**Fishery Data Series No. 05-08**

# Production of Coho Salmon from Slippery Creek, 2001–2002

**by**

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**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 Department of Fish and Game | ADF&G |
| 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) |

**Measures (fisheries)**

| | |
|---|---|
| fork length | FL |
| mideye-to-fork | MEF |
| mideye-to-tail-fork | METF |
| standard length | SL |
| total length | TL |

**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, $\chi^2$, 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 |

*FISHERY DATA REPORT NO. 05-08*

# PRODUCTION OF COHO SALMON FROM SLIPPERY CREEK, 2001–2002

by

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# ABSTRACT

Samples of adult coho salmon in 2002, in conjunction with recoveries of coded wire tags (CWTs) from smolt tagging efforts the previous year, were used to estimate smolt abundance, harvest, exploitation rate, and production of coho salmon *Oncorhynchus kisutch* from Slippery Creek in central Southeast Alaska. A smolt trap was operated below the outlet of Slippery Lake from 15 April through 29 May 2001,. During this period, 19,193 coho salmon smolt ≥70 mm fork length were finclipped, tagged with coded wire tags, and released alive. The following year, 252 adult coho salmon bearing valid CWTs of Slippery Creek origin were recovered in samples of marine fisheries representing an estimated total harvest of 2,089 (SE = 155) fish. Harvest in the troll, net, and recreational fisheries was 62.5%, 33.3%, and 4.2%, respectively, representing an exploitation rate of 28.1 % (SE = 1.5%).

Escapement of adults past the fish pass trap from 16 August to 12 October 2002 was 5,341; thus, the estimated total run of adult coho salmon was 7,430 (SE = 155). The estimated smolt abundance in 2001 was 42,533 (SE = 595) and marine survival was estimated at 17.5% (SE = 0.4%).



Key words: coho salmon, *Oncorhynchus kisutch*, Slippery Creek, fish pass, harvest, troll fishery, drift gillnet fishery, recreational fishery, seine fishery, escapement, migratory timing, production, exploitation rate, marine survival.


# INTRODUCTION

The Slippery Creek watershed, located on Kuiu Island in central Southeast Alaska (SEAK), was enhanced by fish pass construction and stocking to allow coho salmon *Oncorhynchus kisutch* production in the late 1980's (Figure 1). In 1987, the U.S. Forest Service (USFS) constructed an Alaska steeppass (Ziemer 1962) past an 18-foot barrier waterfall located approximately 0.5 mi from tidewater. In 1987, the USFS, ADF&G and Northern Southeast Regional Aquaculture Association (NSRAA) released coho salmon into the system using wild stock obtained from nearby systems (Wright et al. 1997).

The USFS and ADF&G continued to stock the system with coho salmon using brood stock from Crystal Lake hatchery, 1988 to 1990. Continued annual maintenance by the USFS and monitoring by ADF&G staff documented entry and colonization by coho salmon and other anadromous fish populations into previously inaccessible habitat populated exclusively by cutthroat trout *O. clarki*. Wild populations of steelhead trout *O. mykiss*, pink salmon *O. gorbuscha* and chum salmon *O. keta*, and Dolly Varden *Salvelinus malma* have since become established and now utilize the upper watershed.

Starting in 1997, the USFS constructed and operated a weir and smolt trap below the lake outlet and placed coded wire tags (CWTs) in 33,077 juvenile coho salmon. ADF&G utilized this weir in cooperation with the USFS to enumerate adults the following season. A cabin and smolt trapping facility were also constructed by the USFS, and ADF&G has utilized these facilities each year while performing stock assessment designed to estimate smolt production, adult escapement, harvest, exploitation, and marine survival annually (Table 1). Since original enhancement efforts, production studies suggest that Slippery Creek produces around 4,000 adult coho salmon annually. Results from the first three years of monitoring indicate that most adult coho salmon produced in Slippery Creek are eventually caught in commercial troll and seine fisheries operated throughout central SEAK. CWT data has indicated Slippery Creek coho salmon traveled primarily along the outer coast and enter inside waters around the southern tip of Baranof Island and into Chatham Strait before entering Port Camden during their spawning migration (Figure 2). The central-inside geographic location of Slipper Creek and the demonstrated ability to collect comprehensive stock assessment supports regionwide efforts by ADF&G to gather information on coho salmon stocks for inseason management. As such, the Slippery Creek stock serves as an important coho salmon indicator stock for central-inside production.

This report documents the results of field operations that included smolt tagging/marking during April and May 2001, escapement enumeration of the same tagged cohort during fall 2002, and data analysis to estimate harvest and production statistics for this tagging cohort.

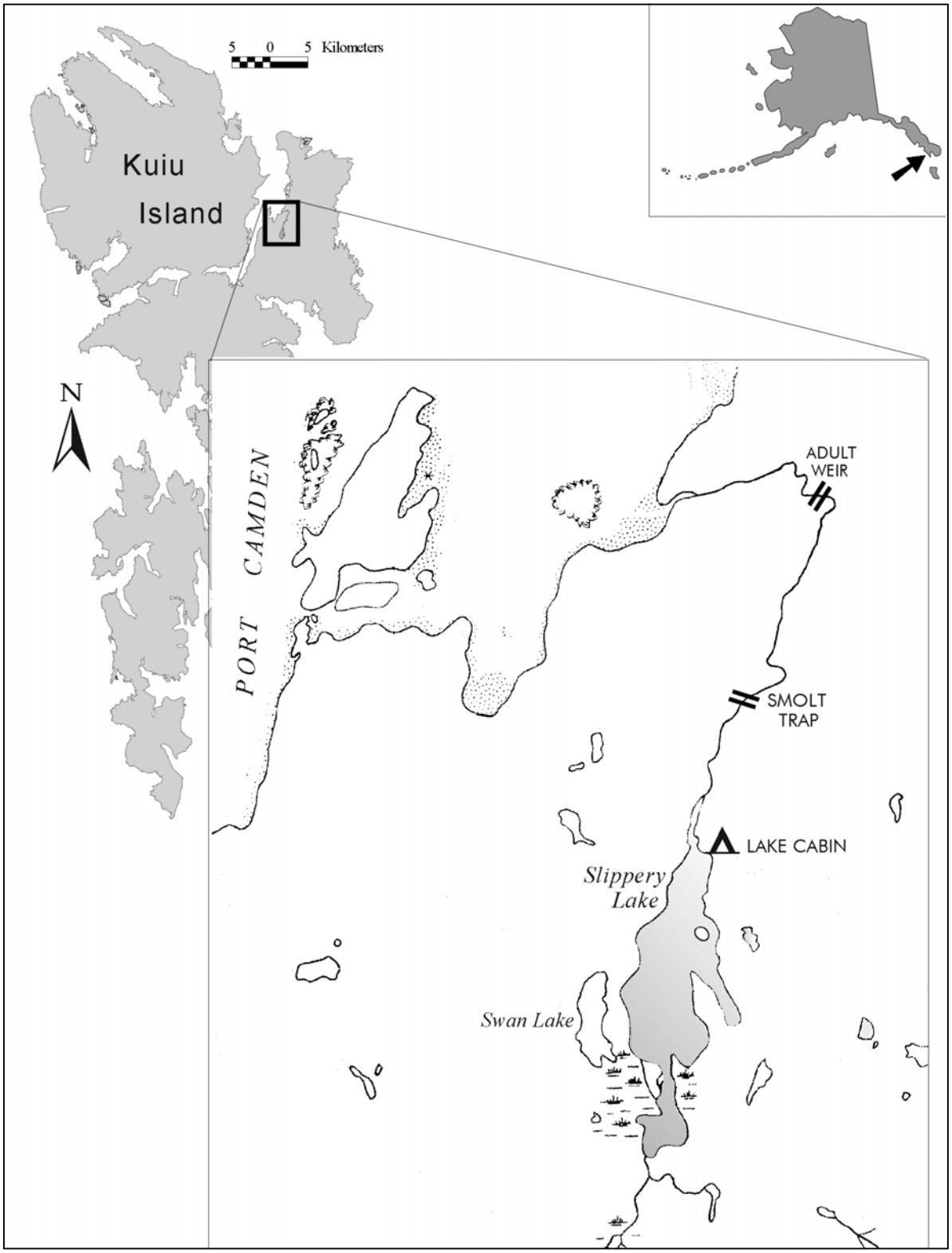


**Figure 1.–** Map of Slippery Creek drainage on Kuiu Island, Southeast Alaska.

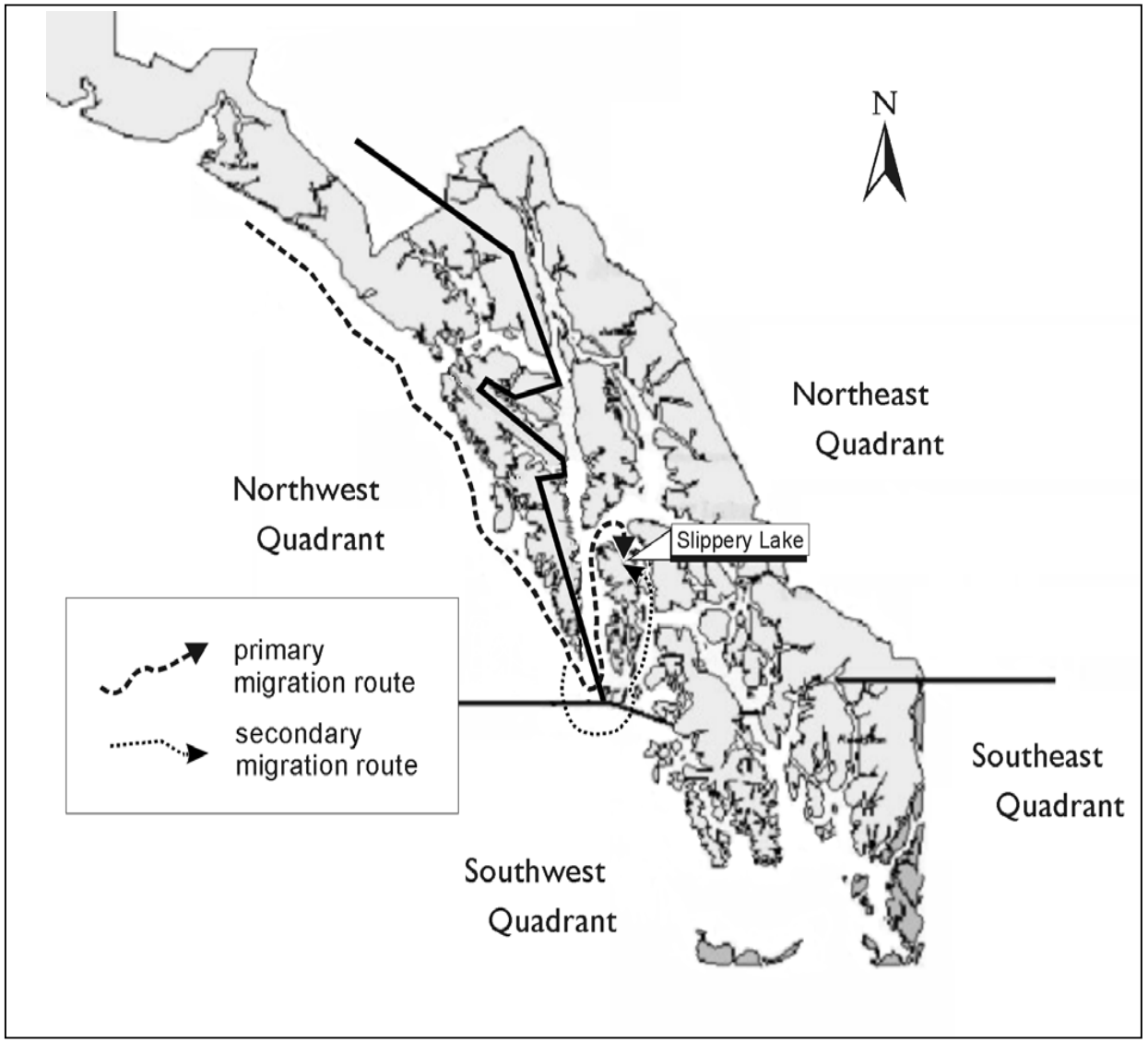


**Figure 2.–** Map showing migration routes through Southeast Alaska of coho salmon bound for Slippery Creek.

**Table 1.** –Estimated coho salmon smolt production ( $\hat{N}_s$ ), number of valid CWTs released ($n_s$), fraction of adults carrying CWTs ( $\hat{\theta}_a$ ), adult harvest( $\hat{H}$ ) and exploitation rate( $\hat{\mu}$ ), smolt-to-adult survival( $\hat{S}$ ), total adult return( $\hat{N}_r$ ) and escapement ( $N_e$ ) at Slippery Creek, 1997–98, 1999–2000, and 2000-2001.

| Smolt/adult year | $\hat{N}_s$ | $n_s$ | $\hat{\theta}_a$ | $\hat{H}$ | $\hat{\mu}$ | $\hat{S}$ | $\hat{N}_r$ | $N_e$ |
|---|---|---|---|---|---|---|---|---|
| 1997–1998[a] | 43,544 | 33,077 | 75.9% | 2,932 | 82.3% | 8.2% | 3,564 | 632 |
| 1999–2000[b] | 31,015 | 12,956 | 36.3% | 2,193 | 84.2% | 8.4% | 2,604 | 411 |
| 2000–2001[c] | 36,057 | 12,391 | 34.3% | 2,839 | 50.6% | 15.6% | 5,611 | 2,772 |

[a] Beers(1999)
[b] Beers(2001)
[c] Beers(2003)

Objectives of this study were to estimate: (1) 2002 escapement; (2) 2002 ocean harvest; (3) 2001 smolt abundance; and (4) age, sex, and length compositions of the 2001 emigrant smolt population and the 2002 escapement.

# METHODS

## SMOLT CAPTURE AND CODED-WIRE TAGGING

Emigrating smolt were captured between 15 April and 29 May 2001 using a smolt trap styled after a "Wolf Trap" design (Wolf 1951) that is fished as a passive gear type. The trap was located about ½ mile below the lake outlet. A series of wooden-framed mesh panels (four foot by eight foot dimension) faced with polypropylene 0.26 inch Vexar™ mesh were used as leads to direct and concentrate emigrating fish to the heart of the trap, which is a large dewatering table anchored to bedrock in the middle of the creek (Figure 3). The dewatering table's perforated aluminum panels, coupled with its sloped configuration, allow most of the flowing water to pass through. The remaining water and concentrated emigrant smolt are directed along a marginal gutter into a baffled live box, through a submerged five-inch connecting hose and into a submerged four-foot holding pen located below the structure.

Captured fish were removed from the holding pen and sorted each morning. Dolly Varden, cutthroat trout, and steelhead trout were counted and released back to Slippery Creek. Additionally, adult steelhead were temporarily blocked from moving upstream by the mesh panels. The sampling crew dipnetted these prespawning steelhead and passed them upstream of the wolf trap. Captured smolt were removed from the submerged holding pen and transported to staked, in-stream holding pens prior to tagging. Coho smolt were separated by inspection from other species of salmon, trout and Dolly Varden using a combination of external morphological characteristics (McConnell and Snyder 1972). All live coho salmon smolt ≥70 mm FL were tranquilized in a solution of tricain methane sulfonate (MS-222). The solution was buffered with sodium bicarbonate until the pH was neutral. All smolt were tagged with a full-length coded wire tag injected by a Northwest Marine Technology Mark IV tagging machine. Each tagged smolt was also given a secondary mark by excision of the adipose fin following methods in Koerner (1977). Marked smolt were allowed to recover in aerated stream water, then held overnight in enclosed, instream holding pens to assess short-term tag retention and tagging mortality.

The following morning, all mortalities were identified and one hundred live coho salmon smolts were checked for retention of CWTs using a Northwest Marine Technology detector.[1] The number of fish tagged, number of tagging-related mortalities, and number of fish that had shed their tags were compiled and recorded on *ADF&G CWT Tagging Summary and Release Information Forms* which were submitted to the Commercial Fisheries Division Tag Lab in Juneau when field work ended.

[1] Product names used in this report are included for scientific completeness, but do not constitute a product endorsement.

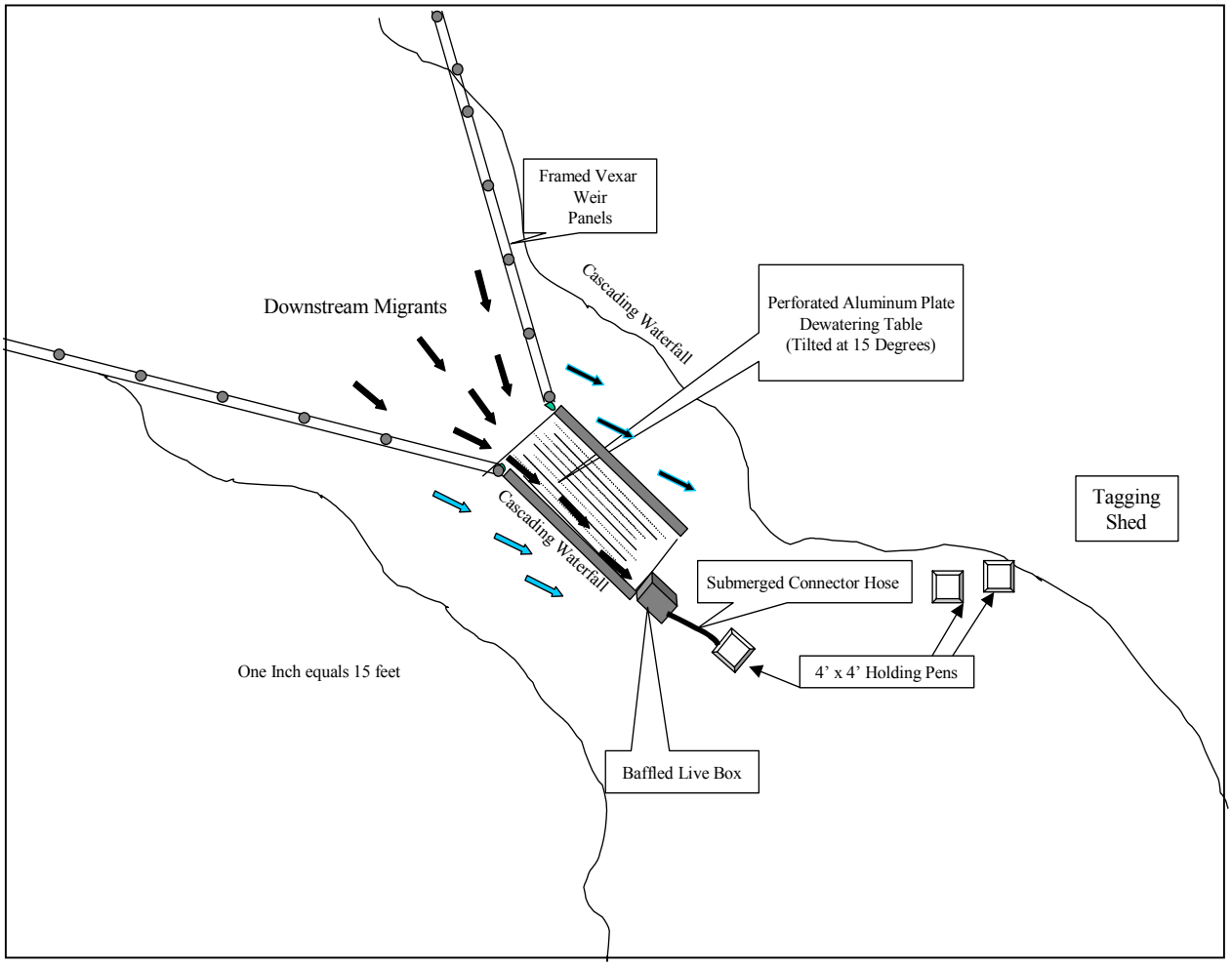


**Figure 3.–** Design of Slippery Creek smolt trapping and tagging operation.

## SMOLT ABUNDANCE

Based on previous stock assessment results from Slippery Creek, several diagnostic tests were used to determine the extent of sampling bias prior to estimating smolt abundance (Beers 2001). Two contingency tables (Chi-square tests) were used to determine if the capture of smolt at the smolt trap (and tagging) was size/age selective. One test compared the number of smolt sampled by freshwater age class (marked smolt age-1. or age-2.) with the numbers of adults recaptured bearing CWTs by their freshwater age, to determine if survival differed by age. A second test compared freshwater age compositions taken from smolt (first sampling event) and adults (second sampling event) to determine if the capture and tagging of smolt was size/age selective.

The estimated abundance of coho salmon smolt emigrating from Slippery Creek in 2001 was then calculated using either an unstratified or age-stratified estimator, depending on the extent of selectivity bias. Chapman's modified Petersen estimator for a closed population (Seber 1982):

$$\hat{N} = \frac{(n_1+1)(n_2+1)}{(m_2+1)} - 1 \qquad (1)$$

$$\text{var}[\hat{N}] = \frac{(n_1+1)(n_2+1)(n_1-m_2)(n_2-m_2)}{(m_2+1)^2(m_2+2)} \qquad (2)$$

where $n_1$ is the number of smolt tagged in 2001, $n_2$ is the number of returning coho salmon from the escapement that were inspected for marks in 2002 at the adult trap, and $m_2$ is the number of adults

inspected in 2002 at the adult trap that were missing their adipose fin.

## AGE, WEIGHT, AND LENGTH COMPOSITION, AND MEAN LENGTH ESTIMATES FOR SMOLT IN 2001

A systematically drawn sample of 482 coho salmon smolt was taken to estimate age composition, and mean length and weight at age. Each day, the first smolt handled was sampled, and every 40th smolt after that was sampled. Every sampled coho salmon smolt was measured for fork length (FL) to the nearest 1 mm, sampled for scales and weighed to the nearest 0.1 g with a digital balance. From 12 to 15 scales were removed from the preferred area (Scarnecchia 1979) on the left side of the smolt. Scales were sandwiched between two 1×3" microscope slides, and the slides were taped together with frosted scotch tape. Scales were numbered consecutively for each sampled smolt, and the number of each smolt was written on the frosted portion of the bottom slide in accordance with the position of the scales on the slide along with the location, date, species, and slide number. Ages of each sampled smolt were later determined from interpretation of circuli patterns (70X magnification).

Composition of emigrating smolt by age, length, and sex was estimated:

$$\hat{p}_i = \frac{w_i}{w} \tag{3}$$

$$\mathrm{v}\alpha\rho\left[\hat{\pi}_t\right] = \left[1 - \frac{\omega}{\hat{\mathrm{N}}}\right]\frac{\pi_t\left(1-\hat{\pi}_t\right)}{\omega - 1} \tag{4}$$

where $w$ is the number aged, and $w_i$ is the subset of $w$ that belong to age, length, or sex group $i$. Estimates of mean length at age and its variance were calculated using standard procedures.

## HARVEST

Harvest of adult coho salmon in 2002 originating from Slippery Creek in 2001 was estimated by sampling catches in commercial and recreational fisheries and from the escapement into Slippery Creek. ADF&G Commercial Fisheries Division annually samples landings from commercial drift gillnet, set gillnet, purse seine, and troll fisheries throughout Southeast Alaska and Yakutat. During summer and early fall, samplers are stationed at processors in Ketchikan, Craig, Wrangell, Petersburg, Sitka, Pelican, Port Alexander, Elfin Cove, Excursion Inlet and Juneau. The sample goal has been to inspect at least 20% of the total catch of Chinook and coho salmon for missing adipose fins, indicating the possible presence of a coded wire tag. Heads are removed from fish missing their adipose fin and sent on a weekly basis to the ADF&G Coded Wire Tag and Otolith Laboratory in Juneau to test for presence of a valid coded wire. Data from CWTs is decoded and entered into a coastwide database.

Because fisheries take place over several months, harvest must be estimated over several strata, each a combination of time, area, and type of fishery. In 2002, statistics from the commercial troll fishery were stratified by fishing period and by fishing quadrant (Figure 2). Statistics from commercial net fisheries were stratified by week and by fishing district. Statistics from the recreational fishery were stratified biweekly (Hubartt and Jaenicke, 2004). Hubartt et al. (1999) present details of sampling the recreational fisheries. The unpublished annual Commercial Fisheries Port Sampling Manual provides detailed instructions on sampling, logistics and an explanation of the analytical process by which sampling data and tag recoveries are used to estimate exploitation rates in the commercial fisheries.

Estimates of harvest $\hat{r}_i$ were calculated for each stratum, then summed across strata and across fisheries to obtain an estimate of the total harvest $\hat{T}$ :

$$\hat{r}_i = \hat{H}_i\left(\frac{m_{ij}}{\lambda_i k_i}\right)\theta^{-1} \tag{5}$$

$$\hat{T} = \sum_i \hat{r}_i \tag{6}$$

$$\mathrm{var}\left[\hat{T}\right] = \sum_i \mathrm{var}\left[\hat{r}_i\right] \tag{7}$$

where $\hat{H}_i$ is the estimated harvest in stratum *i*, $\theta$ is the fraction of the cohort marked with CWTs (from sampling adults at the trap), $k_i$ is the subset of $\hat{H}_i$ examined for missing adipose fins, $m_i$ is the number of decoded CWTs recovered, and $\lambda_i = (a_i' t_i')/(a_i t_i)$ is the decoding rate for CWTs from recovered salmon, which adjusts the sample size of fish collected with missing adipose fins to only those fish that have recoverable tags and which are successfully decoded (Bernard and Clark 1996).

$a_i$ = number of fish missing adipose fins in the sample from stratum *i,*

$a_i'$ = subset of $a_i$ that have their heads removed and sent to the laboratory for decoding,

$t_i$ = number of heads sampled from stratum *i* that actually have CWTs detected magnetically at the laboratory

$t_i'$ = subset of $t_i$ for which CWTs are decoded

Variance of $\hat{r}_i$ was estimated using the appropriate large-sample formulations in Bernard and Clark (1996, their Table 1) for a wild stock harvested in recreational and commercial fisheries. Variance of the sum of estimates was estimated as the sum of variances because sampling was independent across strata and fisheries.

## ESCAPEMENT SAMPLING

A two-person crew operated an adult coho trap at Slippery Creek from 16 August to 12 October 2002 to count the escapement of adult coho salmon. Although it is possible for coho to enter later than these dates, it was assumed that 95% or more of the escapement immigration would occur between these dates. Escapement was determined by counting each dip-netted coho salmon past an aluminum-fabricated trap positioned at the top of Slippery Creek fish pass. Every captured coho salmon was counted, visually inspected for the presence the adipose fin, and tested using a Northwest Marine Technology detector to determine if the snout of the fish contained a valid CWT. Fish that were missing their adipose fin but had no indication of CWT in their snout were subsequently sacrificed by removal of the head, which was preserved in salt and shipped to the ADF&G Tag and Otolith Lab in Juneau.

During the first month of sampling, every fifth coho salmon was sampled for scales, sex (visual examination of secondary maturation characteristics), and length (nearest 5 mm MEF). The sampling frequency was adjusted to every 15$^{th}$ fish on 18 September after it was apparent that the escapement was vastly larger than expected. Five scales were removed from the preferred area, three from 2 or 3 rows above the lateral line and taken 1" apart, and two from 4 or 5 rows up, ½" from one of the lower three on the left side (Scarnecchia 1979). The preferred area on the right side of the fish was sampled when the preferred area on the left side of the fish was lacking scales. Scales were mounted on scale gum cards, five per row, using methods described in Heineman (unpublished 1991) and were labeled completely at the time of sampling. Ages were later determined from interpretation of circuli patterns as seen with a microfiche viewer and scale impressions pressed onto clear acetate slides.

The proportions by age, sex, or length were estimated as:

$$\hat{p}_j = \frac{n_j}{n} \tag{8}$$

$$\text{var}[\hat{p}_j] = \left[1 - \frac{n}{N}\right] \frac{\hat{p}_j(1 - \hat{p}_j)}{n-1} \tag{9}$$

where $p_j$ is the proportion of the population in group *j*, *n* is the sample size, and $n_j$ is the subset of n belonging to group *j*.

## RUN SIZE, EXPLOITATION RATE, MARINE SURVIVAL

Estimates of total run size (harvest plus escapement of coho salmon returning to Slippery Creek above the trap in 2002) is the sum of the estimated harvest (*T*) and escapement ($N_e$):

$$\hat{N}_R = \hat{T} + N_e \tag{10}$$

$$var\left[\hat{N}_R\right] = var\left[\hat{T}\right] \tag{11}$$

where var($N_e$) = 0, because $N_e$ was an exact count.

The estimated fishery exploitation rate was calculated:

$$\hat{E} = \frac{\hat{T}}{\hat{N}_R} \tag{12}$$

$$\text{var}\left[\hat{E}\right] \approx \frac{N_e^2}{\hat{N}_R^4}\text{var}\left[\hat{T}\right] \tag{13}$$

The estimated survival rate of smolts to adults was calculated:

$$\hat{S} = \frac{\hat{N}_R}{\hat{N}_s} \tag{14}$$

$$\text{var}\left[\hat{S}\right] \approx \hat{S}^2\left[\frac{\text{var}\left[\hat{N}_R\right]}{\hat{N}_R^2} + \frac{\text{var}\left[\hat{N}_S\right]}{\hat{N}_S^2}\right] \tag{15}$$

The variances in equations 13 and 15 are approximations using the delta method (Seber 1982).

# RESULTS

## SMOLT TAGGING, AGE, LENGTH AND WEIGHT

Between 16 April and 29 May 2001 a total of 21,262 coho salmon smolt ≥70 mm FL from the 1998 and 1999 brood years were initially captured (Table 2). The smolt trap was "fish tight" on 33 of 44 days, as the trap could not be maintained and effectively fished during a number of high water events in late April and early May. Water conditions coupled with debris loading led to the capture mortality of 966 smolt, which either became stuck in the mesh panels, or overly stressed by high turbulence and debris loads before reaching the holding pen. Following these trapping losses, the crew implanted 20,296 coho smolt (Table 2) from the 2001 emigration with full length CWTs bearing tag code 040286 or 040287. There were an additional 932 post-tagging mortalities documented from the overnight holding pens. The overall sampling mortality rate (from initial capture to final release of tagged smolt) was 8.9%. The short-term tag retention rate was 99.1%, which left a total valid release of 19,193 tagged smolts. Age-1. coho smolt (1999 Brood year) composed 72.5% (SE = 0.02) of sampled smolt and averaged 104.7 mm FL (SD = 12.4) and 8.6 g (SD = 2.8) in weight. Age-2. fish (1998 Brood year) comprised the remaining 27.5% (SE = 0.02), averaged 129.4 mm FL (SD = 15.4) and 15.4 g (SD = 5.1) in weight.

## CODED WIRE TAG RECOVERY

During random sampling among sport and commercial fisheries in 2002, there were 252 CWTs recovered from adult coho salmon originating from 2001 tagging operations at Slippery Creek (Appendix A1). Of these, 195 CWTs were recovered from the commercial troll fishery. The greatest number of tags (106) was recovered from the troll fishery in the Northeast (NE) Quadrant on the inside coastal waters (Figure 2). Purse seine fisheries in the NE Quadrant, that target pink salmon, accounted for 46 CWTs, with 74% of these recoveries along the migration route (Figure 2 and Table 3). The SE Alaska marine recreational fishery accounted for the recovery of 11 tags, of which nine were recovered in the Northwest (NW) Quadrant near Sitka, between late June and mid-September (Tables 3 and 4).

## HARVEST, EXPLOITATION AND ESCAPEMENT IN 2002

An estimated 2,089 (SE = 155) coho salmon originating from Slippery Creek were harvested in marine commercial and sport fisheries in 2002 (Tables 3 and 4). Harvests in these fisheries occurred from the end of June through mid-September. Harvests from the commercial troll fishery accounted for 62.5% of the overall harvest of Slippery Creek coho salmon. Within the troll fishery, the highest harvest contributions came from the NE and NW Quadrants (Table 4); 33.7% and 26.9% of total harvest, respectively. Seine fisheries accounted for 33.3% of the overall harvest, with all harvests in the NE Quadrant, primarily along the migration route (Figure 2).

**Table 2.** –Daily counts of coho salmon smolt caught and tagged at the Slippery Creek smolt trap during 2001.

| Date | Total captured | Total tagged | Overnight mortality | Live tagged | Retention rate | Valid tags |
|---|---|---|---|---|---|---|
| 15-Apr | 0 | 0 | 0 | 0 | nd | 0 |
| 16-Apr | 7 | 7 | 1 | 6 | 100% | 6 |
| 17-Apr | 39 | 39 | 1 | 38 | 100% | 38 |
| 18-Apr | 10 | 10 | 2 | 8 | 100% | 8 |
| 19-Apr | 33 | 31 | 6 | 25 | 100% | 25 |
| 20-Apr | 107 | 107 | 1 | 106 | 100% | 106 |
| 21-Apr | 57 | 57 | 2 | 55 | 100% | 55 |
| 22-Apr | 59 | 59 | 0 | 59 | 100% | 59 |
| 23-Apr | 77 | 77 | 2 | 75 | 100% | 75 |
| 24-Apr | 0 | 0 | 0 | 0 | nd | 0 |
| 25-Apr | 543 | 351 | 17 | 334 | 100% | 334 |
| 26-Apr | 164 | 164 | 3 | 161 | 100% | 161 |
| 27-Apr | 0 | 0 | 0 | 0 | nd | 0 |
| 28-Apr | 213 | 199 | 13 | 186 | 100% | 186 |
| 29-Apr | 109 | 109 | 0 | 109 | 100% | 109 |
| 30-Apr | 77 | 73 | 3 | 70 | 100% | 70 |
| 1-May | 97 | 93 | 2 | 91 | 100% | 91 |
| 2-May | 533 | 530 | 26 | 504 | 100% | 504 |
| 3-May | 0 | 0 | 0 | 0 | nd | 0 |
| 4-May | 944 | 859 | 38 | 821 | 100% | 821 |
| 5-May | 555 | 554 | 11 | 543 | 100% | 543 |
| 6-May | 105 | 105 | 3 | 102 | 100% | 102 |
| 7-May | 127 | 126 | 4 | 122 | 100% | 122 |
| 8-May | 470 | 444 | 50 | 394 | 100% | 394 |
| 9-May | 589 | 525 | 56 | 469 | 100% | 469 |
| 10-May | 695 | 566 | 19 | 547 | 100% | 547 |
| 11-May | 639 | 633 | 26 | 607 | 100% | 607 |
| 12-May | 1,712 | 1,670 | 40 | 1,630 | 100% | 1,630 |
| 13-May | 1,949 | 1,894 | 47 | 1,847 | 99% | 1,829 |
| 14-May | 579 | 572 | 23 | 549 | 100% | 549 |
| 15-May | 1,904 | 1,864 | 35 | 1,829 | 99% | 1,822 |
| 16-May | 1,606 | 1,531 | 28 | 1,503 | 100% | 1,503 |
| 17-May | 1,349 | 1,325 | 48 | 1,277 | 100% | 1,277 |
| 18-May | 1,495 | 1,485 | 95 | 1,390 | 99% | 1,376 |
| 19-May | 675 | 630 | 85 | 545 | 100% | 545 |
| 20-May | 841 | 803 | 57 | 746 | 100% | 746 |
| 21-May | 366 | 352 | 20 | 332 | 100% | 332 |
| 22-May | 387 | 367 | 34 | 333 | 94% | 313 |
| 23-May | 366 | 340 | 12 | 328 | 96% | 315 |
| 24-May | 399 | 383 | 26 | 357 | 92% | 328 |
| 25-May | 253 | 248 | 47 | 201 | 98% | 197 |
| 26-May | 237 | 234 | 17 | 217 | 91% | 197 |
| 27-May | 266 | 258 | 9 | 249 | 96% | 239 |
| 28-May | 308 | 303 | 16 | 287 | 94% | 270 |
| 29-May | 321 | 319 | 7 | 312 | 94% | 293 |
| TOTAL | 21,262 | 20,296 | 932 | 19,364 | 99% | 19,193 |

**Table 3. –**Estimated marine harvest of adult coho salmon bound for Slippery Creek in 2002.

## TROLL FISHERY

| Stat. week | Dates | Per. | Quad. | $H$ | var[ $\hat{H}$ ] | $k$ | $a$ | $a'$ | $t$ | $t'$ | $m_i$ | $\hat{r}$ | SE[ $\hat{r}$ ] | RP[ $\hat{r}$ ] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27-32 | 6/30-8/10 | 3 | NW | 341,306 | 0 | 113,254 | 2,224 | 2,210 | 1,845 | 1,844 | 56 | 375 | 47 | 24.0% |
| 27-32 | 6/30-8/10 | 3 | NE | 102,015 | 0 | 35,428 | 1,363 | 1,351 | 1,200 | 1,197 | 60 | 386 | 46 | 23.0% |
| 27-32 | 6/30-8/10 | 3 | SW | 89,753 | 0 | 58,581 | 612 | 604 | 460 | 460 | 7 | 24 | 8 | 62.0% |
| 27-32 | 6/30-8/10 | 3 | SE | 65,133 | 0 | 24,561 | 475 | 469 | 372 | 372 | 1 | 6 | 5 | 179.0% |
| 33-40 | 8/11-10/5 | 4 | NW | 461,263 | 0 | 125,974 | 3,234 | 3,201 | 2,819 | 2,817 | 23 | 188 | 37 | 38.0% |
| 33-40 | 8/11-10/5 | 4 | NE | 82,886 | 0 | 26,757 | 866 | 857 | 739 | 737 | 46 | 319 | 44 | 27.0% |
| 33-40 | 8/11-10/5 | 4 | SW | 50,368 | 0 | 35,540 | 518 | 511 | 407 | 407 | 1 | 3 | 3 | 162.0% |
| 33-40 | 8/11-10/5 | 4 | SE | 115,925 | 0 | 53,402 | 1,092 | 1,075 | 876 | 875 | 1 | 5 | 4 | 175.0% |
| Total troll fishery | | | | 1,308,649 | 0 | 473,497 | 10,384 | 10,278 | 8,718 | 8,709 | 195 | **1,306** | 88 | 13.1% |

## SPORT FISHERY

| Biweek | Dates | Derby | Area | $H$ | var[ $\hat{H}$ ] | $k$ | $a$ | $a'$ | $t$ | $t'$ | $m_i$ | $\hat{r}$ | SE[ $\hat{r}$ ] | RP[ $\hat{r}$ ] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 6/24-7/7 | No | Sitka | 4,226 | 397,717 | 1,023 | 45 | 43 | 34 | 34 | 1 | 10 | 9 | 186% |
| 14 | 7/8-7/21 | No | Ketchikan | 1,080 | 35,457 | 192 | 15 | 15 | 13 | 13 | 1 | 12 | 12 | 188% |
| 14 | 7/8-7/21 | No | Sitka | 9,614 | 11,525,161 | 2,327 | 36 | 36 | 33 | 33 | 2 | 18 | 13 | 141% |
| 15 | 7/22-8/4 | No | Sitka | 2,803 | 474,928 | 895 | 43 | 42 | 38 | 38 | 2 | 14 | 10 | 134% |
| 16 | 9/2-9/15 | No | Sitka | 2,622 | 331,157 | 743 | 65 | 65 | 52 | 52 | 4 | 31 | 16 | 99% |
| 16 | 7/22-9/15 | No | Elfin | 324 | - | 324 | 10 | 10 | 7 | 7 | 1 | 2 | 2 | 145% |
| Total sport fishery | | | | 20,669 | 12,764,420 | 5,504 | 214 | 211 | 177 | 177 | 11 | **87** | 27 | 61% |

## SEINE FISHERY

| Stat. week | Dates | District | $H$ | var[ $\hat{H}$ ] | $k$ | $a$ | $a'$ | $t$ | $t'$ | $m_i$ | $\hat{r}$ | SE[ $\hat{r}$ ] | RP[ $\hat{r}$ ] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 7/21-7/27 | 110 | 6,946 | 0 | 2,230 | 12 | 12 | 11 | 11 | 1 | 7 | 6 | 181.0% |
| 30 | 7/21-7/27 | 112 | 4,661 | 0 | 560 | 9 | 9 | 7 | 7 | 1 | 18 | 18 | 191.0% |
| 31 | 7/28-8/3 | 109 | 44,672 | 0 | 5,731 | 62 | 62 | 52 | 51 | 17 | 298 | 70 | 46.0% |
| 31 | 7/28-8/3 | 114 | 6,377 | 0 | 3,366 | 65 | 65 | 53 | 52 | 1 | 4 | 4 | 171.0% |
| 32 | 8/04-8/10 | 109 | 22,818 | 0 | 3,745 | 35 | 35 | 30 | 30 | 11 | 148 | 43 | 57.0% |
| 33 | 8/11-8/17 | 109 | 12,089 | 0 | 2,022 | 40 | 40 | 35 | 35 | 4 | 53 | 25 | 94.0% |
| 33 | 8/11-8/17 | 112 | 6,536 | 0 | 685 | 14 | 14 | 14 | 14 | 1 | 21 | 21 | 191.0% |
| 33 | 8/11-8/17 | 114 | 6,172 | 0 | 2,571 | 69 | 69 | 59 | 59 | 1 | 5 | 5 | 177.0% |
| 34 | 8/18-8/24 | 114 | 1,505 | 0 | 1,438 | 52 | 52 | 47 | 47 | 5 | 12 | 4 | 66.0% |
| 34 | 8/18-8/24 | 109 | 11,784 | 0 | 1,190 | 6 | 6 | 5 | 5 | 2 | 44 | 30 | 135.0% |
| 34 | 8/18-8/24 | 112 | 8,409 | 0 | 233 | 6 | 6 | 6 | 6 | 1 | 80 | 79 | 195.0% |
| 35 | 8/25-8/31 | 112 | 7,055 | 0 | 2,730 | 67 | 67 | 64 | 64 | 1 | 6 | 5 | 178.0% |
| Total seine fishery | | | 139,024 | 0 | 26,501 | 437 | 437 | 383 | 381 | 46 | **696** | 124 | 35.0% |
| TOTAL All fisheries | | | 1,468,342 | | 505,502 | 11,035 | 10,926 | 9,278 | 9,267 | 252 | **2,089** | 155 | 14.5% |

In fishing periods and fishing quadrants for which no CWT was recovered with the appropriate code, harvest was assumed to be zero. See text for an explanation of the notation.

**Table 4. –**Estimated harvest, exploitation, and total run of Slippery Creek coho salmon in 2002.

| Fishery | Area | Estimated harvest | SE | Percent of marine harvest | Percent of total run | Removal rate[a] |
|---|---|---|---|---|---|---|
| U.S. troll fishery | NE Quad | 705 | 64 | 33.7 | 9.4 | |
| | NW Quad | 563 | 59 | 26.9 | 7.5 | |
| | SW Quad | 27 | 8 | 1.2 | 0.3 | |
| | SE Quad | 11 | 7 | 0.5 | 0.1 | |
| | Subtotal | 1,306 | 88 | 62.5 | 17.5 | 17.5% |
| Recreational | Sitka | 73 | 24 | 3.5 | 1.0 | |
| | Ketchikan | 13 | 12 | 0.5 | 0.2 | |
| | Elfin Cove | 2 | 2 | 0.1 | <0.1 | |
| | Subtotal | 88 | 27 | 4.2 | 1.1 | 1.4% |
| Seine fishery | Dist. 109 | 543 | 91 | 25.9 | 7.3 | |
| | Dist. 110 | 7 | 6 | 0.3 | <0.1 | |
| | Dist. 112 | 125 | 84 | 5.9 | 1.7 | |
| | Dist. 114 | 21 | 7 | 1.0 | 0.3 | |
| | Subtotal | 696 | 24 | 33.3 | 9.3 | 11.5% |
| Total marine harvest | | 2,089 | 155 | 100.0 | 28.1 | |
| Escapement | | 5,341 | 0 | | 71.9 | |
| TOTAL RUN | | 7,430 | 155 | | 100.0 | |

a Percent of available population harvested by a fishery

The estimated sport harvest contribution from Slippery Creek in the marine recreational fishery was 87 fish, representing 4.2% of the total harvest, using harvest and sampling data from Hubartt and Jaenicke (2004).

The enumerated escapement passing the fish ladder between 16 August and 12 October included 5,341 adult coho salmon (Appendix A2) and 402 jack coho. Within the adult escapement, a total of 2,431 fin clipped coho yielded 2,419 valid CWT-marked fish, indicating the fraction of the 2001 smolt cohort tagged with CWTs (theta) was 45.3%. The total run (harvest plus escapement) was estimated to be 7,430 (SE = 155) adult coho salmon (Table 4). The estimated marine survival rate was 17.6% (SE = 0.4%) and the estimated marine fishery exploitation rate was 28.1% (SE = 1.5%).

As mentioned previously, the Age-Sex-Length (ASL) sampling frequency changed from 1:5 to 1:15 on 18 September, in response to the larger than expected return. We considered omitting two-thirds of the early samples (before the change) to eliminate any bias resulting from unequal weighting of the sample. However we found no difference in age composition before and after 18 September ($\chi^2$ = 0.33, df=1, p=0.57). Age 1.1 coho represented 71.5% (SE = 0.02) of the adult escapement with a mean length of 594 (SD = 44) mm mideye to fork (MEF). Age 2.1 coho represented 28.5% (SE = 0.02), and had a mean length of 611 (SD = 42) mm MEF. The observed female- to- male sex ratio in the 2002 escapement was 1.26: 1.

## SMOLT ABUNDANCE IN 2001

Prior to estimating smolt abundance we tested whether capture and tagging in the first sampling event were size-selective, which could bias abundance and age/size composition estimates. The age composition of tagged adults did not differ from that of tagged smolt ($\chi^2$ = 0.83, df=1, p=0.36), which rules out age-dependent survival. Furthermore, the age composition of all adults (tagged or not) did not differ from that of tagged

smolt ($\chi^2 = 0.13$, df=1, p=0.71), which rules out age dependent smolt sampling.

Therefore the abundance of smolt was estimated without stratification. In 2001, an estimated 42,533 coho salmon smolt (SE = 595) $\geq$70 mm outmigrated from Slippery Creek. This estimate was based on the number of marked smolt released in the first sampling event (19,364 smolt), and the subsequent recovery of 2,431 marked (missing adipose fins) adult coho salmon out of the 5,341 inspected in 2002.

# DISCUSSION

The total run of coho salmon in 2002 represents the highest gauged return and escapement in the four years where total run was estimated at Slippery Creek. Additionally, this is the first year of the Slippery Creek project where escapement and resulting production in numbers of smolt and returning adults taken from past and current assessments could be tabulated. There were approximately 30,595 emigrating smolt (19,002 in 2000 and 11,593 in 2001) produced by the 632 adult coho escapement in 1998 (Beers 1999, 2003). Many of these smolt survived to produce estimated total returns of 8,269 adult coho salmon (based on age composition: 2,957 in 2001 and 5,312 in 2002) that entered common property fisheries and low-level sport harvests. Eventually 5,280 adults produced from the 1998 brood year were included in the counted escapements in 2001 and 2002 (1,461 adults escaped in 2001, and 3,819 adults in 2002). Initially this appears to indicate a high return per spawner for the one completed generation which has been monitored at Slippery Creek. However, these returns corresponded to 2001 and 2002, when the return and escapements were maximal.

Furthermore, the future smolt production from the large escapements in 2001 and 2002 will be valuable to the understanding of coho production and possible limitations imposed by the overall quantity of habitat and food resources in the Slippery Creek drainage. It may be possible to contrast the effect of such large escapements on smolt production by 2005, and adult returns in 2006. Similar information gathered from other brood years will be relevant if future efforts include the determination of escapement goals for the Slippery Creek stock, or a better understanding of coho production of this previously enhanced watershed.

Although much of the 2002 return was not exploited at levels previously seen in the harvesting sector (Table 1), the large number of escaping adults provides a large input of marine-based nutrients to be utilized directly and indirectly by various fauna inhabiting the Slippery Creek watershed. It is likely that the return size in 2002 was influenced by high levels of marine survival, which was also observed in many of the other 2002 returns. In addition to increased marine survival, declining numbers of trollers fishing in the NW Quadrant during 2002 might help to explain the shift to higher levels of escapement and lower rates of exploitation (Table 4). It is apparent that the level of participation by trollers in the NW Quadrant has a significant effect, as this fishery has exploited between 7.5 and nearly 40% of monitored total returns since 1998 (Beers 1999, 2001, 2003). For the first time in four years of Slippery Creek harvest estimation, the estimated harvests in the NE Quadrant exceeded those of the NW Quadrant. Changing fleet dynamics, such as in the NW Quadrant, or trip limits for pink salmon seiners, described by Beers (2003), could impact the ability to relate CWT recoveries to inseason run strengths or run timing, particularly with small stocks of coho, like Slippery Creek.

Smolt sampling efforts in 2001 marked sufficient numbers to yield precise estimates based on the marked fraction of smolt. However, several problems came about that have since been remedied. Due to budgetary constraints, smolt tagging was suspended on 29 May, when significant catches of smolt were still occurring. If tagging had continued into June 2001, it is likely that the marked fraction would increase somewhat, and improve certainty about the assumptions for the mark-recapture experiment. During the smolt tagging project, there were periods when the smolt trap was overwhelmed by high water and not fishing effectively, and corresponding times when significant mortalities (pre- and post-tagging) occurred. The 966 smolt trapping mortalities together with 932 overnight holding mortalities represented a 4.4% loss to the

emigrating smolt population in 2001, based on an estimated 42,533 smolt. Although these did not jeopardize the project's ability to yield precise results, it represents an undesired impact on the population and loss of efficiency for the project.

Since the 2001 smolt tagging, several changes have occurred to improve the overall project operation. Increased project budgeting has allowed smolt tagging to continue into early June, when the smolt emigration recedes, so that individuals from all segments of the migration may be marked and tagged with CWT. Additionally, improvements to the Wolf trap and baffled live box have included the substitution of perforated aluminum "smolt-plate" for much of the Vexar™ mesh, which can entrap smolt in some situations or lead to abrasive damage and resulting mortality among the trapped smolt.

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# APPENDIX A

**Appendix A1.–**Random recoveries of coded wire tagged coho salmon bound for Slippery Creek by date sampled in 2002.

| Survey Site | Sample | Head | Sampling Type Code | Gear Class | Date (CWT) | Stat Week (CWT) | Period | Quadrant | District | Tag Code |
|---|---|---|---|---|---|---|---|---|---|---|
| SITKA | 2035306 | 228160 | R | SPORT | 7/2/2002 | 27 | | NW | 113 | 40287 |
| SITKA | 2030635 | 185542 | R | TROLL | 7/3/2002 | 27 | 3 | NW | 113 | 40286 |
| SITKA | 2030725 | 214034 | R | TROLL | 7/5/2002 | 27 | 3 | NW | 113 | 40286 |
| PETERSBURG | 2050252 | 505227 | R | TROLL | 7/5/2002 | 27 | 3 | | | 40286 |
| EXCURSION INLET | 2100021 | 31015 | R | TROLL | 7/7/2002 | 28 | 3 | NW | | 40287 |
| SITKA | 2030752 | 211192 | R | TROLL | 7/8/2002 | 28 | 3 | NW | 113 | 40286 |
| KETCHIKAN | 2065236 | 172766 | R | SPORT | 7/8/2002 | 28 | | SE | 101 | 40286 |
| PORT ALEXANDER | 2080006 | 169069 | R | TROLL | 7/9/2002 | 28 | 3 | NE | 109 | 40250 |
| HOONAH | 2110150 | 218364 | R | TROLL | 7/9/2002 | 28 | 3 | NW | 113 | 40287 |
| SITKA | 2030758 | 211280 | R | TROLL | 7/10/2002 | 28 | 3 | NW | 113 | 40286 |
| SITKA | 2030758 | 211284 | R | TROLL | 7/10/2002 | 28 | 3 | NW | 113 | 40286 |
| EXCURSION INLET | 2100027 | 38959 | R | TROLL | 7/10/2002 | 28 | 3 | NW | | 40286 |
| HOONAH | 2110152 | 218386 | R | TROLL | 7/11/2002 | 28 | 3 | NW | 113 | 40286 |
| PETERSBURG | 2050333 | 207581 | R | TROLL | 7/12/2002 | 28 | 3 | NE | 109 | 40287 |
| SITKA | 2030794 | 211365 | R | TROLL | 7/13/2002 | 28 | 3 | NW | 113 | 40287 |
| PORT ALEXANDER | 2080014 | 169096 | R | TROLL | 7/14/2002 | 29 | 3 | NE | 109 | 40287 |
| SITKA | 2035353 | 228484 | R | SPORT | 7/15/2002 | 29 | | NW | 113 | 40286 |
| SITKA | 2030824 | 213038 | R | TROLL | 7/15/2002 | 29 | 3 | NW | 113 | 40287 |
| PELICAN | 2010197 | 209662 | R | TROLL | 7/16/2002 | 29 | 3 | NW | 113 | 40286 |
| EXCURSION INLET | 2100035 | 31139 | R | TROLL | 7/16/2002 | 29 | 3 | NW | | 40287 |
| SITKA | 2035362 | 228497 | R | SPORT | 7/17/2002 | 29 | | NW | 113 | 40286 |
| SITKA | 2030841 | 213277 | R | TROLL | 7/17/2002 | 29 | 3 | NW | 113 | 40287 |
| EXCURSION INLET | 2100037 | 31148 | R | TROLL | 7/18/2002 | 29 | 3 | NW | | 40286 |
| PORT ALEXANDER | 2080021 | 169127 | R | TROLL | 7/18/2002 | 29 | 3 | NE | 109 | 40287 |
| SITKA | 2030861 | 213094 | R | TROLL | 7/18/2002 | 29 | 3 | NW | 113 | 40287 |
| SITKA | 2030861 | 213099 | R | TROLL | 7/18/2002 | 29 | 3 | NW | 113 | 40287 |
| EXCURSION INLET | 2100037 | 31178 | R | TROLL | 7/18/2002 | 29 | 3 | NW | | 40287 |
| SITKA | 2030879 | 211576 | R | TROLL | 7/19/2002 | 29 | 3 | SW | 104 | 40286 |
| SITKA | 2030885 | 213142 | R | TROLL | 7/19/2002 | 29 | 3 | NW | 113 | 40286 |
| SITKA | 2030874 | 214093 | R | TROLL | 7/19/2002 | 29 | 3 | NW | 113 | 40286 |
| SITKA | 2030874 | 214091 | R | TROLL | 7/19/2002 | 29 | 3 | NW | 113 | 40286 |
| SITKA | 2030880 | 211597 | R | TROLL | 7/19/2002 | 29 | 3 | NW | 113 | 40287 |
| PORT ALEXANDER | 2080028 | 169203 | R | TROLL | 7/20/2002 | 29 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080029 | 169224 | R | TROLL | 7/21/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080029 | 169226 | R | TROLL | 7/21/2002 | 30 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080032 | 169266 | R | TROLL | 7/22/2002 | 30 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050454 | 506125 | R | PURSE | 7/22/2002 | 30 | | NE | 112 | 40287 |
| PORT ALEXANDER | 2080032 | 169269 | R | TROLL | 7/22/2002 | 30 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080036 | 169355 | R | TROLL | 7/23/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080035 | 169327 | R | TROLL | 7/23/2002 | 30 | 3 | NE | 109 | 40286 |
| SITKA | 2030909 | 211988 | R | TROLL | 7/23/2002 | 30 | 3 | NW | 113 | 40286 |

-continued-

| Survey Site | Sample | Head | Sampling Type Code | Gear Class | Stat Week Date (CWT) | (CWT) | Period | Quadrant | District | Tag Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PORT ALEXANDER | 2080034 | 169299 | R | TROLL | 7/23/2002 | 30 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080035 | 169338 | R | TROLL | 7/23/2002 | 30 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080035 | 169340 | R | TROLL | 7/23/2002 | 30 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080035 | 169344 | R | TROLL | 7/23/2002 | 30 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080037 | 169360 | R | TROLL | 7/24/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080037 | 169381 | R | TROLL | 7/24/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080037 | 169361 | R | TROLL | 7/24/2002 | 30 | 3 | NE | 109 | 40286 |
| SITKA | 2030917 | 213184 | R | TROLL | 7/24/2002 | 30 | 3 | NW | 113 | 40286 |
| HOONAH | 2110176 | 218571 | R | TROLL | 7/24/2002 | 30 | 3 | NW | 113 | 40286 |
| SITKA | 2030926 | 213419 | R | TROLL | 7/25/2002 | 30 | 3 | NW | 113 | 40286 |
| SITKA | 2035411 | 228535 | R | SPORT | 7/25/2002 | 30 |  | NW | 113 | 40286 |
| SITKA | 2030926 | 213416 | R | TROLL | 7/25/2002 | 30 | 3 | NW | 113 | 40287 |
| PELICAN | 2010212 | 209858 | R | TROLL | 7/25/2002 | 30 | 3 | NW | 114 | 40287 |
| PETERSBURG | 2050511 | 506384 | R | PURSE | 7/26/2002 | 30 |  | NE | 110 | 40286 |
| PORT ALEXANDER | 2080045 | 231279 | R | TROLL | 7/26/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080045 | 231280 | R | TROLL | 7/26/2002 | 30 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050501 | 506507 | R | TROLL | 7/26/2002 | 30 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050501 | 506502 | R | TROLL | 7/26/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080051 | 231395 | R | TROLL | 7/27/2002 | 30 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080050 | 231365 | R | TROLL | 7/27/2002 | 30 | 3 | NE | 109 | 40286 |
| CRAIG | 2070224 | 69186 | R | TROLL | 7/28/2002 | 31 | 3 | SW | 104 | 40286 |
| CRAIG | 2070222 | 79058 | R | TROLL | 7/28/2002 | 31 | 3 |  |  | 40286 |
| SITKA | 2030947 | 213477 | R | TROLL | 7/28/2002 | 31 | 3 | NW | 113 | 40287 |
| CRAIG | 2070222 | 79054 | R | TROLL | 7/28/2002 | 31 | 3 |  |  | 40287 |
| CRAIG | 2070227 | 56807 | R | TROLL | 7/29/2002 | 31 | 3 | SW | 152 | 40286 |
| PORT ALEXANDER | 2080053 | 231448 | R | TROLL | 7/29/2002 | 31 | 3 | NE | 109 | 40287 |
| PETERSBURG | 2050567 | 506527 | R | PURSE | 7/30/2002 | 31 |  | NE | 109 | 40286 |
| PORT ALEXANDER | 2080056 | 231549 | R | TROLL | 7/30/2002 | 31 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080056 | 231569 | R | TROLL | 7/30/2002 | 31 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050552 | 506311 | R | PURSE | 7/30/2002 | 31 |  | NE | 109 | 40287 |
| PETERSBURG | 2050567 | 506528 | R | PURSE | 7/30/2002 | 31 |  | NE | 109 | 40287 |
| PETERSBURG | 2050565 | 506525 | R | PURSE | 7/30/2002 | 31 |  | NE | 109 | 40287 |
| PORT ALEXANDER | 2080056 | 231563 | R | TROLL | 7/30/2002 | 31 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080060 | 216836 | R | TROLL | 7/30/2002 | 31 | 3 | NE | 109 | 40287 |
| SITKA | 2030957 | 213530 | R | TROLL | 7/30/2002 | 31 | 3 | NW | 113 | 40287 |
| SITKA | 2030957 | 213520 | R | TROLL | 7/30/2002 | 31 | 3 | NW | 113 | 40287 |
| PETERSBURG | 2050582 | 506481 | R | TROLL | 7/31/2002 | 31 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050582 | 506480 | R | TROLL | 7/31/2002 | 31 | 3 | NE | 109 | 40286 |
| CRAIG | 2070237 | 79820 | R | TROLL | 7/31/2002 | 31 | 3 | SW | 152 | 40286 |
| PORT ALEXANDER | 2080064 | 216885 | R | TROLL | 7/31/2002 | 31 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080065 | 216917 | R | TROLL | 7/31/2002 | 31 | 3 | NE | 109 | 40287 |
| PETERSBURG | 2050582 | 506479 | R | TROLL | 7/31/2002 | 31 | 3 | NE | 109 | 40287 |
| PETERSBURG | 2050590 | 506607 | R | PURSE | 8/1/2002 | 31 |  | NE | 109 | 40286 |

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| Survey Site | Sample | Head | Sampling Type Code | Gear Class | Date (CWT) | Stat Week (CWT) | Period | Quadrant | District | Tag Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PETERSBURG | 2050590 | 506608 | R | PURSE | 8/1/2002 | 31 | | NE | 109 | 40286 |
| CRAIG | 2070244 | 79385 | R | TROLL | 8/1/2002 | 31 | 3 | SW | 104 | 40286 |
| PORT ALEXANDER | 2080069 | 216965 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080070 | 216984 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080070 | 216982 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050588 | 506585 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40286 |
| EXCURSION INLET | 2100070 | 31215 | R | PURSE | 8/1/2002 | 31 | | NW | 114 | 40287 |
| PORT ALEXANDER | 2080066 | 216926 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080068 | 216960 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40287 |
| PETERSBURG | 2050588 | 506445 | R | TROLL | 8/1/2002 | 31 | 3 | NE | 109 | 40287 |
| HOONAH | 2110189 | 218684 | R | TROLL | 8/1/2002 | 31 | 3 | NW | 114 | 40287 |
| PETERSBURG | 2050596 | 506624 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40286 |
| PETERSBURG | 2050620 | 506643 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40286 |
| PETERSBURG | 2050619 | 506648 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40286 |
| PETERSBURG | 2050619 | 506650 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40286 |
| PETERSBURG | 2050603 | 506543 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40286 |
| PETERSBURG | 2050611 | 506732 | R | PURSE | 8/3/2002 | 31 | | NE | | 40286 |
| PORT ALEXANDER | 2080078 | 232906 | R | TROLL | 8/3/2002 | 31 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080079 | 232925 | R | TROLL | 8/3/2002 | 31 | 3 | | | 40286 |
| SITKA | 2030983 | 213609 | R | TROLL | 8/3/2002 | 31 | 3 | | | 40286 |
| PETERSBURG | 2050608 | 506537 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40287 |
| PETERSBURG | 2050620 | 506642 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40287 |
| PETERSBURG | 2050597 | 506627 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40287 |
| SITKA | 2030983 | 213611 | R | TROLL | 8/3/2002 | 31 | 3 | | | 40287 |
| CRAIG | 2070258 | 56825 | R | TROLL | 8/4/2002 | 32 | 3 | SW | 104 | 40286 |
| SITKA | 2030991 | 213712 | R | TROLL | 8/4/2002 | 32 | 3 | NE | 109 | 40286 |
| PETERSBURG | 2050596 | 506624 | R | PURSE | 8/3/2002 | 31 | | NE | 109 | 40286 |
| SITKA | 2030993 | 213626 | R | TROLL | 8/4/2002 | 32 | 3 | NW | 113 | 40286 |
| SITKA | 2030993 | 213630 | R | TROLL | 8/4/2002 | 32 | 3 | NW | 113 | 40286 |
| SITKA | 2030988 | 214570 | R | TROLL | 8/4/2002 | 32 | 3 | NW | 113 | 40286 |
| SITKA | 2030986 | 214550 | R | TROLL | 8/4/2002 | 32 | 3 | NW | 154 | 40286 |
| SITKA | 2030989 | 214596 | R | TROLL | 8/4/2002 | 32 | 3 | NW | 113 | 40287 |
| SITKA | 2030987 | 214567 | R | TROLL | 8/4/2002 | 32 | 3 | NW | 113 | 40287 |
| SITKA | 2030994 | 212293 | R | TROLL | 8/5/2002 | 32 | 3 | NW | 113 | 40286 |
| PETERSBURG | 2050624 | 506733 | R | TROLL | 8/5/2002 | 32 | 3 | | | 40286 |
| PETERSBURG | 2050624 | 506735 | R | TROLL | 8/5/2002 | 32 | 3 | | | 40286 |
| PETERSBURG | 2050644 | 506864 | R | PURSE | 8/6/2002 | 32 | | NE | 109 | 40286 |
| PETERSBURG | 2050628 | 506858 | R | PURSE | 8/6/2002 | 32 | | NE | 109 | 40286 |
| PORT ALEXANDER | 2080082 | 232940 | R | TROLL | 8/6/2002 | 32 | 3 | | | 40286 |
| PORT ALEXANDER | 2080083 | 232949 | R | TROLL | 8/6/2002 | 32 | 3 | NE | 109 | 40287 |
| PETERSBURG | 2050635 | 506655 | R | TROLL | 8/6/2002 | 32 | 3 | NE | 110 | 40287 |
| SITKA | 2031003 | 213639 | R | TROLL | 8/6/2002 | 32 | 3 | NW | 113 | 40287 |

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| Survey Site | Sample | Head | Sampling Type Code | Gear Class | Date (CWT) | Stat Week (CWT) | Period | Quadrant | District | Tag Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PETERSBURG | 2050664 | 506331 | R | PURSE | 8/7/2002 | 32 | | NE | 109 | 40286 |
| PETERSBURG | 2050671 | 506869 | R | PURSE | 8/7/2002 | 32 | | NE | 109 | 40286 |
| PETERSBURG | 2050662 | 506333 | R | PURSE | 8/7/2002 | 32 | | NE | | 40286 |
| CRAIG | 2070277 | 79940 | R | TROLL | 8/7/2002 | 32 | 3 | SE | 105 | 40286 |
| PORT ALEXANDER | 2080084 | 232976 | R | TROLL | 8/7/2002 | 32 | 3 | NE | 109 | 40286 |
| SITKA | 2031010 | 214149 | R | TROLL | 8/7/2002 | 32 | 3 | NW | 113 | 40286 |
| SITKA | 2035525 | 233903 | R | SPORT | 8/7/2002 | 32 | | NW | 113 | 40286 |
| PETERSBURG | 2050669 | 506879 | R | PURSE | 8/7/2002 | 32 | | NE | 109 | 40287 |
| PETERSBURG | 2050672 | 506886 | R | PURSE | 8/7/2002 | 32 | | NE | 109 | 40287 |
| PETERSBURG | 2050664 | 506327 | R | PURSE | 8/7/2002 | 32 | | NE | 109 | 40287 |
| PETERSBURG | 2050664 | 506328 | R | PURSE | 8/7/2002 | 32 | | NE | 109 | 40287 |
| PETERSBURG | 2050662 | 506332 | R | PURSE | 8/7/2002 | 32 | | NE | | 40287 |
| PORT ALEXANDER | 2080086 | 232989 | R | TROLL | 8/7/2002 | 32 | 3 | NE | 109 | 40287 |
| SITKA | 2031008 | 213672 | R | TROLL | 8/7/2002 | 32 | 3 | NW | 113 | 40287 |
| PELICAN | 2010238 | 210002 | R | TROLL | 8/7/2002 | 32 | 3 | NW | 114 | 40287 |
| PETERSBURG | 2050685 | 506341 | R | PURSE | 8/8/2002 | 32 | | NE | 109 | 40286 |
| SITKA | 2031011 | 213687 | R | TROLL | 8/8/2002 | 32 | 3 | NW | 113 | 40286 |
| SITKA | 2035533 | 233917 | R | SPORT | 8/8/2002 | 32 | | NW | 113 | 40286 |
| PETERSBURG | 2050689 | 506700 | R | TROLL | 8/9/2002 | 32 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080091 | 234030 | R | TROLL | 8/9/2002 | 32 | 3 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080088 | 234009 | R | TROLL | 8/9/2002 | 32 | 3 | | | 40286 |
| SITKA | 2035491 | 228194 | R | SPORT | 8/9/2002 | 32 | | NW | 113 | 40286 |
| SITKA | 2031020 | 212469 | R | TROLL | 8/9/2002 | 32 | 3 | NW | 154 | 40287 |
| SITKA | 2031024 | 212491 | R | TROLL | 8/10/2002 | 32 | 3 | NW | 154 | 40287 |
| EXCURSION INLET | 2100093 | 31431 | R | TROLL | 8/10/2002 | 32 | 3 | NW | | 40287 |
| EXCURSION INLET | 2100093 | 31446 | R | TROLL | 8/10/2002 | 32 | 3 | NW | | 40287 |
| ELFIN COVE | 2025011 | 96964 | R | SPORT | 8/10/2002 | 32 | | NW | 114 | 40287 |
| PETERSBURG | 2050708 | 506897 | R | PURSE | 8/11/2002 | 33 | | NE | 109 | 40286 |
| PETERSBURG | 2050708 | 506900 | R | PURSE | 8/11/2002 | 33 | | NE | 109 | 40286 |
| PETERSBURG | 2050707 | 506344 | R | PURSE | 8/11/2002 | 33 | | NE | 112 | 40286 |
| PETERSBURG | 2050705 | 506772 | R | TROLL | 8/11/2002 | 33 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050705 | 506771 | R | TROLL | 8/11/2002 | 33 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050705 | 506765 | R | TROLL | 8/11/2002 | 33 | 4 | NE | 109 | 40287 |
| EXCURSION INLET | 2100097 | 31511 | R | PURSE | 8/16/2002 | 33 | | NW | 114 | 40287 |
| PETERSBURG | 2050791 | 89151 | R | PURSE | 8/17/2002 | 33 | | NE | 109 | 40286 |
| PETERSBURG | 2050784 | 89118 | R | PURSE | 8/17/2002 | 33 | | NE | 109 | 40286 |
| SITKA | 2035605 | 225932 | R | SPORT | 8/17/2002 | 33 | | NW | 113 | 40287 |
| PORT ALEXANDER | 2080103 | 234133 | R | TROLL | 8/18/2002 | 34 | 4 | NE | 109 | 40286 |
| SITKA | 2031093 | 214476 | R | TROLL | 8/18/2002 | 34 | 4 | NW | | 40286 |
| SITKA | 2031084 | 214424 | R | TROLL | 8/18/2002 | 34 | 4 | NW | 113 | 40287 |
| SITKA | 2031099 | 215020 | R | TROLL | 8/19/2002 | 34 | 4 | NW | 113 | 40286 |
| PORT ALEXANDER | 2080114 | 234219 | R | TROLL | 8/20/2002 | 34 | 4 | NE | 109 | 40286 |

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| Survey Site | Sample | Head | Sampling Type Code | Gear Class | Date (CWT) | Stat Week (CWT) | Period | Quadrant | District | Tag Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PORT ALEXANDER | 2080110 | 234185 | R | TROLL | 8/20/2002 | 34 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050804 | 89188 | R | TROLL | 8/20/2002 | 34 | 4 | NE | 109 | 40286 |
| SITKA | 2031113 | 215221 | R | TROLL | 8/20/2002 | 34 | 4 | NW | 113 | 40286 |
| PORT ALEXANDER | 2080110 | 234186 | R | TROLL | 8/20/2002 | 34 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050843 | 89121 | R | PURSE | 8/21/2002 | 34 | | NE | 109 | 40286 |
| KETCHIKAN | 2060397 | 77645 | R | TROLL | 8/21/2002 | 34 | 4 | SE | 105 | 40286 |
| PETERSBURG | 2050846 | 89328 | R | TROLL | 8/21/2002 | 34 | 4 | NE | 109 | 40286 |
| SITKA | 2031123 | 216082 | R | TROLL | 8/21/2002 | 34 | 4 | NW | 113 | 40286 |
| PETERSBURG | 2050846 | 89330 | R | TROLL | 8/21/2002 | 34 | 4 | NE | 109 | 40287 |
| EXCURSION INLET | 2100104 | 31680 | R | TROLL | 8/22/2002 | 34 | 4 | NW | | 40250 |
| PETERSBURG | 2050861 | 89128 | R | PURSE | 8/22/2002 | 34 | | NE | 109 | 40286 |
| PETERSBURG | 2050860 | 89124 | R | PURSE | 8/22/2002 | 34 | | NE | 112 | 40286 |
| PETERSBURG | 2050866 | 89260 | R | TROLL | 8/24/2002 | 34 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050866 | 89256 | R | TROLL | 8/24/2002 | 34 | 4 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080118 | 234256 | R | TROLL | 8/25/2002 | 35 | 4 | NE | 109 | 40287 |
| SITKA | 2031143 | 214947 | R | TROLL | 8/26/2002 | 35 | 4 | NW | 113 | 40286 |
| YAKUTAT | 2140055 | 195276 | R | TROLL | 8/26/2002 | 35 | 4 | NW | | 40287 |
| CRAIG | 2070383 | 68216 | R | TROLL | 8/27/2002 | 35 | 4 | SW | 104 | 40286 |
| PETERSBURG | 2050881 | 89233 | R | TROLL | 8/27/2002 | 35 | 4 | NE | 109 | 40286 |
| PELICAN | 2010276 | 210408 | R | TROLL | 8/27/2002 | 35 | 4 | NW | 113 | 40287 |
| PETERSBURG | 2050890 | 89298 | R | TROLL | 8/28/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050890 | 89299 | R | TROLL | 8/28/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050890 | 89297 | R | TROLL | 8/28/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050890 | 89249 | R | TROLL | 8/28/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050890 | 89353 | R | TROLL | 8/28/2002 | 35 | 4 | NE | 109 | 40286 |
| SITKA | 2031173 | 214772 | R | TROLL | 8/28/2002 | 35 | 4 | NW | 154 | 40286 |
| PORT ALEXANDER | 2080124 | 216109 | R | TROLL | 8/29/2002 | 35 | 4 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080124 | 216101 | R | TROLL | 8/29/2002 | 35 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050917 | 506926 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40250 |
| PETERSBURG | 2050917 | 506923 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050917 | 506919 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050917 | 506928 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050919 | 506904 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050917 | 506921 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050919 | 506909 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050917 | 506922 | R | TROLL | 8/30/2002 | 35 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050980 | 89144 | R | PURSE | 8/31/2002 | 35 | | NE | 112 | 40286 |
| SITKA | 2031187 | 215740 | R | TROLL | 9/1/2002 | 36 | 4 | NW | 113 | 40286 |
| PETERSBURG | 2050973 | 506947 | R | TROLL | 9/2/2002 | 36 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050972 | 89502 | R | TROLL | 9/2/2002 | 36 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050973 | 506949 | R | TROLL | 9/2/2002 | 36 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2050974 | 89505 | R | TROLL | 9/2/2002 | 36 | 4 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080138 | 216263 | R | TROLL | 9/2/2002 | 36 | 4 | NE | 109 | 40287 |

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| Survey Site | Sample | Head | Sampling Type Code | Gear Class | Date | Stat Week (CWT) | (CWT) | Period | Quadrant | District | Tag Code |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PORT ALEXANDER | 2080137 | 216245 | R | TROLL | 9/2/2002 | 36 | 4 | NE | 109 | 40287 |
| PORT ALEXANDER | 2080139 | 216265 | R | TROLL | 9/3/2002 | 36 | 4 | NE | 109 | 40286 |
| SITKA | 2031198 | 213825 | R | TROLL | 9/3/2002 | 36 | 4 | NW | 113 | 40286 |
| PETERSBURG | 2050968 | 89518 | R | TROLL | 9/3/2002 | 36 | 4 | | | 40286 |
| SITKA | 2031208 | 215908 | R | TROLL | 9/3/2002 | 36 | 4 | NW | 113 | 40287 |
| SITKA | 2031208 | 215916 | R | TROLL | 9/3/2002 | 36 | 4 | NW | 113 | 40287 |
| PETERSBURG | 2050968 | 89521 | R | TROLL | 9/3/2002 | 36 | 4 | | | 40287 |
| SITKA | 2031218 | 216523 | R | TROLL | 9/4/2002 | 36 | 4 | NW | 113 | 40286 |
| SITKA | 2031229 | 215997 | R | TROLL | 9/4/2002 | 36 | 4 | NW | 113 | 40287 |
| SITKA | 2031221 | 216544 | R | TROLL | 9/4/2002 | 36 | 4 | NW | 113 | 40287 |
| PORT ALEXANDER | 2080148 | 216310 | R | TROLL | 9/5/2002 | 36 | 4 | NE | 109 | 40286 |
| PORT ALEXANDER | 2080157 | 216403 | R | TROLL | 9/7/2002 | 36 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2050986 | 89575 | R | TROLL | 9/9/2002 | 37 | 4 | NE | | 40286 |
| SITKA | 2031250 | 216596 | R | TROLL | 9/10/2002 | 37 | 4 | NW | 113 | 40287 |
| PORT ALEXANDER | 2080159 | 216420 | R | TROLL | 9/11/2002 | 37 | 4 | NW | 113 | 40287 |
| EXCURSION INLET | 2100117 | 11400 | R | TROLL | 9/12/2002 | 37 | 4 | NW | | 40286 |
| PORT ALEXANDER | 2080162 | 216450 | R | TROLL | 9/12/2002 | 37 | 4 | NE | 109 | 40287 |
| PETERSBURG | 2051027 | 89894 | R | TROLL | 9/13/2002 | 37 | 4 | NE | 109 | 40287 |
| SITKA | 2031259 | 237113 | R | TROLL | 9/13/2002 | 37 | 4 | NW | 113 | 40287 |
| PETERSBURG | 2051028 | 89952 | R | TROLL | 9/14/2002 | 37 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2051028 | 89897 | R | TROLL | 9/14/2002 | 37 | 4 | NE | 109 | 40286 |
| PETERSBURG | 2051028 | 89898 | R | TROLL | 9/14/2002 | 37 | 4 | NE | 109 | 40287 |
| CRAIG | 2070428 | 68777 | R | TROLL | 9/16/2002 | 38 | 4 | NW | 113 | 40287 |

**Appendix A2.–**Daily and cumulative counts of adult coho salmon and those bearing adipose finclips passing the 2002 Slippery Creek coho salmon adult escapement weir.

| Date | Daily count of large coho [a] | Cumulative count of large coho [a] | Daily adipose finclips | Cumulative adipose finclips | Percent adipose clipped |
|---|---|---|---|---|---|
| 15-Aug | Trap installed | 0 | 0 | 0 | - |
| 16-Aug | 0 | 0 | 0 | 0 | - |
| 17-Aug | 0 | 0 | 0 | 0 | - |
| 18-Aug | 0 | 0 | 0 | 0 | - |
| 19-Aug | 2 | 2 | 2 | 2 | 100.0% |
| 20-Aug | 0 | 2 | 0 | 2 | 100.0% |
| 21-Aug | 4 | 6 | 2 | 4 | 66.7% |
| 22-Aug | 73 | 79 | 26 | 30 | 38.0% |
| 23-Aug | 5 | 84 | 3 | 33 | 39.3% |
| 24-Aug | 44 | 128 | 18 | 51 | 39.8% |
| 25-Aug | 11 | 139 | 4 | 55 | 39.6% |
| 26-Aug | 64 | 203 | 32 | 87 | 42.9% |
| 27-Aug | 55 | 258 | 22 | 109 | 42.2% |
| 28-Aug | 37 | 295 | 20 | 129 | 43.7% |
| 29-Aug | 65 | 360 | 19 | 148 | 41.1% |
| 30-Aug | 93 | 453 | 43 | 191 | 42.2% |
| 31-Aug | 80 | 533 | 30 | 221 | 41.5% |
| 1-Sep | 44 | 577 | 18 | 239 | 41.4% |
| 2-Sep | 59 | 636 | 17 | 256 | 40.3% |
| 3-Sep | 115 | 751 | 48 | 304 | 40.5% |
| 4-Sep | 105 | 856 | 40 | 344 | 40.2% |
| 5-Sep | 276 | 1,132 | 124 | 468 | 41.3% |
| 6-Sep | 164 | 1,296 | 82 | 550 | 42.4% |
| 7-Sep | 253 | 1,549 | 119 | 669 | 43.2% |
| 8-Sep | 277 | 1,826 | 119 | 788 | 43.2% |
| 9-Sep | 287 | 2,113 | 126 | 914 | 43.3% |
| 10-Sep | 350 | 2,463 | 167 | 1,081 | 43.9% |
| 11-Sep | 291 | 2,754 | 137 | 1,218 | 44.2% |
| 12-Sep | 48 | 2,802 | 25 | 1,243 | 44.4% |
| 13-Sep | 48 | 2,850 | 21 | 1,264 | 44.4% |
| 14-Sep | 5 | 2,855 | 1 | 1,265 | 44.3% |
| 15-Sep | 346 | 3,201 | 155 | 1,420 | 44.4% |
| 16-Sep | 146 | 3,347 | 50 | 1,470 | 43.9% |
| 17-Sep | 20 | 3,367 | 11 | 1,481 | 44.0% |
| 18-Sep | 347 | 3,714 | 176 | 1,657 | 44.6% |
| 19-Sep | 283 | 3,997 | 143 | 1,800 | 45.0% |
| 20-Sep | 267 | 4,264 | 107 | 1,907 | 44.7% |
| 21-Sep | 120 | 4,384 | 86 | 1,993 | 45.5% |
| 22-Sep | 89 | 4,473 | 35 | 2,028 | 45.3% |
| 23-Sep | 153 | 4,626 | 60 | 2,088 | 45.1% |
| 24-Sep | 70 | 4,696 | 28 | 2,116 | 45.1% |
| 25-Sep | 7 | 4,703 | 3 | 2,119 | 45.1% |
| 26-Sep | 112 | 4,815 | 63 | 2,182 | 45.3% |
| 27-Sep | 131 | 4,946 | 60 | 2,242 | 45.3% |
| 28-Sep | 84 | 5,030 | 33 | 2,275 | 45.2% |
| 29-Sep | 23 | 5,053 | 10 | 2,285 | 45.2% |
| 30-Sep | 10 | 5,063 | 0 | 2,285 | 45.1% |
| 1-Oct | 15 | 5,078 | 7 | 2,292 | 45.1% |
| 2-Oct | 26 | 5,104 | 20 | 2,312 | 45.3% |
| 3-Oct | 13 | 5,117 | 9 | 2,321 | 45.4% |
| 4-Oct | 15 | 5,132 | 11 | 2,332 | 45.4% |
| 5-Oct | 53 | 5,185 | 25 | 2,357 | 45.5% |

a >16 inches total length.

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**Appendix A2.–**Page 2 of 2.

| Date | Daily count of large coho [a] | Cumulative count of large coho [a] | Daily adipose finclips | Cumulative adipose finclips | Percent adipose clipped |
|---|---|---|---|---|---|
| 6-Oct | 104 | 5,289 | 50 | 2,407 | 45.5% |
| 7-Oct | 39 | 5,328 | 17 | 2,424 | 45.5% |
| 8-Oct | 12 | 5,340 | 6 | 2,430 | 45.5% |
| 9-Oct | 1 | 5,341 | 1 | 2,431 | 45.5% |
| 10-Oct | 0 | 5,341 | 0 | 2,431 | 45.5% |
| 11-Oct | 0 | 5,341 | 0 | 2,431 | 45.5% |
| 12-Oct | 0 | 5,341 | 0 | 2,431 | 45.5% |

a >16 inches total length.