back-to-back days off for the technician (as required under the State labor contract). There are 93 days between May 15 and August 15. Weekends represent the greatest effort, and therefore, the technician will have their consecutive days off during the week. Over 13 weeks of sampling, this will reduce the sampling days by 26 days. Because the study does not divide evenly into 14-day period intervals, the final stratum will include an additional 9 days at the end of the fishing season.

Table 2.–Strata used for estimating creel survey statistics.

Stratum	No. of strata	Description
Biweeks	6	Biweekly
Day type	2	Weekdays, Weekends
Time of the day	2	Early shift, Late shift

Data Collection

The technician will, if possible, interview every angler during the sampling period. If not interviewed, a counted angler will be identified by recording a valid interview number without additional interview information. The technician will record daily air and water temperatures, along with whether conditions are sunny, overcast, or rainy. Severe changes in weather or temperatures occurring within a shift should be noted in the comments.

Data to be recorded during each interview will include the following:

- date/time of angler arrival/departure;
- tide stage of angler arrival/departure;
- time of each Chinook caught;
- time of each Chinook harvested;
- angler effort to the nearest 0.25 hour;
- specific location within Blind Slough where Chinook was caught;
- whether the total length of Chinook salmon harvested or released was $< 28''$ or $\geq 28''$;
- residency status of the angler, resident or nonresident;
- whether the trip was guided or unguided;
- any in-river observations of Chinook salmon presence, location, and abundance;
- Coho salmon and other species caught or harvested, as time allows.

Data are to be recorded for individual anglers, and not pooled into a single interview for a "fishing party." All data will be recorded on the sampling form (Appendix A2).

Each Chinook salmon observed (all size groups included) will be sampled by measuring the mid-eye to fork (MEF) length and recording the sex of the fish. Four scales will be sampled near the preferred area on each Chinook salmon at a point on a diagonal line from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin, 2 rows above the lateral line (Welander 1940). If the scales in the preferred location cannot be obtained, another set of scales will be taken from as close to the preferred scale area as possible. However, scales will only be taken from the area bounded dorsally by the fourth row of scales above the lateral line, ventrally by the lateral line, and between lines drawn vertically from the posterior insertion of the dorsal fin and the anterior insertion of the anal fin. If no scales are available in the preferred area on the left side of the fish, scales will be collected from the preferred area on the right side of the fish. Scales will then be mounted on gum cards, and sex and lengths in millimeters (MEF) of Chinook salmon will be recorded. A genetic sample will be taken and mounted on a Whatman card. All harvested Chinook salmon will be checked for adipose fin clips. If an adipose-clipped fish is found, the technician will use a T-Wand to detect whether a coded wire tag (CWT) is present. If a positive signal is confirmed, the Chinook head will be collected, a cinch strap attached, and recorded on the sampling form.

The scale card number, Whatman card number, and CWT number (if applicable) will be recorded together on the sampling form for each Chinook sampled.

If an angler harvests a Chinook salmon with a CWT and prefers to keep it intact, then as much information as possible will be recorded, such as the name and address of the angler. The importance of eventually obtaining the head will be stressed.

Data Reduction

The technician will first check the data forms and then turn them in to the area office on a nightly basis. Data will be entered into a custom Excel spreadsheet. This electronic data file will then be checked for obvious mistakes and omissions before processing to estimate angler effort, catch, and harvest.

Project leaders will work with MHS staff to ensure the data is uploaded into the database for long-term retention.

Data Management

All project data, including effort, catch, and harvest, and ancillary information will be recorded on paper survey forms and will be entered into Microsoft Excel spreadsheets. Spreadsheet file names will include the prefix "BlindSlough_Micro Creel" followed by the specific month and year data was collected. A final, edited copy of the data, along with a data map, and full metadata documentation will be archived on the DSF R1 network share drive (DSF R1 Share Drive - Research Data). The data map and metadata documentation will include a description of all electronic files contained in the data archive, all data fields, and details of where hard copies of any associated data are to be archived.

This project's Data Management Form (Appendix B1) provides additional information related to data sets produced by this project, including details on data entry, data archive, points of contact, and other relevant details for data management. Data will be collected in the field on standardized data forms and entered into project spreadsheets archived on Southeast Alaska network drive in the following project-specific folder: BlindSlough_MicroCreel (full address:

\\dfg.alaska.local\DSF\Douglas\Region1Shared-DSF\Research\R1_DataFileStorage_2026-Onward\BlindSlough_MicroCreel).

Sample size

Based on the proposed sampling schedule, approximately 67 shifts (early and late shifts) will be sampled over the May 15–August 15 study period, representing about 36% of all possible shifts. Because each sampled shift can be nearly censused, the precision of seasonal estimates will be driven primarily by variation among-shifts rather than by within-shift sampling variation. Under assumptions of moderate among-shifts variability and a seasonal harvest total of approximately 650 fish, we expect the relative precision of the harvest estimate to be within 30% at the 95% confidence level. For the angler effort estimate, under the similar assumption of moderate among-shifts variability and a seasonal effort of approximately 6500 angler-hours, we expect the relative precision of the effort estimate to be within 15% at the 95% confidence level.

DATA ANALYSIS

Effort, Catch, and Harvest

Angler effort (in hours), catch, and harvest of Chinook salmon (large or non-large fish) in each stratum *h* (defined in Table X) will be estimated using procedures for a stratified 2-stage sample survey (Cochran 1977), where "days" are first-stage sampling units and “anglers” are second-stage sampling units. First, the mean harvest is obtained over all anglers interviewed within each sampled day:

$$\bar{n}_{hi} = \frac{\sum_{j=1}^{m_{hi}} n_{hij}}{m_{hi}} \qquad (1)$$

where n_{hij} is the number of fish harvested by interviewed person *j* during sampled day *i* for stratum h, and m_{hi} is the number of people interviewed during each day. This estimate is then expanded by the number of people (counted) who exit the site during the day (M_{hi}) to estimate a total for each sampled day:

$$\hat{N}_{hi} = M_{hi}\bar{n}_{hi} \qquad (2)$$

The mean harvest over all days sampled within each stratum *h* is then estimated:

$$\bar{\hat{N}}_h = \frac{\sum_{i=1}^{d_h} \hat{N}_{hi}}{d_h} \qquad (3)$$

where $d_h$is the number of days sampled in each stratum. Finally, this estimate is expanded by the number of days in the stratum (D_h) to estimate a total for each stratum:

$$\hat{N}_h = D_h\ \bar{\hat{N}}_h \qquad (4)$$

Estimates of catch and angler effort will be obtained similarly by substituting the appropriate statistics into Equations 1−4, above.

The variance of the stratum estimates is estimated:

$$var\left[\widehat{N}_h\right] = (1 - f_{1h})D_h^2 \frac{s_{1h}^2}{d_h} \quad + \quad \frac{D_h}{d_h'} \sum_{i=1}^{d_h'} var\left[\widehat{N}_{hi}\right] \quad (5)$$

where $f_{1h} = d_h/D_h$ is the sample fraction for "days", s_{1h}^2 is the sample variance among "days", and d_h' is the number of days in which $var\left[\widehat{N}_{hi}\right]$ are estimable (i.e., when at least 2 people are interviewed). The among-day sample variance for days selected will be calculated as:

$$S_{1h}^2 = \frac{\sum_{i=1}^{d_h}\left(\widehat{N}_{hi} - \bar{\widehat{N}}_h\right)^2}{d_h - 1} \qquad (6)$$

The among-angler variance component (usually 0 in this survey because all anglers exiting the fishery are expected to be interviewed) will be estimated as:

$$var\left[\widehat{N}_{hi}\right] = \left(1 - \frac{m_{hi}}{M_{hi}}\right) M_{hi}^2 \frac{s_{2hi}^2}{m_{hi}} \quad (7)$$

where s_{2hi}^2 is the among-angler sample variance:

$$s_{2hi}^2 = \frac{\sum_{j=1}^{m_{hi}}\left(n_{hij} - \bar{n}_{hi}\right)^2}{m_{hi} - 1} \qquad (8)$$

Variances of the stratum estimates of catch or effort by species and angler effort will be obtained similarly, by substituting the appropriate effort statistics into Equations 5−8, above.

Estimates of angler harvest, catch, or effort ($\widehat{N}$) and their variances across all strata will be obtained by summing the individual stratum estimates (assuming independence). The standard error of the total estimate is obtained by taking the square root of the variance estimate.

Age Composition of Chinook Salmon

The age composition of the harvested Chinook salmon will be estimated as follows:

$$\hat{p}_z = \frac{n_z}{n_a} \qquad (11)$$

$$var[\hat{p}_z] = \left(1 - \frac{n_a}{\widehat{N}}\right)\frac{\hat{p}_z(1 - \hat{p}_z)}{n_a - 1} \qquad (12)$$

where $\hat{p}_z$ is the estimated proportion of Chinook salmon in age category z, n_a is the number of sampled fish with CWT tags and classified by age, n_z is the subset of n_a belonging to category z from the CWT reading, $\widehat{N}$ is the estimated total harvest. In cases when few CWT tags are recovered, scales collected will be analyzed to determine age.

SCHEDULE AND DELIVERABLES

Creel survey will begin on May 15 and conclude no earlier than August 15, which are the dates that the management plan is in effect. Additional sampling may occur until August 31.

Data analysis and final estimates will be completed by April 2027 and incorporated into the annual Fishery Data Series report by May 2027.

RESPONSIBILITIES

Matt Catterson, Regional Enhancement Coordinator

Duties: Co-PI. Coordinate and provide direction on all aspects of the project, including planning, budgeting, data collection, and reporting. Will be a co-author of the final reports.

Jeffrey Rice, Petersburg/Wrangell Area Manager

Duties: Co-PI. Coordinate and provide direction on all aspects of the project, including planning, budgeting, data collection, and reporting. Supervises the sampling technician (timesheets, evaluations, training); Will be a co-author of final reports.

Jiaqi Huang, Biometrician

Duties: Advise all portions of the biometrics, including planning, sample sizes, statistical methods, and data analysis. Perform data analysis and produce final estimates.

Duties: May assist with Data collection, data entry, data quality assurance, and training.

Matthew Schneider, Fish and Wildlife Technician 2

Duties: Data collection

REFERENCES CITED

Cochran, W. E. 1977. Sampling techniques, third edition. John Wiley and Sons, New York.

Richards, P., D. Tersteeg, C. M. Hinds, A. Lake, and J. Huang. 2025. Operational plan: Southeast Alaska marine boat sport fishery harvest studies, 2025. Alaska Department of Fish and Game, Division of Sport Fish, Regional Operational Plan No. ROP.SF.1J.2025.05, Anchorage.

Smith, N. J., S. Restrepo, I. Rafferty, and J. Bozzini. 2025. Alaska statewide sport fish harvest survey, 2025. Alaska Department of Fish and Game, Division of Sport Fish, Regional Operational Plan No. ROP.SF.4A.2025.04, Anchorage.

Welander, A. D. 1940. A study of the development of the scale of the Chinook salmon (*Oncorhynchus tshawytscha*). Master's thesis, University of Washington, Seattle, WA.

APPENDIX A: PROJECT SAMPLING SCHEDULE AND FORMS

Appendix A1.–Blind Slough Micro Creel Sampling Schedule

Date	2026	Shift	Date	2026	Shift
15-May	Friday	Late (1230–1900)	1-Jul	Wednesday	No Sampling
16-May	Saturday	Late (1230–1900)	2-Jul	Thursday	No Sampling
17-May	Sunday	Early (07:00-13:30)	3-Jul	Friday	Early (07:00-13:30)
18-May	Monday	Late (1230–1900)	4-Jul	Saturday	Early (07:00-13:30)
19-May	Tuesday	Early (07:00-13:30)	5-Jul	Sunday	Late (1230–1900)
20-May	Wednesday	No Sampling	6-Jul	Monday	Late (1230–1900)
21-May	Thursday	No Sampling	7-Jul	Tuesday	No Sampling
22-May	Friday	Early (07:00-13:30)	8-Jul	Wednesday	No Sampling
23-May	Saturday	Early (07:00-13:30)	9-Jul	Thursday	Early (07:00-13:30)
24-May	Sunday	Late (1230–1900)	10-Jul	Friday	Late (1230–1900)
25-May	Monday	Late (1230–1900)	11-Jul	Saturday	Early (07:00-13:30)
26-May	Tuesday	No Sampling	12-Jul	Sunday	Late (1230–1900)
27-May	Wednesday	No Sampling	13-Jul	Monday	Late (1230–1900)
28-May	Thursday	Late (1230–1900)	14-Jul	Tuesday	Early (07:00-13:30)
29-May	Friday	Early (07:00-13:30)	15-Jul	Wednesday	No Sampling
30-May	Saturday	Late (1230–1900)	16-Jul	Thursday	No Sampling
31-May	Sunday	Early (07:00-13:30)	17-Jul	Friday	Early (07:00-13:30)
1-Jun	Monday	Early (07:00-13:30)	18-Jul	Saturday	Early (07:00-13:30)
2-Jun	Tuesday	No Sampling	19-Jul	Sunday	Late (1230–1900)
3-Jun	Wednesday	No Sampling	20-Jul	Monday	Late (1230–1900)
4-Jun	Thursday	Early (07:00-13:30)	21-Jul	Tuesday	Late (1230–1900)
5-Jun	Friday	Late (1230–1900)	22-Jul	Wednesday	No Sampling
6-Jun	Saturday	Late (1230–1900)	23-Jul	Thursday	No Sampling
7-Jun	Sunday	Early (07:00-13:30)	24-Jul	Friday	Early (07:00-13:30)
8-Jun	Monday	Early (07:00-13:30)	25-Jul	Saturday	Early (07:00-13:30)
9-Jun	Tuesday	Late (1230–1900)	26-Jul	Sunday	Late (1230–1900)
10-Jun	Wednesday	No Sampling	27-Jul	Monday	Late (1230–1900)
11-Jun	Thursday	No Sampling	28-Jul	Tuesday	Early (07:00-13:30)
12-Jun	Friday	Late (1230–1900)	29-Jul	Wednesday	Early (07:00-13:30)
13-Jun	Saturday	Early (07:00-13:30)	30-Jul	Thursday	No Sampling
14-Jun	Sunday	Late (1230–1900)	31-Jul	Friday	No Sampling
15-Jun	Monday	No Sampling	1-Aug	Saturday	Early (07:00-13:30)
16-Jun	Tuesday	No Sampling	2-Aug	Sunday	Late (1230–1900)
17-Jun	Wednesday	Late (1230–1900)	3-Aug	Monday	Late (1230–1900)
18-Jun	Thursday	Early (07:00-13:30)	4-Aug	Tuesday	Late (1230–1900)
19-Jun	Friday	Early (07:00-13:30)	5-Aug	Wednesday	No Sampling
20-Jun	Saturday	Early (07:00-13:30)	6-Aug	Thursday	No Sampling
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23-Jun	Tuesday	No Sampling	9-Aug	Sunday	Late (1230–1900)
24-Jun	Wednesday	Late (1230–1900)	10-Aug	Monday	Early (07:00-13:30)
25-Jun	Thursday	Late (1230–1900)	11-Aug	Tuesday	Late (1230–1900)
26-Jun	Friday	Early (07:00-13:30)	12-Aug	Wednesday	No Sampling
27-Jun	Saturday	Late (1230–1900)	13-Aug	Thursday	No Sampling
28-Jun	Sunday	Early (07:00-13:30)	14-Aug	Friday	Early (07:00-13:30)
29-Jun	Monday	Late (1230–1900)	15-Aug	Saturday	Late (1230–1900)
30-Jun	Tuesday	Early (07:00-13:30)			

Appendix A2.–Blind Slough Micro Creel Sampling Form.

Weather____ Tide :____ Water Level____ Wildlife Predation:

Blind Slough Chinook Sport Harvest Survey																				
Date:						ADF&G Sampler Name:														Page # ____
						Chinook Sampling										Coho		Other Species	Comments
Angler Name/ Time / Hours Fished	Fishing Start/Stop Times		Resident Angler?	Guided?	Catch and Release Times (Chinook only)	Chinook Harvested	Harvest Time	Length (MEF, millimeters)	Total Length (inches)	Sex (M, F, U)	Clipped (Y/N)	Signaled (Y/N)	Whatman Card # / Space #	Scale Card # / Space #	CWT #	Quantity	Clipped? (Y/N)	Species and Quantity	
	Start	Stop	Yes	Yes		1st Chinook										1			
																2			
																3			
			No	No		2nd Chinook										4			
																5			
																6			

Times are recorded in military time and rounded to the nearest 15 minutes.
Other species recorded as CT (cutthroat trout); DV (Dolly Varden); P (pink); CH (chum)
Length measured in millimeters; mideye to fork (MEF)
Weather Codes (Clear, Overcast, Raining, Wind) Tide Codes (High, Low, Intermediate, Incoming, Outgoing) Water Level (High, Normal, Low)

APPENDIX B: PROJECT DATA MANAGEMENT FORM

Appendix B1.–ADF&G Sport Fish – Data Management Plan Form

This form must accompany any Operational Projects Plan that generates *any* data. The Sport Fish IT Manager must approve the data management plan to ensure that the data is properly inventoried and that long-term storage and maintenance are adequately planned.

Project Name: Blind Slough Chinook Salmon Sport Harvest Survey, 2026

New or continuing/existing project: This is a new project initiated in 2026

Estimated Start Date: May 15, 2026

Region: Southeast Alaska (R1)

IT Manager Signature: (verbally approved via Teams call 5/1/26 by Ryan Snow)

Project Synopsis:

This new project will estimate sport fishing effort, catch, and harvest of hatchery Chinook salmon at Blind Slough that are returning to Crystal Lake Hatchery in Petersburg from May 15 to August 15. Additional ancillary information on CWTs, age, genetics, sex, catch and release practices, and environmental conditions at the slough will be also collected. This information will directly support local management of this popular fishery, including the annual estimation of a preseason forecast, and will assist Crystal Lake Hatchery staff in evaluating their operations and programs.

Project Contact Name: Matt Catterson

Project Contact Phone/Email: 907-465-2810 / matt.catterson@alaska.gov

Dataset Collection Name:

- 2026 BlindSlough_MicroCreel

New or existing dataset: new dataset

Have you discussed this project with RTS IT Manager? Yes (5/1/26) – Teams call

Does this project have IT personnel in the budget? No

Does this project require any new IT equipment? No

If new equipment is required, please describe the equipment and note the quantity: Not Applicable

-continued-

Section A: if NEW dataset was selected; otherwise skip to Section B

A1. Describe data entities collected:

Angler interview and catch sampling data will be collected; angler interview data will consist of angler effort (time/area/residency) and catch sampling will include biodata on Chinook salmon harvest (age, genetics, length).

A2 Describe data storage plan:

All project data, including effort, catch, and harvest, and ancillary information will be recorded on paper survey forms and will be entered into Microsoft Excel spreadsheets. Survey count datasheet files will be named BlindSlough_MicroCreel (followed by month and year of data collection) and will be stored on the Douglas Network Drive at the following location \\dfg.alaska.local\DSF\Douglas\Region1Shared-DSF\Research\BlindSlough_MicroCreel. A final, edited copy of the data, along with a data map, and full metadata documentation will be archived on the DSF R1 network share drive (DSF R1 Share Drive - Research Data). The data map and metadata documentation will include a description of all electronic files contained in the data archive, all data fields, and details of where hard copies of any associated data are to be archived.

Section B: if EXISTING dataset was selected complete this section

B1. Where is the existing data stored? (e.g., regional-statewide database, shared project drive, project leader's hard drive):

Not Applicable

B2. If B1 is not a database, please describe how well the data files are organized:

Not Applicable

B3. If B1 is a database, name the database, then explain the method you have planned to append data to the existing dataset:

Not applicable

Section C: Data Sharing

C1. Access to Data: Describe who will need access to this dataset

Current project personnel, SEAK area management, biometric staff, and enhancement staff.

C2. Maintenance of Data: Describe any data maintenance needs during and after the project. Maintenance answers questions such as: 1) will you need data entry forms; 2) will you need to edit the data once the project is completed or ends.

Data entry forms have been created specific to this project; data maintenance and quality assurance/error checking will occur throughout the project, during and after data collection and analyses

C3. Confidentiality of Data: List data attributes that are confidential or contain Personally Identifiable Information (PII).

The names of survey staff members will be identified by name and initials

C4. Analytic of Data: Describe if data access through an analytic platform is desired and if this data needs to interact with any other datasets.

Not at this time

-continued-

Section D: Optional

D1. Please let us know if you have additional information or questions for us

Not at this time