ALASKA DEPARTMENT OF FISH AND GAME

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Adult Salmon Investigations: May - October 1985

DRAFT

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ADULT SALMON INVESTIGATIONS:

MAY - OCTOBER 1985

Technical Data Report No. 13

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1.0 INTRODUCTION AND OBJECTIVES

This report concludes five years of data collection on adult salmon in the Susitna River, Southcentral Alaska, by the Susitna Aquatic Studies Team of the Alaska Department of Fish and Game. These data were collected to provide baseline information in preparation for proposed hydroelectric development on the Susitna River at Watana and Devil Canyons. This years report is similar to the previous years reports in format and content. Population estimates, escapement timing, length, age and sex ratio, and spawning distribution information is reported for all five species of Pacific salmon utilizing the river, it's sloughs and tributaries. The fecundity of chinook and coho salmon and egg retention of sockeye and chum salmon is also reported to aid associated studies on juvenile salmon.

A different population estimate methodology was affected this season. In previous years a Petersen model for closed systems was utilized. This year, a stratified, open model was used where the design allowed.

As might have been expected, the specific goals of the program changed from year to year depending on the amount of funding available and the data needed to meet within year objectives. To meet 1985 objectives, Flathorn, Sunshine and Curry stations were operated by Susitna Aquatic Studies staff. Yentna Station, a Susitna Aquatic Studies camp from 1981 until 1984, was operated by Commercial Fisheries Division, Soldotna staff in 1985. Readers interested in the data collected from Yentna Station should contact the Soldotna Office of the Alaska Department of Fish and Game.

The primary objectives of the 1985 Adult Anadromous Studies were:

1. Estimate the escapements of chinook (*Oncorhynchus tshawytscha*), sockeye (*O. nerka*), pink (*O. gorbuscha*), chum (*O. keta*) and coho (*O. kisutch*) salmon at Flathorn, Sunshine and Curry stations.

2. Evaluate the adult salmon migrational timing and travel rates between sampling stations.

3. Using fishwheel catches, monitor the age, length and sex composition of the adult salmon escapements at Flathorn, Sunshine and Curry stations.

4. Determine the relative importance of middle-river (River Mile (RM) 98.6-161.0) main channel, slough and tributary habitats as salmon spawning areas.

Secondary objectives included:

1. Determine the fecundity of chinook and coho salmon at Sunshine Station. Fecundities of sockeye, pink and chum salmon were evaluated in previous years studies.

2. Provide estimates of egg retention for sockeye and chum salmon which spawn in middle river slough habitats.

2.0 METHODS

2.1 Main Channel Escapement Monitoring

Adult salmon escapements into the Susitna River were monitored at three tag-and-recapture locations in 1985: Flathorn, Sunshine and Curry stations (Figure 1). Flathorn Station is located approximately six miles below the Susitna-Yentna rivers confluence or 22 miles upstream from the Susitna River mouth. Sunshine Station is located about three miles below the Parks Highway bridge at river mile (RM) 80. Curry Station, the most northern tag and recapture site, is located in the middle river reach at RM 120.

Fishwheels were used to monitor the escapements at all three locations in accordance to the schedule in Table 1. Individual fishwheel sites at each station are shown in Appendix Figures 4-1, 4-2 and 4-3. At Flathorn Station four fishwheels were operated for the entire season. Two additional wheels were operated during the chinook migration to increase the number of tag releases. There were four fishwheels operated at Sunshine Station and two at Curry Station.

Table 1. Operation schedules for Flathorn, Sunshine and Curry stations, 1985.

Station	River Mile	Date	
		Begin	End
Flathorn	22	5/26	9/3
Sunshine	80	6/3	9/10
Curry	120	6/10	9/12

Fishwheels at all sites were operated 24 hours a day unless mechanical problems, personnel constraints, or safety hazards dictated otherwise. Fishwheel design and construction details can be found in previous Su Hydro reports (ADF&G, 1981, 1982 and 1983; Barrett et al. 1984 and 1985). All salmon except those visibly stressed, post-spawners, and chinook less than 400 millimeters (mm) in length were tagged. Recaptures were identified to species, and had the tag type and number recorded before release.

Two tag types were used at the three sampling locations in 1985. At Flathorn and Sunshine stations, Floy FT-4 spaghetti tags were used. Chinook were tagged with 15 inch tags while all other fish were tagged with 13.5 inch tags. Petersen discs were used at Curry Station. Numbered tags were placed on salmon to provide information on migrational timing between sampling locations. Specific tagging techniques were previously reported (ADF&G 1981 and 1982).

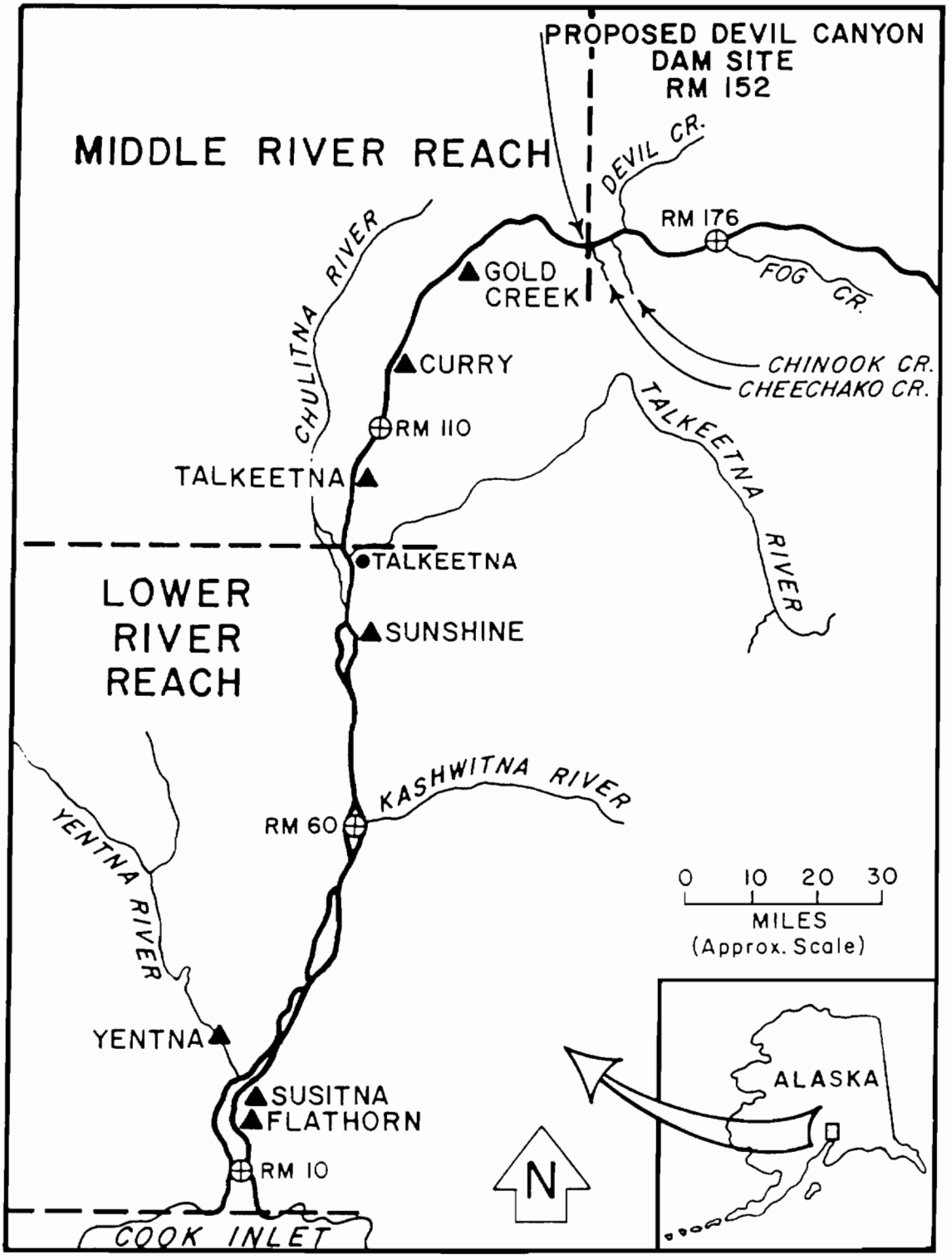


Figure 1. Susitna River basin map showing field stations and major glacial streams, 1985.

The escapement to each station was subsampled to provide age, sex, and length composition information. At the direction of Su Hydro biometrics staff, fifty samples of each species were collected daily from Flathorn Station east channel fishwheels, west channel fishwheels, and collectively from Sunshine fishwheels and Curry fishwheels. Ages were described using Gilbert-Rich notation (Barrett et al. 1984).

Fecundity studies were conducted for chinook and coho salmon. A total of 25 females of each species were collected at Sunshine Station. Sampling was stratified by length with the number of samples in each strata determined from respective proportions of each length strata in the fishwheel catch sample. Collection and sampling procedures were described in Barrett et al. (1984).

2.2 Spawning Ground Surveys

Surveys were conducted for two reasons: 1) to identify the timing and distribution of salmon spawning in the middle Susitna River reach and 2) to provide the tagged to untagged salmon ratios needed to generate population estimates at Flathorn, Sunshine, and Curry stations.

Each lower-river (RM 28.0 - 98.6) tributary stream index area, usually one-third mile from the Susitna River confluence, was surveyed weekly from July 10 until October 7. These surveys were conducted for the sole purpose of providing tagged to untagged ratios for the Flathorn and Sunshine station population estimates. Additional surveys were conducted within select tributaries of the Susitna and Yentna rivers, primarily to increase the tag recovery effort for chinook and coho salmon.

All lower-river stream surveys were conducted on foot or by raft. Surveyors wore polarized sunglasses to reduce glare and were instructed to record tagged to untagged information only from fish that were clearly visible. Therefore, it is possible for the combined tagged to untagged numbers reported to differ from escapement survey data; which includes abundance estimates of schooling fish.

Middle-river (RM 98.6-161.0) tributary stream index reaches, usually three-quarters of a mile in length, were surveyed from July 15 to October 7. As with lower-river streams, tag recovery surveys included only those fish that were entirely visible to the surveyor. Additionally, weekly aerial escapement surveys from July 15 to October 7 were conducted for middle-river streams with major spawning grounds above the index areas. Three Devil Canyon streams (Cheechako, Chinook, and Devil creeks) were also surveyed by helicopter.

All middle-river sloughs were surveyed in their entirety from July 15 through October 7. Surveys were conducted on foot and each slough was surveyed at a minimum seven day interval based on observation life data reported by Barrett et al. (1984 and 1985).

The main channel, including side channel habitats, was surveyed by helicopter for salmon spawning activity from September 1 until October 7. Salmon spawning sites had to meet one or more of the following criteria for inclusion:

1. Visual identification of one or more actively mating pairs of fish.

2. Presence of one or more distinct redds.

3. Confirmed presence of live eggs by intragravel sampling.

2.3 Data Analysis

2.3.1 Escapement estimates

Salmon escapements passing Flathorn, Sunshine and Curry stations were estimated using the mark-recapture methodology. The programs were designed to use the closed Petersen model, however, post-season analysis indicated that a stratified open model would be more appropriate. The recapture of numbered tags at Sunshine and Yentna stations enabled stratification of Flathorn escapement estimates. Similar tag recovery data was not available to stratify Sunshine and Curry estimates, and the Petersen method as described by Barrett et al. (1984 and 1985) from Ricker (1975) was used. The estimator used for population size at Flathorn Station was a stratified open model estimator as originally defined by Darroch (1961) and further explained by Seber (1982).

The stratified approach used at Flathorn was necessitated by non-random (i.e. non-representative) "recovery" of salmon in the lower reach of the Susitna drainage (i.e. below the Chulitna, Susitna, and Talkeetna confluences). This non-randomness presented a problem in that marked to unmarked ratios varied widely at recovery locations, whereas the samples at recovery locations with large sample sizes were not necessarily representative of the entire population. For example, the recovery site of Sunshine Station with its comparatively large sample sizes would "control" a pooled Petersen estimate even though the marked to unmarked ratio at Sunshine Station may not be reflective of the true overall ratio of marked to unmarked fish in the population. The stratified approach to population estimation represents a remedial solution to this sampling problem. Stratification allows for segregation of variable marked to unmarked ratios to the corresponding segments of the escapement run. Accordingly, each ratio is "weighted" by its own proper sample size. Additional reasons for stratification include the non-random nature of tagging effort. In particular the efficiency of different fishwheels at Flathorn Station are most likely different in comparison to each other; and this efficiency most likely varies with time (due to seasonal influences such as changing discharge levels). Accordingly, different segments of the run migrating past Flathorn Station would have different probabilities of capture. Again stratification "matches" up these probabilities with the corresponding section of the run.

The strata were defined for each individual species according to river channel where fish were tagged at Flathorn Station, location of recovery (i.e. Sunshine or Yentna stations), time period of tagging and recovery, or combinations of these factors. The particular stratification scheme used for each particular species was dependent upon both the necessity of adequate recovery sample sizes and upon observed patterns of the marked to unmarked ratios. That is, groups of fish tagged at Flathorn Station with similar recovery rates could be pooled. Whereas groups with dissimilar recovery rates could not be pooled (and hence were separated into different strata). A chi-square test for consistency was applied as outlined in Seber (1982) to determine both the need for stratification and for selection of stratum definitions. The individual stratification scheme used for each species is more fully presented in the results sections of this report.

Stratification by size groups of salmon was not feasible as length data was collected for a subsample of each days fishwheel catch, rather than for each individual. The need for stratification by size groups of fish (especially in the case of chinook) is founded upon the assumption that larger fish are less susceptible to fishwheel capture, and that different fishwheels are more or less efficient at capture of different size classes of fish.

The stratified population estimator (for the entire population) is:

$$W = u'r$$

where: W is the estimate of the total unmarked population size at the Flathorn Station:

u is a vector of the number of unmarked fish in each recovery stratum (i.e. at Sunshine or Yentna stations); and

r - is a vector whose elements are comprised of the element inverses of p; p is a vector of the capture probabilities (p_j) of a fish being captured in the jth tagging stratum.

The elements of r are estimated with one of two formulas, depending upon whether the number of release and recovery strata are equivalent or not. If the number of release and recovery strata are the same then:

$$r = M^{-1}a$$

where: M is the matrix of recapture (i.e. marked) numbers, classified according to strata of release and recovery (rows and columns respectively); and

a is the vector of the number of marked fish released in each release stratum

If the number of release strata is greater than the number of recovery strata (note: estimators are not defined for the case of fewer release strata) then;

$$r = [XD_a^{-1}M]^{-1}v$$

where: X is an i by j constraint matrix which selects for a method for pooling (i.e. collapsing) the release strata; where i = number of recovery strata and j = number of release strata

D_a is a diagonal matrix of the number of marked fish released in each release stratum;

M is as stated above; and

v is an i element vector (0, 0, ... 0, 1)

The variance of the estimate of W is calculated with equations 11.20 to 11.23 on page 441 of Seber (1982) [Note standard deviations reported in the results section are merely the square root of the variance estimates]. Calculations were carried out either on the microcomputer based software MINITAB (Ryan et al. 1981) or on the mainframe based software SAS (Statistical Analysis System, SAS 1982) package using PROCEDURE MATRIX. [Results from both software compared favorably.]

Ninety-five percent confidence intervals were calculated for the Petersen population estimates assuming a normal distribution. The assumption of normality was not made for the stratified model and the intervals graphically displayed in this report represent the population estimate plus and minus two standard deviations.

2.3.2 Escapement Timing

Salmon escapement timing was based on fishwheel catch per unit effort (CPUE) at each station. Species migration was defined as starting, reaching a mid-point, and ending on the dates 5, 50 and 95 percent of the cumulative station fishwheel CPUE was attained. Escapement timing is also presented graphically with CPUE, smoothed by the von Hann linear filter method, as a function of time (BMPD 1981).

2.3.3 Slough Escapements

The escapements of sockeye and chum salmon to middle-river sloughs were determined using spawner abundance curves (Cousens et al. 1982). Observation life data from 1983 and 1984 (Barrett et al. 1984 and 1985) are the basis for calculating the number of fish from the area under the curve (fish/days).

3.0 RESULTS AND DISCUSSION

3.1 Chinook Salmon

3.1.1 Main Channel Escapements

The 1985 chinook salmon escapement at Flathorn Station was estimated to be 113,860 fish greater than 400 mm in length, with a standard deviation of 77,931 fish (Figure 2). The tag/recapture program was originally designed in the spring of 1985 to use the Petersen estimator for closed populations, which pools all recovery data. Post-season analysis problems indicated, however, that assumptions inherent in the model were being violated. Specifically those violations were: 1) fish were not being randomly marked because fishwheels selected for smaller sized chinook, 2) fishwheel efficiency varied with time which affected both capture and recapture probabilities and 3) it appeared that the distribution of tags into different reaches of the drainage were not equal. Therefore, it was determined that a stratified model, which assumes an open population, would improve the accuracy of the estimate.

The tag recovery data obtained from stream surveys was not usable because individual tag numbers were not identified and fish could not be placed into the appropriate temporal release strata. Only tagged fish recovered in Sunshine Station fishwheels could be placed into a release strata. This decreased the number of tag recoveries which subsequently decreased the precision of the estimate. Although this was considered the best model to estimate populations at Flathorn it should be noted that there are still deficiencies with the estimate primarily in the inability to stratify by size. The rationale discussed here applies to the population estimates for all species at Flathorn Station and will not be repeated in the following sections.

Based on the Petersen method, the estimated escapement to Sunshine Station was 185,700 fish greater than 400 mm, with a 95 percent confidence interval of 167,700 to 208,100 fish (Figure 2). The Sunshine Station Petersen estimate assumes normality and therefore calculatin of a 95 percent confidence interval is possible. The stratified model used at Flathorn Station does not assume a normal distribution and the range presented represents plus or minus two standard deviations and not a 95 percent confidence interval. Not included in the Sunshine Station estimate was the number of chinook salmon less than 400 mm in length. This segment of the population was not estimated for two reasons: 1) chinook salmon less than 400 mm long were less visible during surveys and therefore they were not tagged because of the positive bias introduced into the estimate and 2) the method used in 1984 was considered inappropriate because of the size selectivity of fishwheels. For these reasons, no estimates were made for chinook salmon less than 400 mm in 1985.

The estimates for Flathorn and Sunshine stations were not directly comparable because of the different methods used. The Petersen estimate at Sunshine Station was subject to the biases associated with size

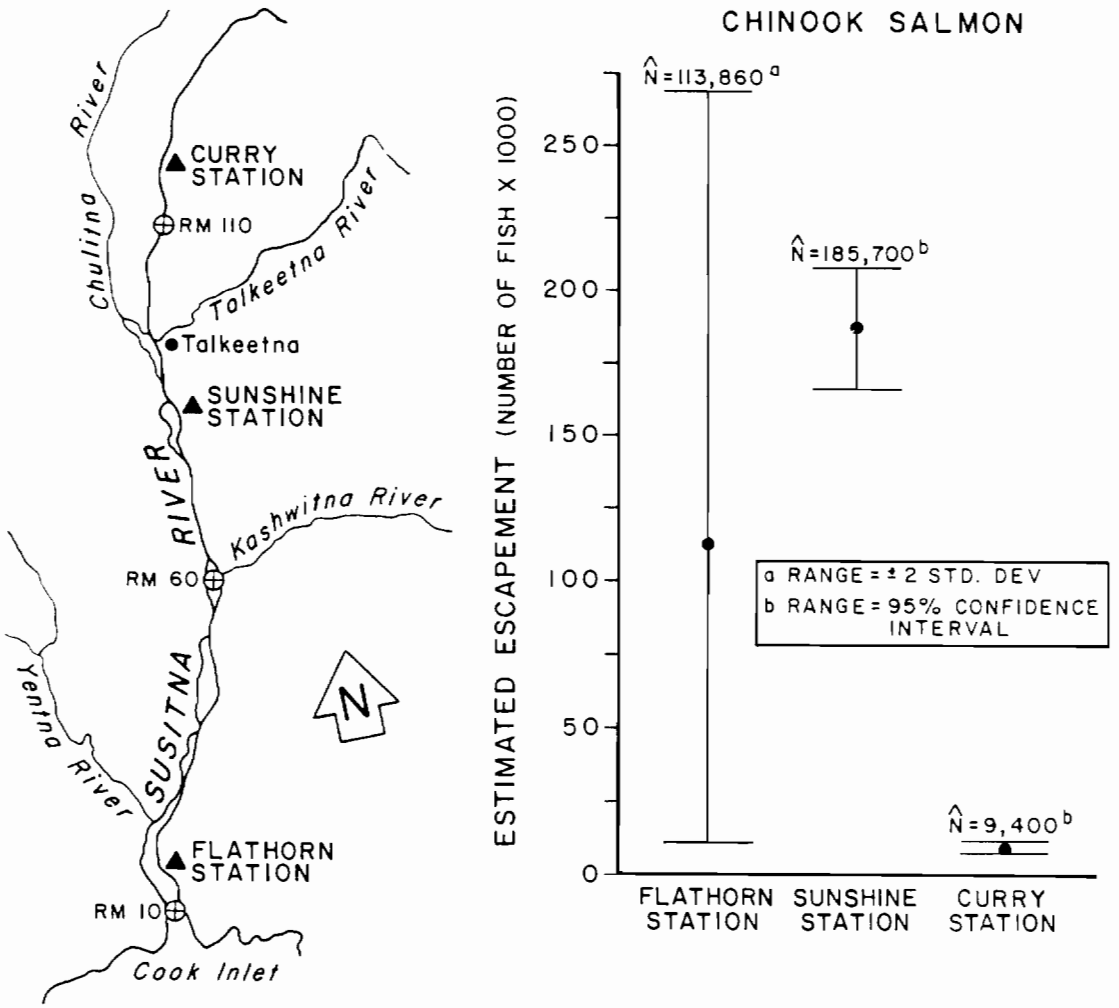


Figure 2. Chinook salmon escapements by sampling stations, 1985.

selectivity of capture and, based on 1984 studies, geographic tag loss. The net result would be an overestimate of the population. The Flathorn Station estimate does not account for size selectivity of capture and the impact to the estimate is unknown.

The 1985 Curry Station escapement was estimated at 9,400 fish with a 95 percent confidence interval of 7,850 to 11,770 (Figure 2). The estimate does not include chinook salmon less than 400 mm long and for the same reasons previously discussed.

Fishwheels at Flathorn Station intercepted 11,035 chinook salmon (Table 2), 7,736 in the east channel and 3,299 in the west channel (Appendix Tables 2-1, 2-2 and 2-3). Based on these catches, the migration began on June 6, was 50 percent complete on June 15 and ended on June 27 (Figure 3 and Appendix Table 5-1). Differences in timing between east and west channel fishwheels never exceeded 24 hours. The peak daily catch occurred on June 11 when 768 chinook salmon were caught (Appendix Table 3).

At Sunshine Station, a total of 6,837 chinook salmon were intercepted (Table 2 and Appendix Table 2-4). These catches indicated the migration started on June 15, was 50 percent complete on June 27 and ended July 12 (Figure 4 and Appendix Table 5-1). The largest daily catch was 512 chinook salmon on June 28 (Appendix Table 4).

Curry Station fishwheels intercepted 1,098 chinook salmon in 1985 (Table 2). These interceptions show that the migration which began on June 28, was 50 percent complete on July 9 and finished on July 25 (Figure 5 and Appendix Table 5-1). The peak daily catch was recorded on July 8 when 98 chinook salmon were intercepted (Appendix Table 2-5).

Chinook salmon migration rates between sampling stations were estimated using tag recovery data and peak to peak fishwheel catches. The 58 mile distance between Flathorn and Sunshine stations was traveled in 22 days (median of sample) for a rate of 2.6 miles per day (mpd) based on recovery of tagged fish (Figure 6). The travel rate based on peak fishwheel catches was 3.6 mpd, one mpd faster than indicated by tagged fish recoveries (Appendix Tables 2-3 and 2-4). This trend was also exhibited for the travel rates between the other sampling stations. While no definitive analysis was performed, the difference between the estimated travel rates may be related to tagging stress. Bevan (1962) noted that, while there was no apparent increase in mortality, tagged sockeye salmon behavior was altered as evidenced by a delay in their migration.

A portion of the fishwheel catch at each monitoring station was subsampled to evaluate the age, sex and length composition of the escapement. Each fishwheel may be selective for different size groups (age) or sex therefore, there were sampling biases associated both within and between monitoring stations that may not have been defined.

Table 2. Total fishwheel catch by station and species, 1985.

Station	Catch					
	Chinook	Sockeye	Pink	Chum	Coho	Total
Flathorn	11,035	8,970	6,905	5,168	2,563	34,641
Sunshine	6,837	19,505	6,960	25,790	6,178	65,270
Curry	1,098	324	1,172	1,305	203	4,102

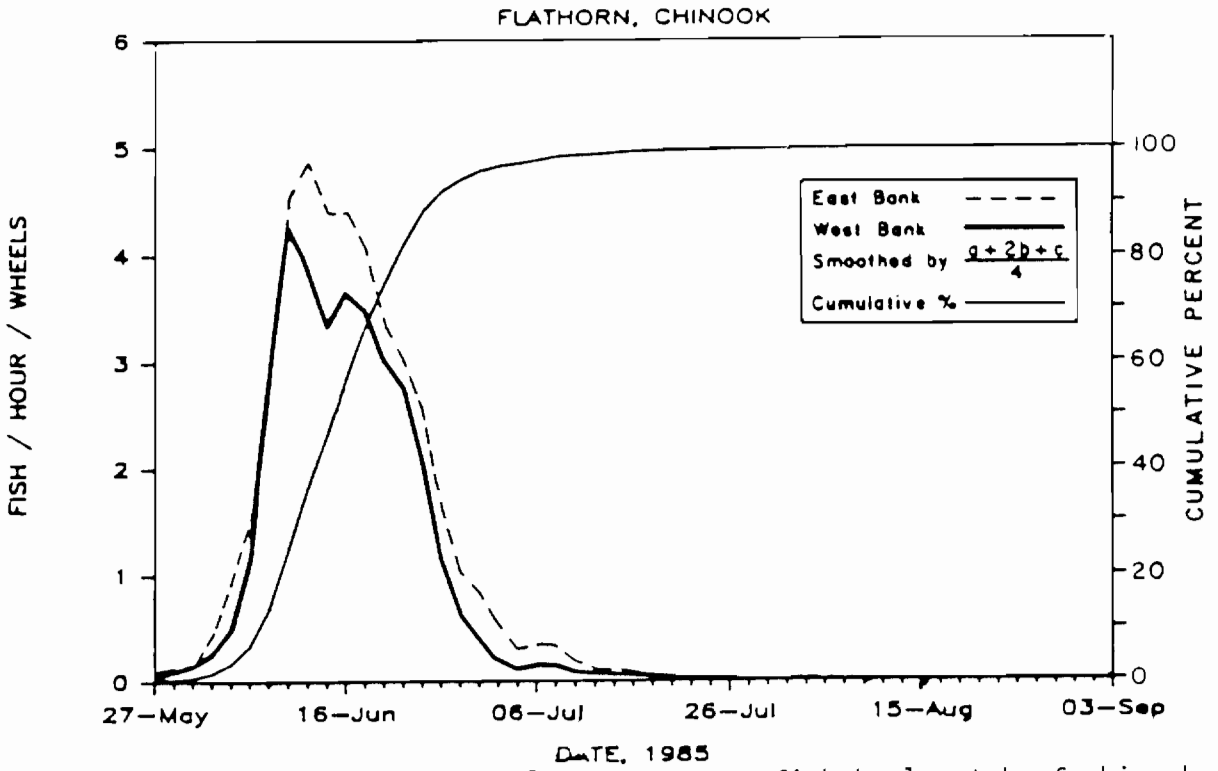


Figure 3. Mean hourly and cumulative percent fishwheel catch of chinook salmon by two day periods at Flathorn Station, 1985.

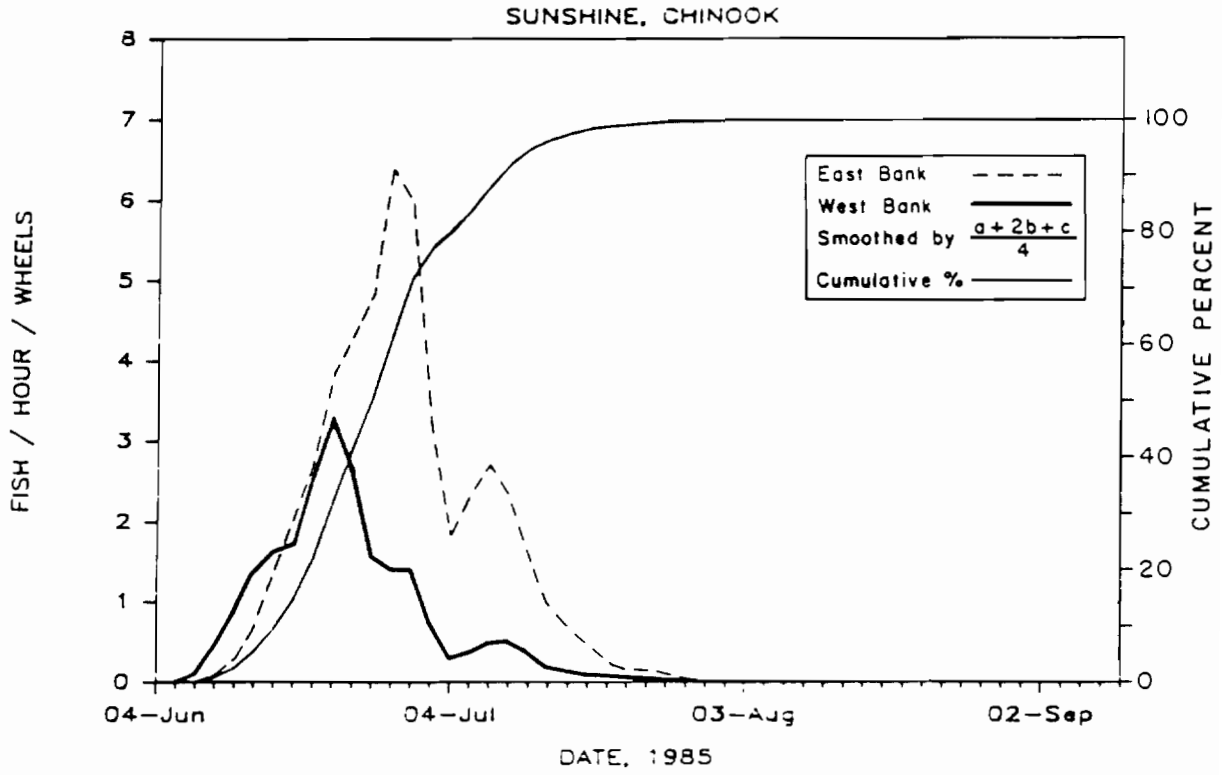


Figure 4. Mean hourly and cumulative percent fishwheel catch of chinook salmon by two day periods at Sunshine Station, 1985.

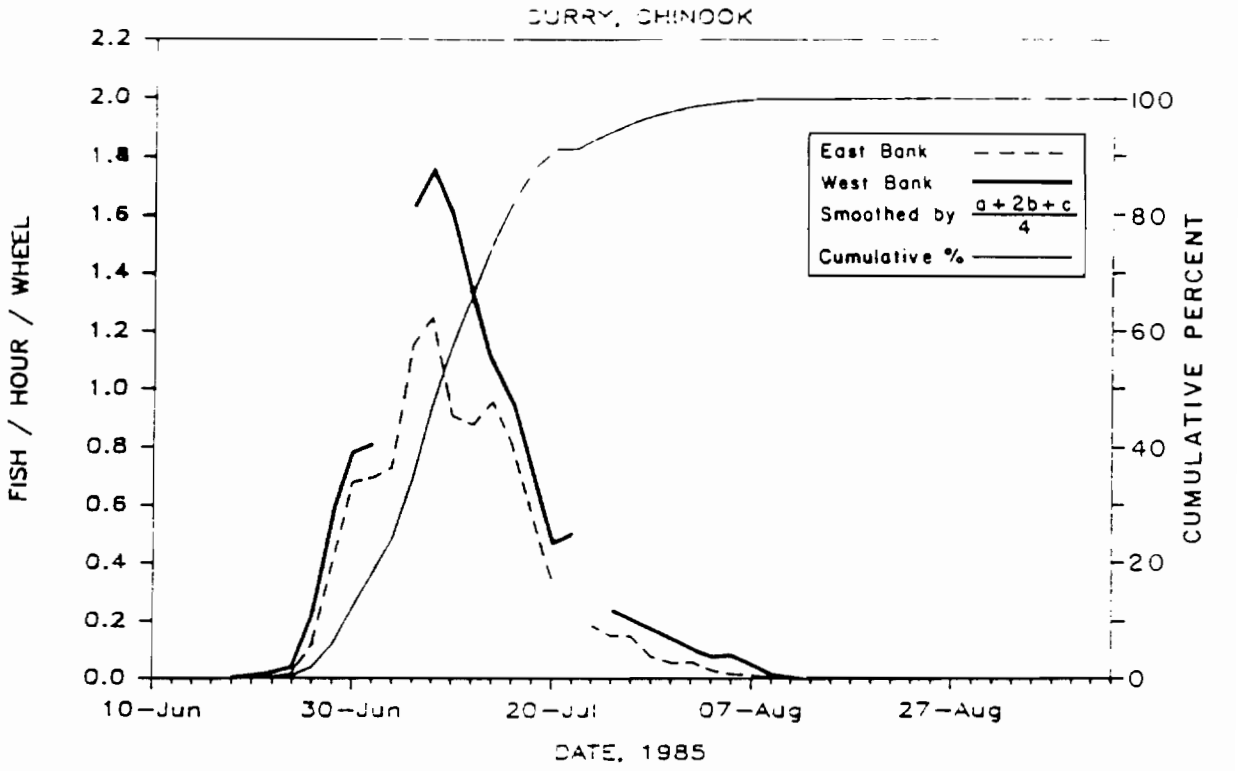


Figure 5. Mean hourly and cumulative percent fishwheel catch of chinook salmon by two day periods at Curry Station, 1985.

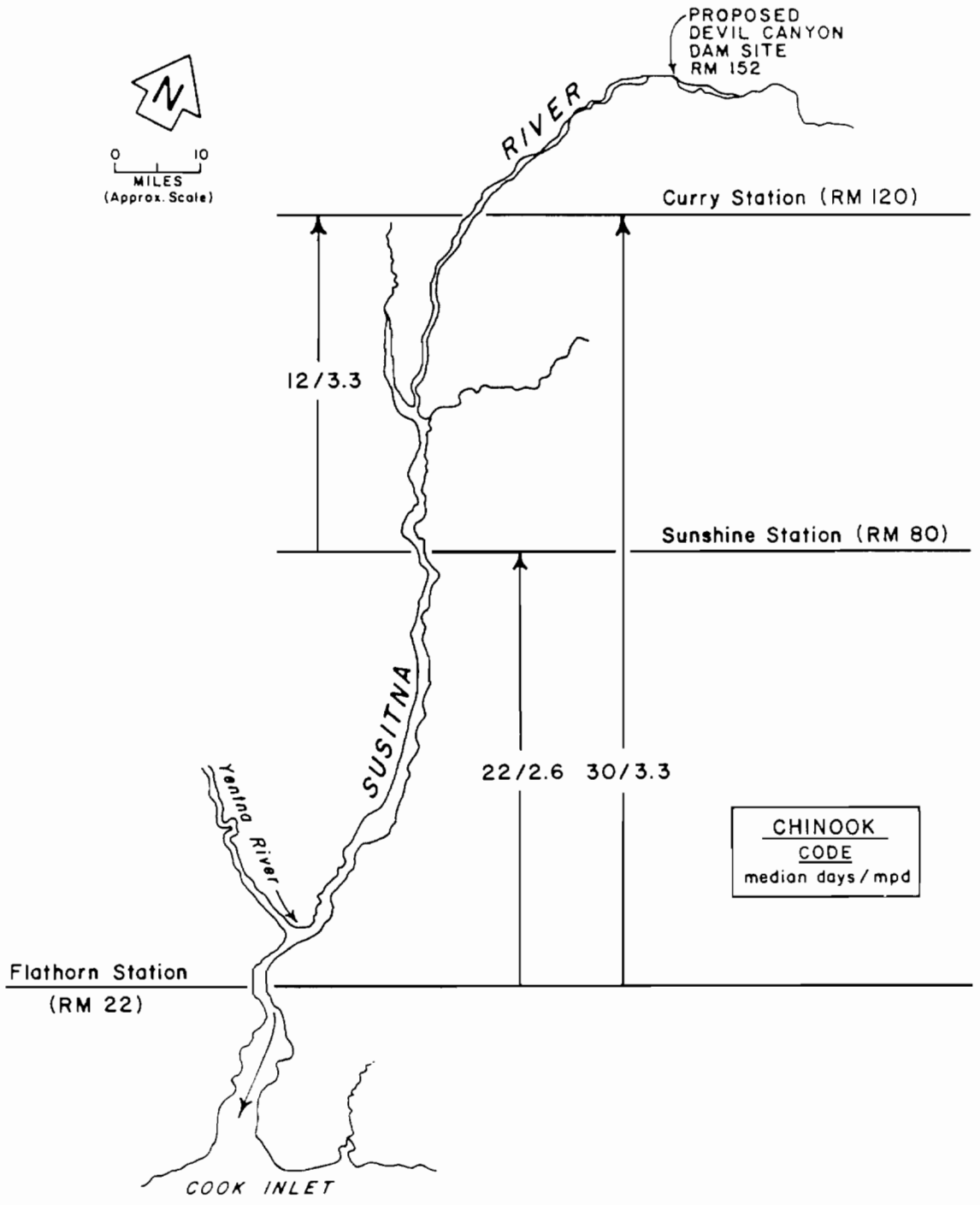


Figure 6. Migration rates of chinook salmon between Susitna River sampling stations based on tag recoveries and expressed in median days and miles per day (mpd), 1985.

The most prevalent age classes in the fishwheel catches at Flathorn, Sunshine and Curry stations were 3_2, 4_2, 5_2 and 6_2 chinook salmon (Table 3 and 4). Age 3_2 fish were most abundant in the sample at Flathorn Station where low water velocities probably make fishwheels selective for smaller fish. At Sunshine Station, where the water velocities were much faster, age 3_2 fish comprised only 10 percent of the fish sampled. Age 6_2 fish comprised 45 percent of the sample at Sunshine Station compared to only 9 percent at Flathorn Station. Age 5_2 and 6_2 fish were also most abundant at Curry Station comprising 60 percent of the sample.

The sex ratios of chinook salmon may be influenced by the selectivity of fishwheels in that the smaller males (jacks) were more readily intercepted increasing the total proportion of males in the sample. The ratio for age 4_2 fish at all sampling sites indicated more females than males, however, males were more prevalent among age 5_2 fish caught at all sites (Table 5).

3.1.2 Fecundity

Chinook salmon fecundities were determined from 25 females collected at Sunshine Station on June 22 and 23. The mean fecundity of the samples was 8,282 eggs, with a 95 percent confidence interval of 7,738-8,826 eggs (Table 6).

Table 6. Number of eggs, length, weight and associated statistics for chinook salmon sampled for fecundity at Sunshine Station, 1985.

Variables	Statistics			
	Sample Size	Mean	Standard Deviation	95 Percent[1/] C.I. of the Mean
Number of eggs	25	8,282	1,590	7,738 - 8,826
Length (mm)	25	874	51	854 - 894
Weight (g)	25	10,488	1,973	9,715 - 11,261

[1/] 95 percent confidence interval of the mean.

lable 3. Chinook salmon lengths, in millimeters, by sex and age class from CPUE weighted escapement samples collected at Flathorn, Sunshine and Curry Stations, 1985.

Location	Age Class	Male			Female			Combined		
		Mean Length	Std. Error	Sample Size	Mean Length	Std. Error	Sample Size	Mean Length	Std. Error	Sample Size
Flathorn Station	2_1	333	6.7	56	-	-	-	333	6.7	56
	3_1^1	518	19.7	16	562	25.6	5	524	16.8	21
	3_2^1	340	1.3	645	500	-	1	340	1.4	646
	4_2^2	707	29.8	3	776	33.1	7	768	26.9	10
	4_1^1	553	5.7	169	569	4.8	122	559	4.0	291
	4_2^2	357	15.0	7	518	62.5	2	360	15.1	9
	5_3^3	903	27.7	8	889	34.6	4	898	20.8	12
	5_2^1	739	16.4	50	758	8.1	97	752	7.6	147
	5_3^2	591	30.8	4	-	-	-	591	30.8	4
	6_2^3	926	9.9	50	880	6.9	95	896	5.9	145
	All	435	4.7	1,465	716	6.6	511	508	4.8	1,976
Sunshine Station	2_1	337	15.1	4	-	-	-	337	15.1	4
	3_1^1	593	33.5	5	584	17.2	6	589	18.0	11
	3_2^1	362	4.5	90	480	-	1	365	4.9	91
	4_2^2	662	48.9	4	-	-	-	662	48.9	4
	4_1^1	617	5.7	134	586	6.8	50	610	4.7	184
	4_2^2	370	-	1	-	-	-	370	-	1
	5_3^3	937	38.0	2	868	35.0	5	893	28.0	7
	5_2^1	845	8.0	101	829	5.2	107	837	4.8	208
	5_3^2	685	-	1	490	-	1	670	51.4	2
	6_2^3	974	5.9	160	920	3.8	251	942	3.5	411
	All	724	8.5	791	842	5.1	667	778	5.4	1,458
Curry Station	2_1	351	16.1	3	-	-	-	351	16.1	3
	3_2^1	355	2.0	141	-	-	-	355	2.0	141
	4_2^2	622	4.8	81	660	-	1	622	4.8	82
	5_2^2	839	9.5	58	840	4.4	83	840	4.6	141
	6_2^2	1,005	7.0	61	941	4.0	141	961	4.0	202
	7_2^2	1,100	-	1	-	-	-	1,100	-	1
	All	620	10.9	545	906	3.6	343	730	8.3	888

[1] Includes all aged and non-aged samples.

Table 4. Age composition by percent of chinook salmon escapements past Flathorn, Sunshine and Curry stations, based on catch samples weighted by fishwheel CPUE, 1985.

Collection Site	n	Age Class[1]										
		2_1	3_1	3_2	4_1	4_2	4_3	5_1	5_2	5_3	6_2	7_2
Flathorn Station	1,341	4	2	48	*	23	*	*	12	*	11	-
Sunshine Station	923	*	2	10	*	20	*	*	23	*	45	-
Curry Station	570	*	-	25	-	15	-	-	25	*	35	-

[1] Gilbert-Rich notation

* Frequency of occurrence is less than 1%.

Table 5. Sex ratios of chinook salmon by age from fishwheel escapement samples collected at Flathorn, Sunshine and Curry stations, 1985.

Collection Site	Age	Combined Sample Size	Number		Sex Ratio (M:F)
			Males	Females	
Flathorn Station	2_1	56	56	-	-
	3_1	21	16	5	3.2:1
	3_2	646	645	1	645:1
	4_1	10	3	7	0.4:1
	4_2	291	169	122	1.4:1
	4_3	9	2	2	3.5:1
	5_1	12	8	4	2:1
	5_2	147	50	97	0.5:1
	5_3	4	4	-	-
	6_2	145	50	95	0.6:1
All[1]		1,976	1,465	511	28.6:1
Sunshine Station	2_1	4	4	-	-
	3_1	11	5	6	0.8:1
	3_2	91	90	1	90:1
	4_1	4	4	-	-
	4_2	184	134	50	2.7:1
	4_3	1	1	-	-
	5_1	7	2	5	0.4:1
	5_2	208	101	107	0.9:1
	5_3	2	1	1	1:1
	6_2	411	160	251	0.6:1
All[1]		1,458	791	667	1.2:1
Curry Station	2_1	3	3	-	-
	3_2	141	141	-	-
	4_2	82	81	1	81:1
	5_2	141	58	83	0.7:1
	6_2	202	61	141	0.4:1
	7_2	1	1	-	-
All[1]		888	545	343	1.6:1

[1] Includes all aged and non-aged samples.

The mean length of females measured throughout the season at Curry Station was 906 mm. A female of this length would be expected to contain 8,935 eggs (Figure 7). This is within the range of 4,242 to 13,619 eggs per female reported by Morrow (1980). Future users of the reported fecundity information should be aware of some of the limitations associated with these data. These are: 1) the samples were collected at Sunshine Station and the chinook salmon passing this site comprise many discrete spawning populations, 2) the samples were collected over a two day period and may not be representative of the entire escapement, and 3) the proportion of samples in each length strata was based on length composition of the fishwheel catch and may be biased to smaller size fish because of fishwheel selectivity.

3.1.3 Spawning Areas

Spawning surveys of the middle-river main channel and sloughs revealed no chinook salmon spawning areas in these habitats in 1985.

Twelve of the 25 middle-river tributary streams surveyed were occupied by chinook salmon (Table 7 and Appendix Table 3-1). Based on peak survey counts in these 12 middle-river streams, approximately 90 percent spawned in Indian River and Portage Creek (Figure 8).

Chinook salmon were observed spawning in middle-river streams from the third week of July until the second week of August. Peak spawning occurred during the last week in July and the first week of August.

3.2 Sockeye Salmon

3.2.1 First-run

3.2.1.1 Main Channel Escapements

First-run sockeye salmon were observed spawning in two locations within the Susitna River drainage: 1) Fish Lake system, a tributary to the Yentna River and 2) the Fish Creek system, a tributary to Clear Creek in the Talkeetna River system (Figure 9). Because both sites were surveyed the first-run sockeye salmon escapement at Flathorn Station was estimated using the Petersen method.

The 1985 escapement of first-run sockeye to Flathorn Station was 11,750 fish with a 95 percent confidence interval of 9,700 to 14,900 fish (Table 8). The first-run sockeye salmon escapement past Sunshine Station was 3,900 fish with an associated confidence interval of 3,300 to 5,000. First-run sockeye salmon were not present in the middle-river reach, as indicated by fishwheel catches at Curry Station.

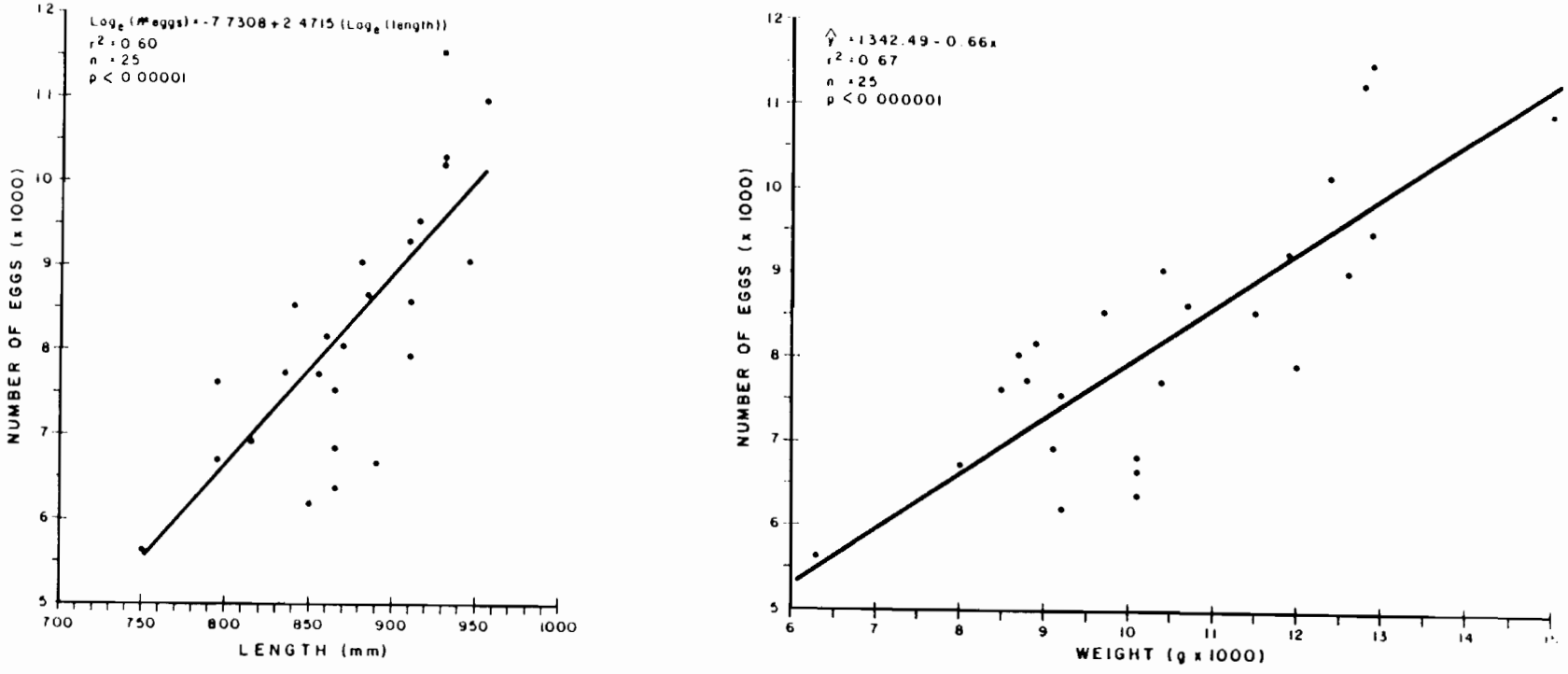


Figure 7. Number of eggs for chinook salmon sampled at Sunshine Station as a function of length and weight, 1985.

Table 7. Peak chinook salmon survey counts for middle river streams in order of contribution, 1985.

Stream	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
Portage Creek	148.9	7/24	2,621	8	2,629	67.0
Indian River	138.6	7/24	970	7	977	24.9
Whiskers Creek	101.4	7/25	101	2	103	2.6
4th of July Creek	131.1	7/24	85	0	85	2.2
Gold Creek	136.7	7/24	35	1	36	0.9
Chase Creek	106.9	7/21	31	0	31	0.8
5th of July Creek	123.7	7/26	21	0	21	0.5
Cheechako Creek	152.5	7/24	18	0	18	0.5
Lane Creek	113.6	7/21	17	0	17	0.4
Jack Long Creek	144.5	8/1	7	0	7	0.2
Chinook Creek	156.8	8/23	1	0	1	*
Sherman Creek	130.8	8/2	0	1	1	*
		TOTALS[1]	3,907	19	3,926	100.0

1 Percent contribution total may not equal 100 due to rounding errors.

* Trace, 0.1

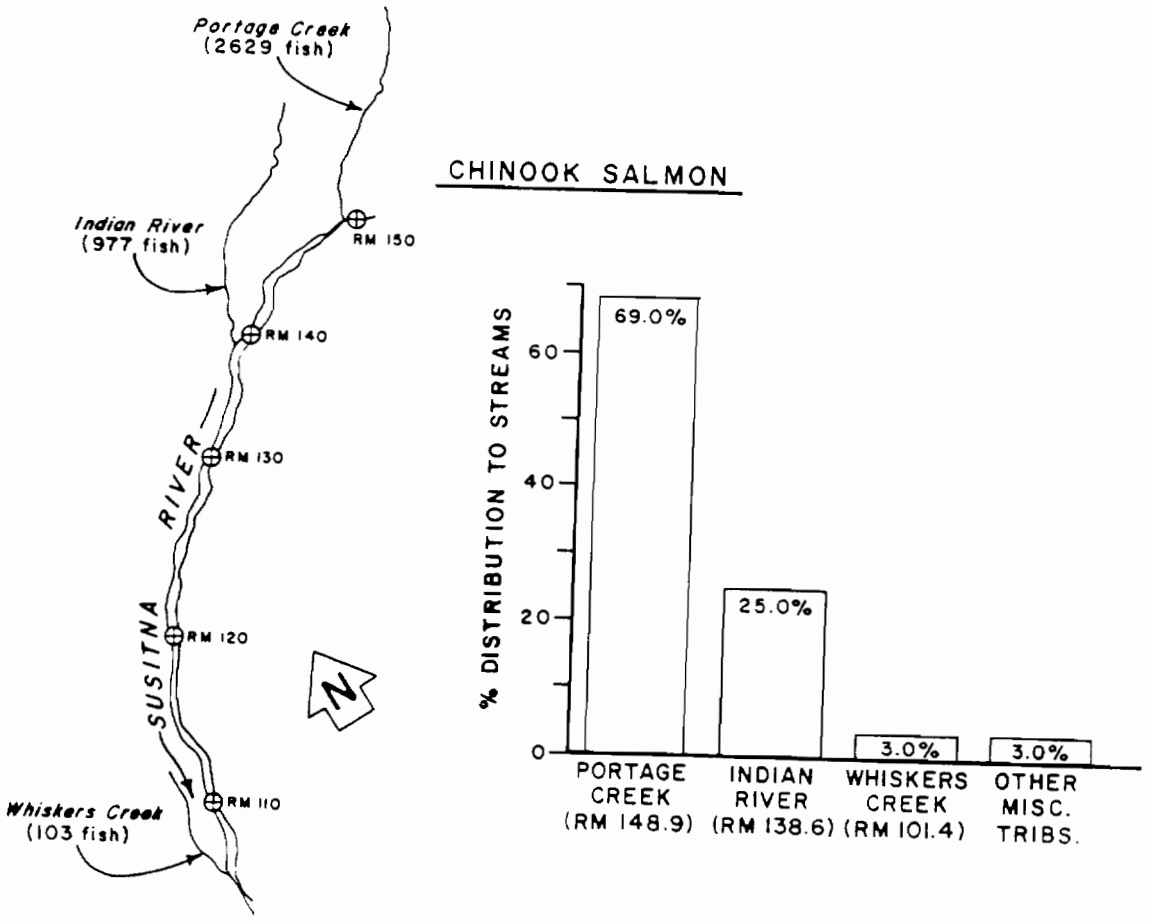
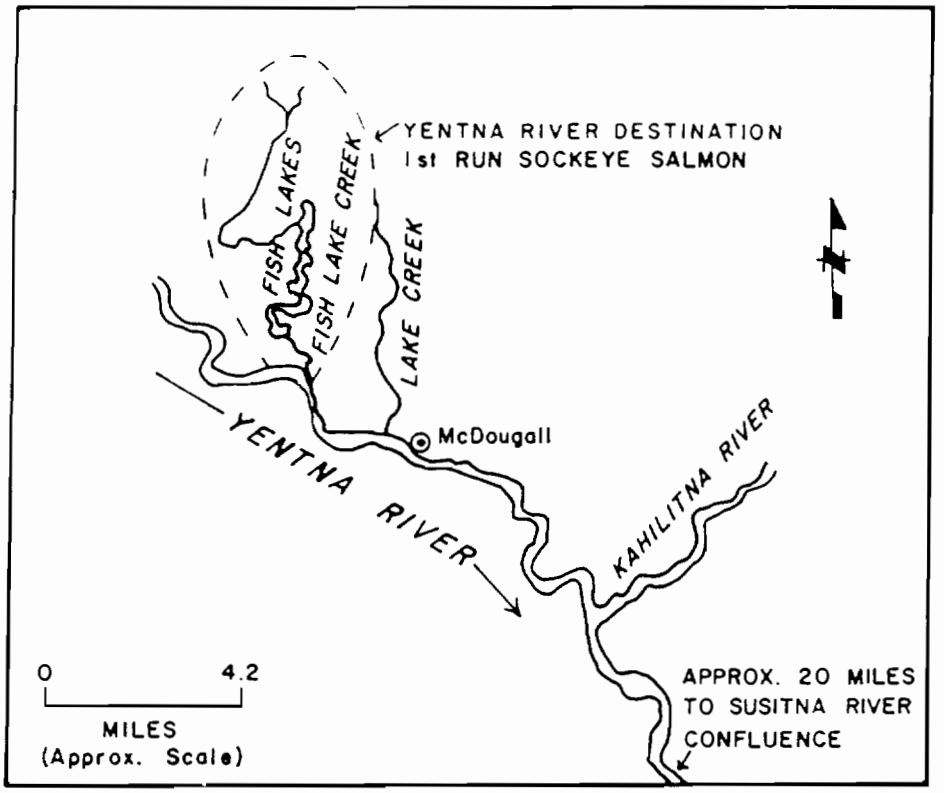


Figure 8. The three major chinook salmon streams in the middle reach and the respective percent escapement based on peak survey counts, 1985.



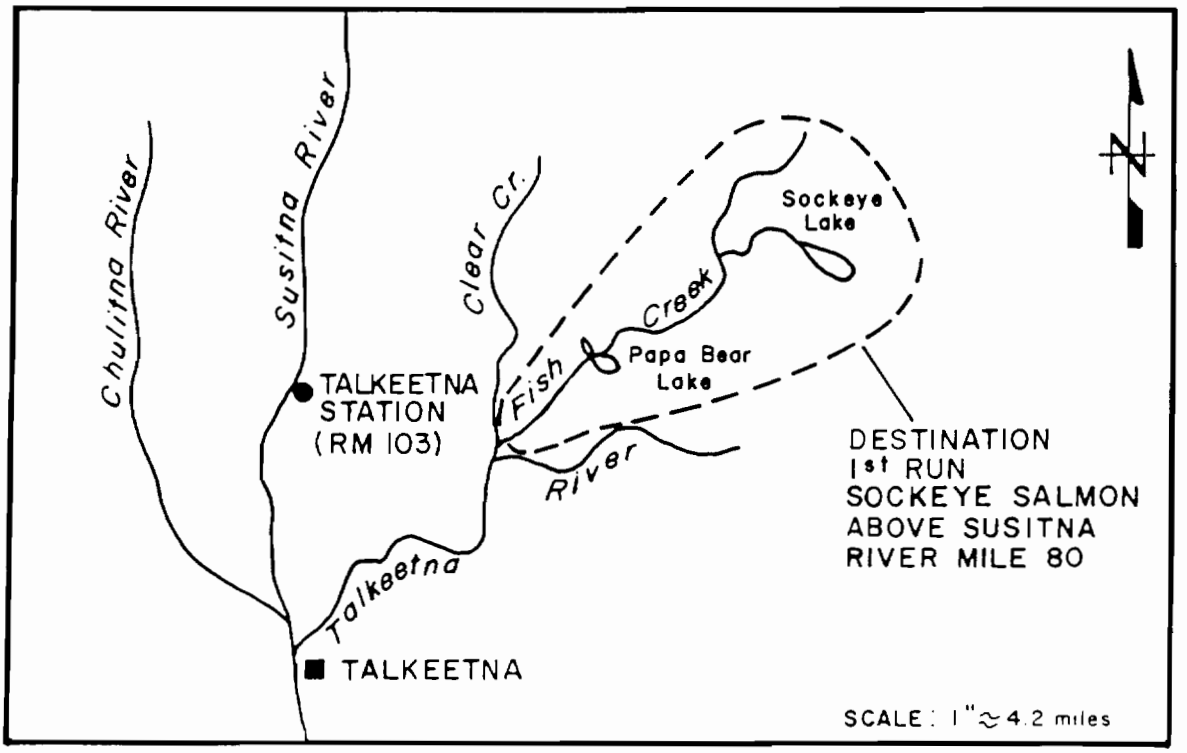


Figure 9. Destination of first-run sockeye salmon tagged at Flathorn and Sunshine stations, 1985.

Table 8. First-run sockeye salmon population estimates at Flathorn and Sunshine stations, based on the Petersen model, 1985.

Location	River Mile	Marks Released	Number Examined for Marks	Marks Recovered	Population Estimate	95% Confidence Interval
Flathorn	22	393	2,512	84	11,753	9,711 - 14,881
Sunshine	80	276	1,215	85	3,945	3,274 - 4,963

Flathorn Station fishwheels intercepted a total of 393 first-run sockeye salmon (Appendix Table 2-3). Based on analysis of the catch, the migration started on May 30, was fifty percent complete by June 8 and completed on June 18 (Figure 10 and Appendix Table 5-1). The escapement passing Sunshine Station began their migration on June 9, reached a mid-point on June 13 and ended on June 23, based on a fishwheel catch of 280 fish (Appendix Tables 2-4 and 5-1 and Figure 11).

The combined first-run sockeye salmon male and female lengths of Flathorn and Sunshine stations samples averaged 528 mm and 515 mm respectively (Table 9). The majority were age 5_2 fish at both Flathorn and Sunshine stations, comprising 69 and 63 percent of the samples, respectively (Table 10). The ratio of males to females were nearly equal to both Flathorn and Sunshine stations at 0.9:1 and 1.0:1, respectively (Table 11).

3.2.1.2 Spawning Areas

Only the known first-run sockeye salmon spawning areas in the Susitna River drainage were surveyed in 1985 (Appendix Tables 3-1 and 3-5 and Figure 9). Two surveys of each spawning location were conducted in 1985. Based on these surveys, the peak of spawning probably occurred during the second and third weeks of July.

3.2.2 Second-Run

3.2.2.1 Main Channel Escapements

The second-run escapement of sockeye salmon reaching Flathorn Station was estimated to be 407,600 fish (Figure 12). The standard deviation of the estimate was 19,900 fish. Calculations were based on the deployment of 8,915 marks and subsequent recovery of 507 of those marks. Release strata at Flathorn Station were defined by channel and the recovery strata by location,specifically Yentna and Sunshine stations. At Sunshine Station, the sockeye salmon escapement was an estimated 120,800 fish with a 95 percent confidence interval of 118,200 to 123,600 fish (Figure 12). The escapement reaching Curry Station was 2,800 sockeye salmon (Figure 12) with a 95 percent confidence interval of 2,500 to 3,100 fish.

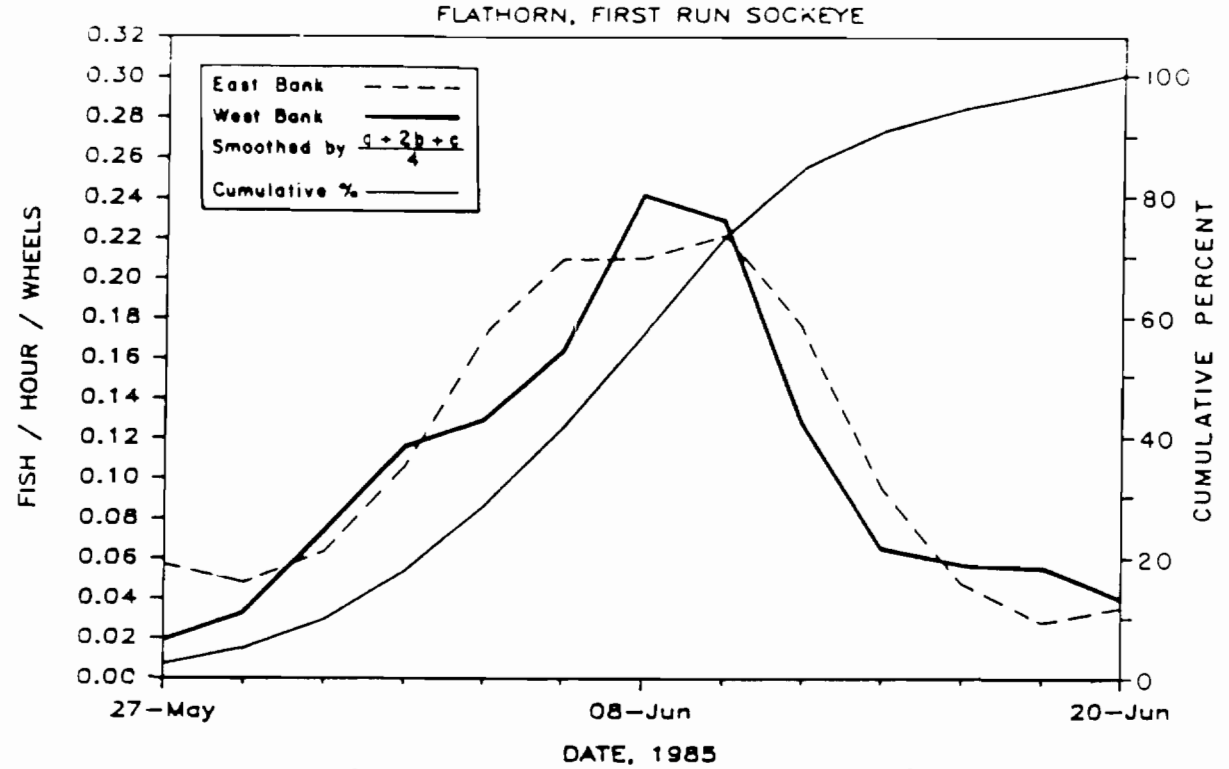


Figure 10. Mean hourly and cumulative percent fishwheel catch of first-run sockeye salmon by two day periods at Flathorn Station, 1985.

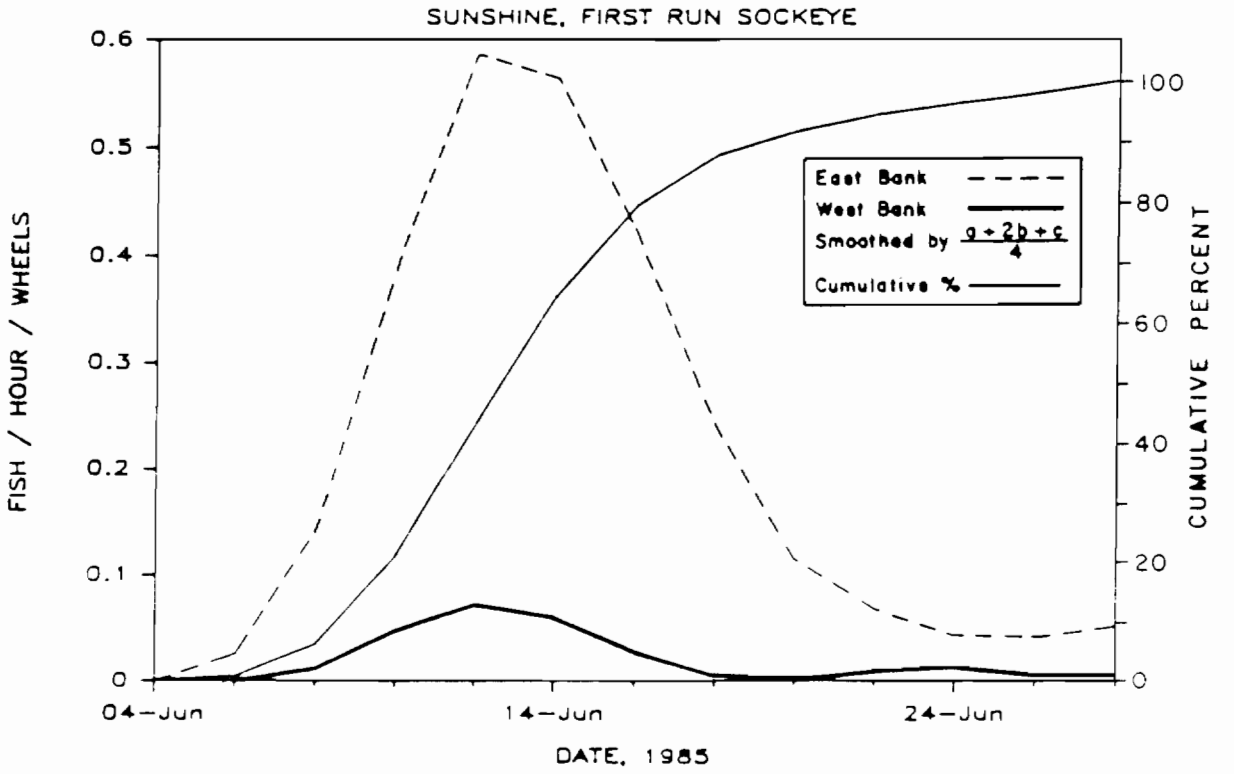


Figure 11. Mean hourly and cumulative percent fishwheel catch of first-run sockeye salmon by two day periods at Sunshine Station, 1985.

Table 9. Analysis of first-run sockeye salmon lengths, in millimeters, by sex and age class from fishwheel CPUE weighted escapement samples collected at Flathorn, Sunshine and Curry Stations, 1985.

Location	Age Class	Male			Female			Combined		
		Mean Length	Std. Error	Sample Size	Mean Length	Std. Error	Sample Size	Mean Length	Std. Error	Sample Size
Flathorn Station	4_1	550	15.3	3	514	9.4	5	529	10.2	8
	4_1^2	479	11.1	38	476	9.1	21	477	7.8	59
	5_2^2	565	5.1	89	529	2.4	109	545	3.0	198
	5_2^3	538	37.5	2	525	35.0	2	531	21.3	4
	6_3^2	584	6.7	4	563	10.4	10	571	7.7	14
		-	-	-	519	4.9	4	519	4.9	4
	All	535	5.1	174	522	2.8	198	528	2.8	372
Sunshine Station	4_1	564	18.2	4	508	27.5	2	545	18.0	6
	4_1^2	453	6.6	36	460	5.1	26	455	4.5	62
	5_2^2	562	5.2	65	531	3.5	67	546	3.4	132
	5_2^3	-	-	-	435	-	1	435	-	1
	6_3^2	505	60.0	2	558	9.0	3	532	25.2	5
	6_3^2	-	-	-	557	27.3	3	557	27.3	3
	All	521	6.3	124	509	4.2	122	515	3.8	246

[1] Includes all aged and non-aged samples.

Table 10. Age composition by percent of first-run sockeye salmon escapements past Flathorn and Sunshine stations, based on catch samples, 1985.

Collection Site	n	Age Class[1]										
		3_1	3_2	3_3	4_1	4_2	4_3	5_1	5_2	5_3	6_2	6_3
Flathorn Station	287	-	-	-	3	21	-	-	69	1	5	1
Sunshine Station	209	-	-	-	3	30	-	-	63	*	3	1

[1] Gilbert-Rich notation

* Frequency of occurrence is less than 1%.

Table 11. Sex ratios of first-run sockeye salmon by age from escapement samples collected at Flathorn and Sunshine stations, 1985.

Collection Site	Age	Combined Sample Size	Number		Sex Ratio (M:F)
			Males	Females	
Flathorn Station	4_1	8	3	5	0.6:1
	4_2	59	38	21	1.8:1
	5_2	198	89	109	0.8:1
	5_3	4	2	2	1:1
	6_2	14	4	10	0.4:1
	6_3	4	-	4	0:1
All[1]		372	174	198	0.9:1
Sunshine Station	4_1	6	4	2	2:1
	4_2	62	36	26	1.4:1
	5_2	132	65	67	1.0:1
	5_3	1	-	1	0:1
	6_2	5	2	3	0.7:1
	6_3	3	-	3	-
All[1]		246	124	122	1.0:1

[1] Includes all aged and non-aged samples.

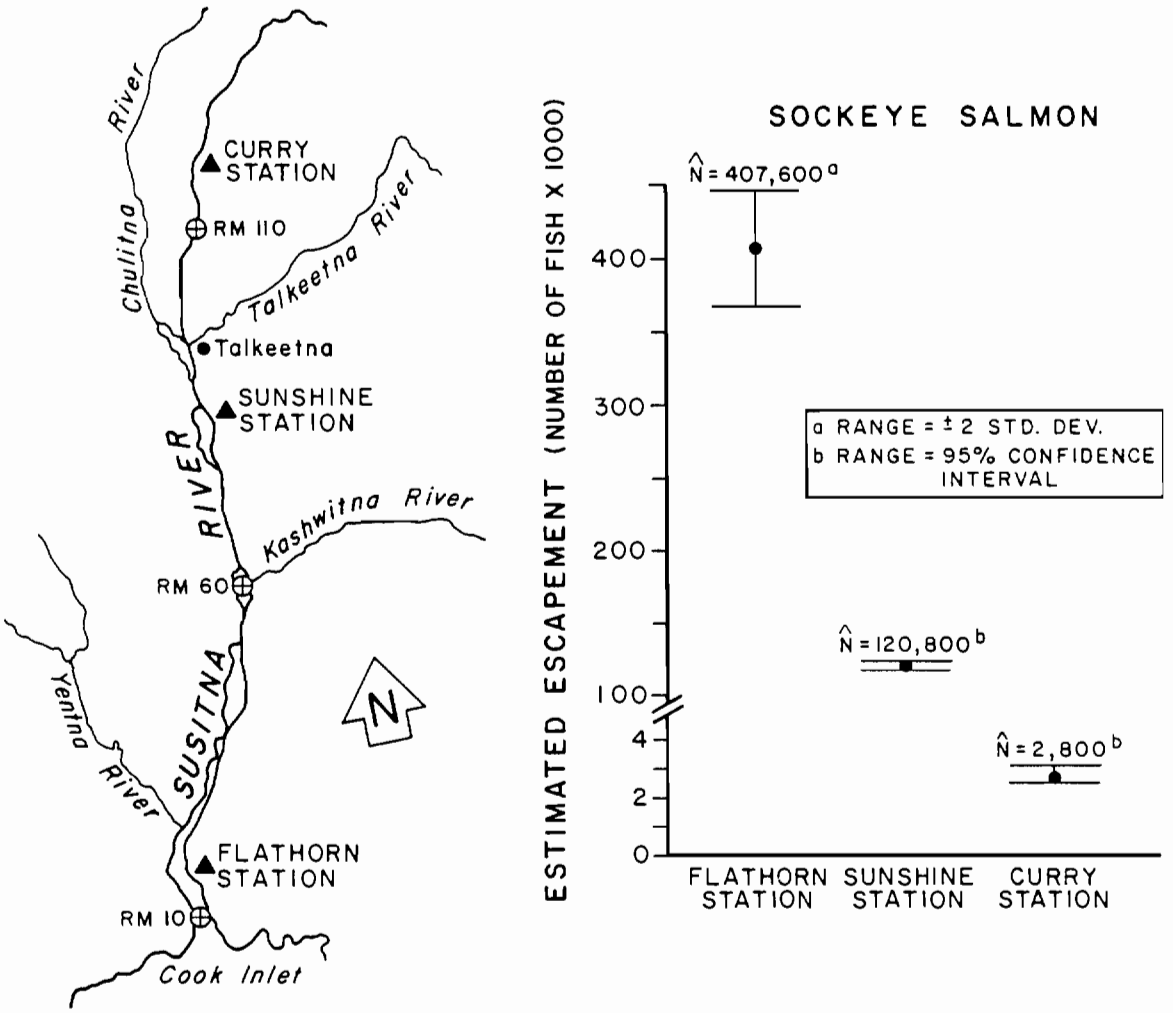


Figure 12. Second-run sockeye salmon escapements by sampling stations, 1985.

Fishwheels at Flathorn Station intercepted 8,970 second-run sockeye salmon, 4,010 in the east channel and 4,960 in the west channel (Appendix Tables 2-1,2-2 and 2-3). These catches indicated the escapement at Flathorn Station started on July 18, reached a mid-point on July 28 and ended on August 13 (Figure 13 and Appendix Table 5-1). The fishwheels at Sunshine Station captured 19,505 second-run sockeye salmon in 1985 (Appendix Table 2-4). Based on these catches, the migration began on July 26, was 50 percent complete on July 30 and ended on August 14 (Appendix Table 5-1 and Figure 14). The Curry Station sockeye salmon migration, based on a fishwheel catch of 324 fish, started on July 30, was 50 percent complete on August 7 and ended on August 22 (Appendix Tables 2-5 and 5-1 and Figure 15).

Recaptures of sockeye salmon, with Flathorn Station tags, at Yentna Station were comprised of 80.4 percent Flathorn west channel tags and 19.6 percent Flathorn east channel tags. At Sunshine Station, the situation was reversed with 89.5 percent of the recaptures originating from Flathorn east channel fishwheels and 10.5 percent from Flathorn west channel fishwheels. These data suggest that the sockeye salmon migration in the east channel at Flathorn Station were primarily stocks which spawned in the Susitna River drainage above the Yentna-Susitna rivers confluence while the migration in the west channel were stocks that spawned primarily in the Yentna River drainage.

Based on recovery of tagged fish, second-run sockeye travel at a rate of 5.0 mpd between Flathorn and Yentna stations, 8.3 mpd between Flathorn and Sunshine stations, and 6.5 mpd between Flathorn and Curry stations (Figure 16). Between Sunshine and Curry stations, second-run sockeye salmon travel rate was 6.7 mpd.

Lengths of second-run sockeye salmon were similar at Flathorn, Sunshine, and Curry stations (Table 12). The combined average lengths of both males and females ranged from 494 mm to 500 mm at all three sampling stations. Female sockeye salmon in the fishwheel catch were larger than males at all sites averaging 510 mm, 507 mm and 525 mm at Flathorn, Sunshine and Curry stations compared to respective average male lengths of 483 mm, 475 mm and 483 mm.

At all three sampling stations, 4_2 and 5_2 second-run sockeye salmon were the most frequently sampled age classes in fishwheel catches (Table 13). At Flathorn Station, age class 4_2 fish were most abundant comprising 39 percent of the combined sample compared to 37 percent age class 5_2 fish. Second-run sockeye salmon at Sunshine Station were primarily age class 4_2 (45 percent) and 5_2 (41 percent) fish. At Curry Station age class 4_2 sockeye salmon were most abundant comprising 61 percent of the sample. The majority of the sockeye salmon returning to all sampling stations had one freshwater annulus indicating they outmigrated to sea in their second year of life.

Second-run sockeye salmon males were more abundant than females in the fishwheel catch at Flathorn, Sunshine and Curry stations (Table 14). The respective ratios were 1.3:1, 1.1:1 and 1.5:1.

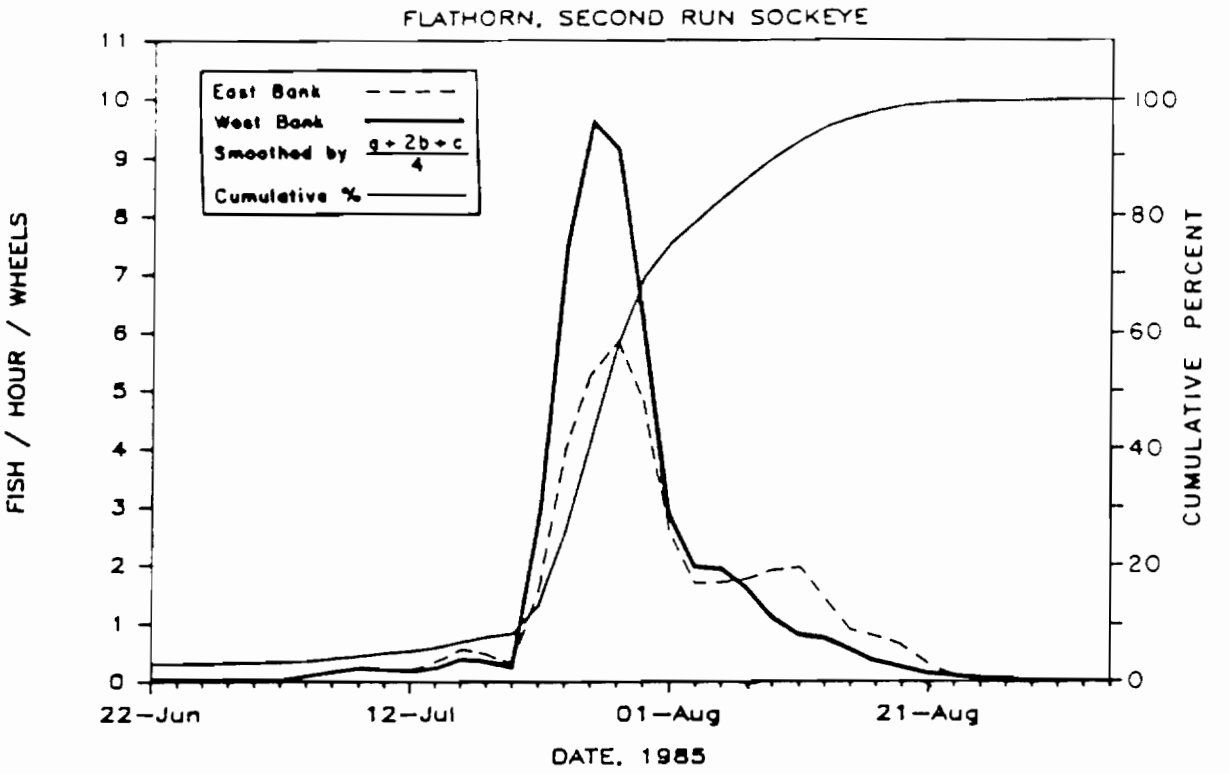


Figure 13. Mean hourly and cumulative percent fishwheel catch of sockeye salmon by two day periods at Flathorn Station, 1985.

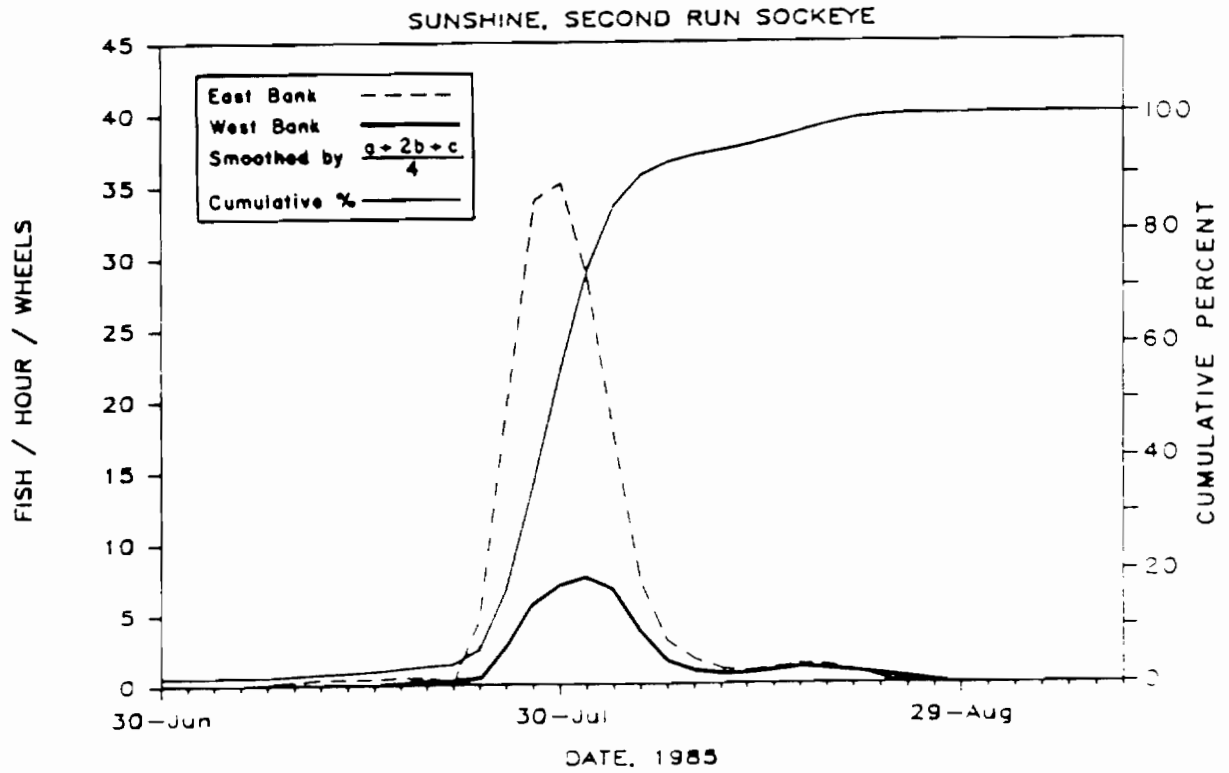


Figure 14. Mean hourly and cumulative percent fishwheel catch of sockeye salmon by two day periods at Sunshine Station, 1985.

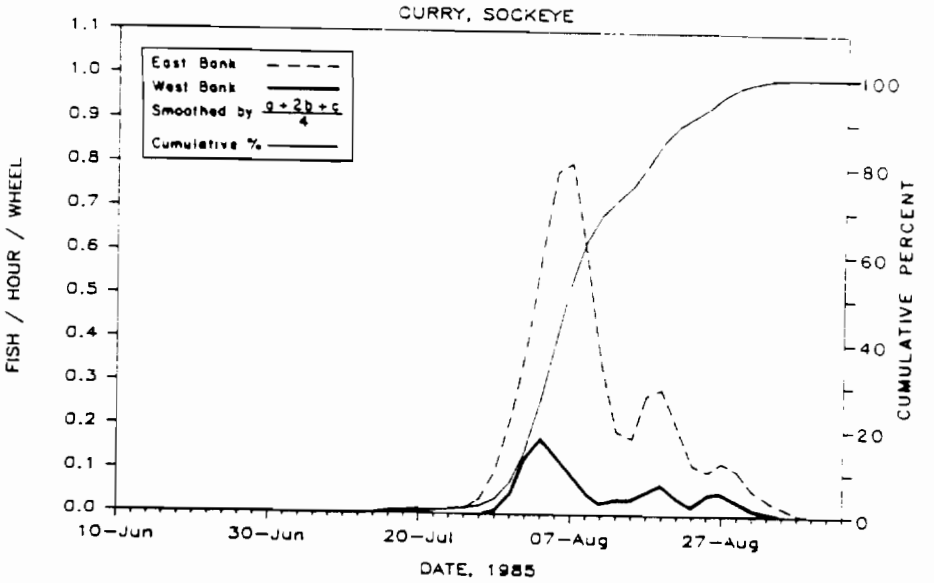


Figure 15. Mean hourly and cumulative percent fishwheel catch of sockeye salmon by two day periods at Curry Station, 1985.

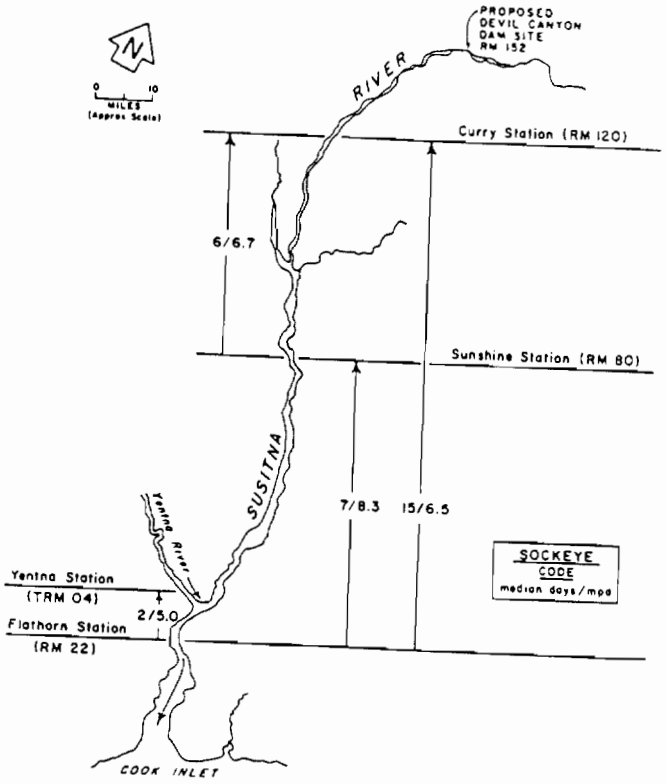


Figure 16. Migration rates of sockeye salmon between Susitna River sampling stations based on tag recoveries and expressed in median days and miles per day (mpd), 1985

Table 12. Analysis of second-run sockeye salmon lengths, in millimeters, by sex and age class from CPUE weighted escapement samples collected at Flathorn, Sunshine and Curry Stations, 1985.

Location	Age Class	Male Mean Length	Male Std. Error	Male Sample Size	Female Mean Length	Female Std. Error	Female Sample Size	Combined Mean Length	Combined Std. Error	Combined Sample Size
Flathorn Station	2_1	422	37.7	2	-	-	-	422	37.7	2
	3_1	454	5.3	61	504	14.2	12	461	5.4	73
	3_2	341	2.8	228	465	37.9	4	346	3.4	232
	4_1	553	8.7	45	544	4.6	32	550	5.6	77
	4_2	471	1.7	639	481	1.6	468	475	1.2	1,107
	4_3	358	4.4	18	392	7.5	2	362	4.8	20
	5_1	-	-	-	563	16.4	2	563	16.4	2
	5_2	564	1.7	506	541	1.2	553	552	1.1	1,059
	5_3	498	4.2	91	482	2.8	98	490	2.6	189
	5_4	-	-	-	442	-	1	442	-	1
	6_2	589	5.8	10	561	11.1	13	575	7.0	23
	6_3	565	4.3	37	534	3.8	45	551	3.3	82
	6_4	-	-	-	585	-	1	585	-	1
	All[1]	483	2.0	1,907	510	1.2	1,423	494	1.3	3,730
Sunshine Station	2_1	315	-	1	-	-	-	315	-	1
	3_1	438	6.3	12	469	4.9	6	447	5.7	18
	3_2	331	2.2	126	345	30.6	3	332	2.4	129
	4_1	585	26.1	9	520	11.3	8	576	18.3	17
	4_2	477	2.7	377	481	1.9	333	478	1.7	710
	4_3	352	10.5	8	-	-	-	352	10.5	8
	5_2	564	2.9	282	542	1.8	363	551	1.7	645
	5_3	500	11.4	21	501	3.5	32	500	5.9	53
	6_3	559	9.4	4	514	8.3	7	536	9.3	11
	All	475	2.9	1,014	507	1.6	900	490	1.7	1,914
Curry Station	3_1	501	36.5	2	550	-	1	540	18.6	3
	3_2	336	3.5	20	-	-	-	336	3.5	20
	4_1	580	7.7	3	570	-	1	577	6.0	4
	4_2	480	5.5	79	504	2.8	54	488	3.7	133
	4_3	345	-	1	-	-	-	345	-	1
	5_2	599	5.1	23	555	3.5	33	574	4.1	56
	5_3	486	26.5	3	-	-	-	486	26.5	3
	6_3	555	-	1	-	-	-	555	-	1
	All	483	7.1	150	525	3.1	103	500	4.6	253

[1] Includes all aged and non-aged samples.

Table 13. Age composition by percent of second-run sockeye salmon escapements past Flathorn, Sunshine and Curry stations based on catch samples weighted by fishwheel CPUE, 1985.

Collection Site	n	Age Class[1]												
		2_1	3_1	3_2	4_1	4_2	4_3	5_1	5_2	5_3	5_4	6_2	6_3	6_4
Flathorn Station	2,868	*	3	8	3	39	*	*	37	7	*	*	3	*
Sunshine Station	1,592	*	1	8	1	45	*	-	41	4	-	-	*	-
Curry Station	221	-	1	9	2	61	*	-	26	1	-	-	*	-

[1] Gilbert-Rich notation

* Frequency of occurrence is less than 1%.

Table 14. Sex ratios of second run sockeye salmon by age from fishwheel escapement samples collected at Flathorn, Sunshine and Curry stations, 1985.

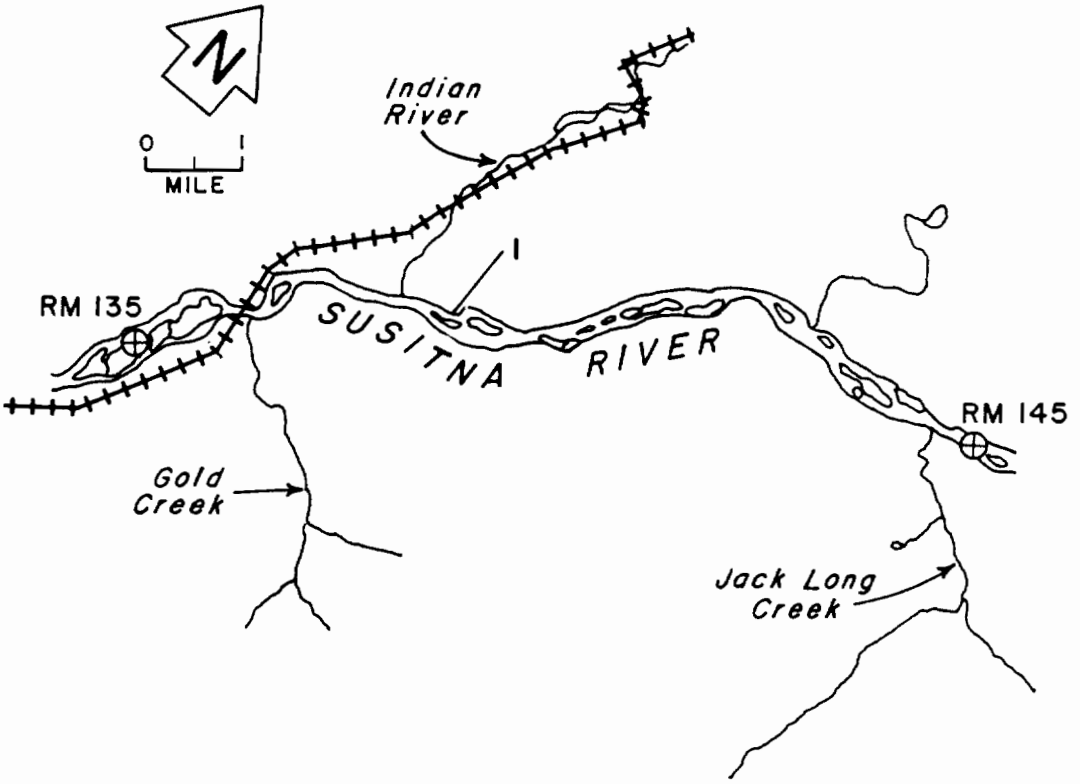
Collection Site	Age	Combined Sample Size	Number		Sex Ratio (M:F)
			Males	Females	
Flathorn Station	2_1	2	2	-	-
	3_1	73	61	12	5.1:1
	3_2	232	228	4	5.7:1
	4_1	77	45	32	1.4:1
	4_2	1,107	639	468	1.4:1
	4_3	20	18	2	9:1
	5_1	2	-	2	0:1
	5_2	1,059	506	553	0.9:1
	5_3	189	91	98	0.9:1
	5_4	1	-	1	0:1
	6_2	23	10	13	0.8:1
	6_3	82	37	45	0.8:1
	6_4	1	-	1	0:1
All[1]		3,330	1,907	1,403	1.3:1
Sunshine Station	2_1	1	1	-	-
	3_1	18	12	6	2:1
	3_2	129	126	3	42:1
	4_1	17	9	8	1.1:1
	4_2	710	377	333	1.1:1
	4_3	8	8	-	-
	5_2	645	282	363	0.8:1
	5_3	21	32	0.2:1	
	6_3	11	4	7	0.6:1
All[1]		1,914	1,014	900	1.1:1
Curry Station	3_1	3	2	1	2:1
	3_2	20	20	-	-
	4_1	4	3	1	3:1
	4_2	133	79	54	1.5:1
	4_3	1	1	-	-
	5_2	56	23	33	0.2:1
	5_3	3	3	-	-
	6_3	1	1	-	-
All[1]		253	150	103	1.5:1

[1] Includes all aged and non-aged samples.

3.2.2.2 Spawning Areas

Based on helicopter survey observations, the main channel was largely unused as sockeye salmon spawning habitat in 1985. Only one sockeye salmon was observed holding over a redd at RM 139.0 on September 28 (Figure 17). Surveys were hampered by high rainfall which contributed to poor visibility conditions throughout the month of September.

Adult sockeye salmon were observed only in one tributary stream in 1985 (Appendix Table 3-1). Two fish were observed approximately three miles up the Indian River on August 23 and were not seen actively spawning.



Map ID Number	Location		Highest Fish Count	Spawning Observation Dates
	RM	Bank		
1	139.0	L	1	9/28/85

Figure 17. Sockeye salmon spawning areas in the mainstem middle reach, 1985.

Nine sloughs were occuppied by adult sockeye salmon in 1985 (Appendix Table 3-2). In order of abundance, sloughs 11, 8A and 21 were the major sockeye salmon spawning areas (Figure 18). Approximately 99 percent of the middle-river sockeye salmon escapement spawned in these three sloughs. Sockeye salmon observed in sloughs 6A, Bushrod and 19 were probably milling fish based on absence of redds and no visible spawning activity. The total peak survey count for all sloughs was 897 fish, (Table 15). Sockeye salmon spawned in sloughs 11, 8A and 21 from the first week in August until suveys ceased during the first week of October. Peak spawning occurred during the first three weeks of September (Appendix Table 3-2 and Figure 19).

Egg retention studies were conducted for sockeye salmon spawning in the middle-reach. The small escapement and difficulty in obtaining samples resulted in successful collection efforts in only sloughs 8A and 11. These studies indicated that 91 percent of the 66 sockeye salmon sampled had successfully spawned (Figure 20). The average egg retention was 41 eggs and the median of the sample was 0 eggs.

The total sockeye salmon escapement to sloughs 8A, 11 and 21 was an estimated 2,545 fish, based on the area under the curve method (Table 16). This represents 91 percent of the Curry Station escapement estimate, a valid comparison since virtually all sockeye salmon spawn in sloughs.

3.3 Pink Salmon

3.3.1 Main Channel Escapements

The Flathorn Station pink salmon escapement estimate was 479,500 fish, with a standard deviation of 83,700 (Figure 21). This estimate was calculated using the stratified estimator with the release and recovery strata being time periods at Flathorn and Sunshine stations, respectively. An estimated 42,600 pink salmon reached Sunshine Station in 1985 (Figure 21). The 95 percent confidence interval included from 40,600 to 44,900 fish. This estimate was based on the Petersen model and used the pooled recovery data from surveys and Curry Station fishwheels. The pink salmon escapement to Curry Station was 14,900 fish with a 95 percent confidence interval of 11,300 to 21,900 (Figure 21). The Petersen estimate was also used here with the tag recovery information coming solely from surveys.

The above escapement estimates include some unknown number of milling fish. The magnitude of this component is difficult to assess and probably varies between years and sites. Therefore, the population estimates presented represent the number of pink salmon reaching a specific location and do not necessarily reflect the number of fish spawning above the point where the estimate was made.

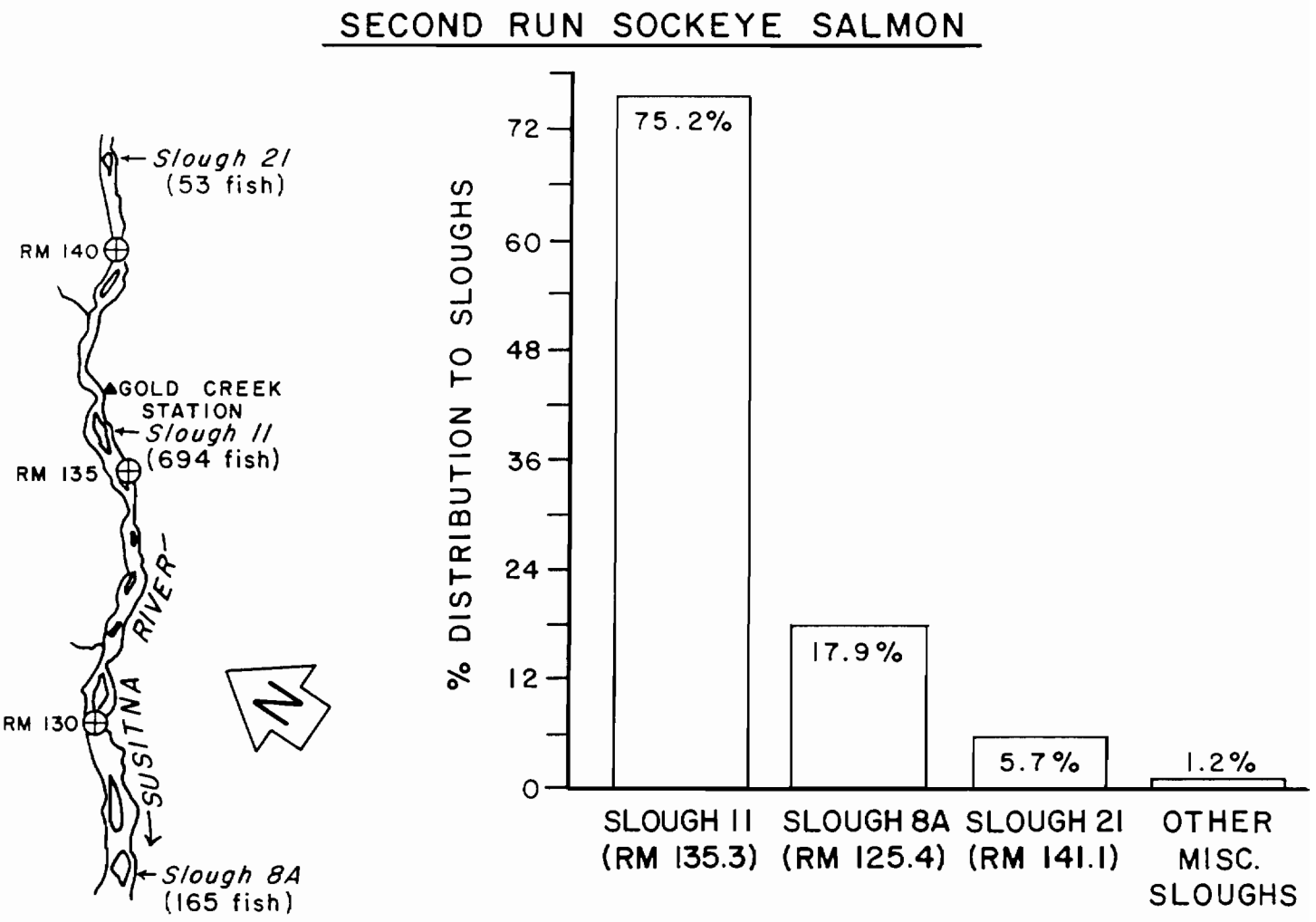


Figure 18. The three major sockeye salmon sloughs in the middle reach and the respective percent escapement based on peak survey counts, 1985.

Table 15. Peak sockeye salmon survey counts for sloughs in the middle Susitna River reach, 1985.

Slough	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
6A	112.3	9/2	1	0	1	0.1
Bushrod	117.8	9/2	1	0	1	0.1
8C	121.9	9/23	1	0	1	0.1
8B	122.2	9/23	2	0	2	0.2
8A	125.4	9/5	161	4	165	17.9
B	126.3	9/5	5	0	5	0.5
11	135.3	9/19	672	22	694	75.2
19	139.7	8/16	1	0	1	0.1
21	141.1	9/20	53	0	53	5.7
		TOTALS[1]	897	26	923	99.9

1 Percent contribution total may not equal 100 due to rounding errors.

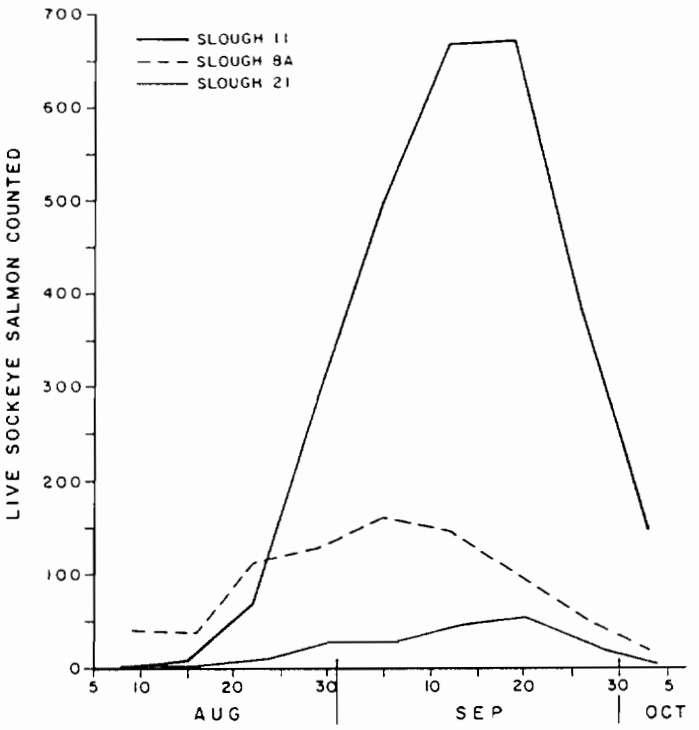


Figure 19. Sockeye salmon live counts by date in sloughs 8A, 11 and 21, 1985.

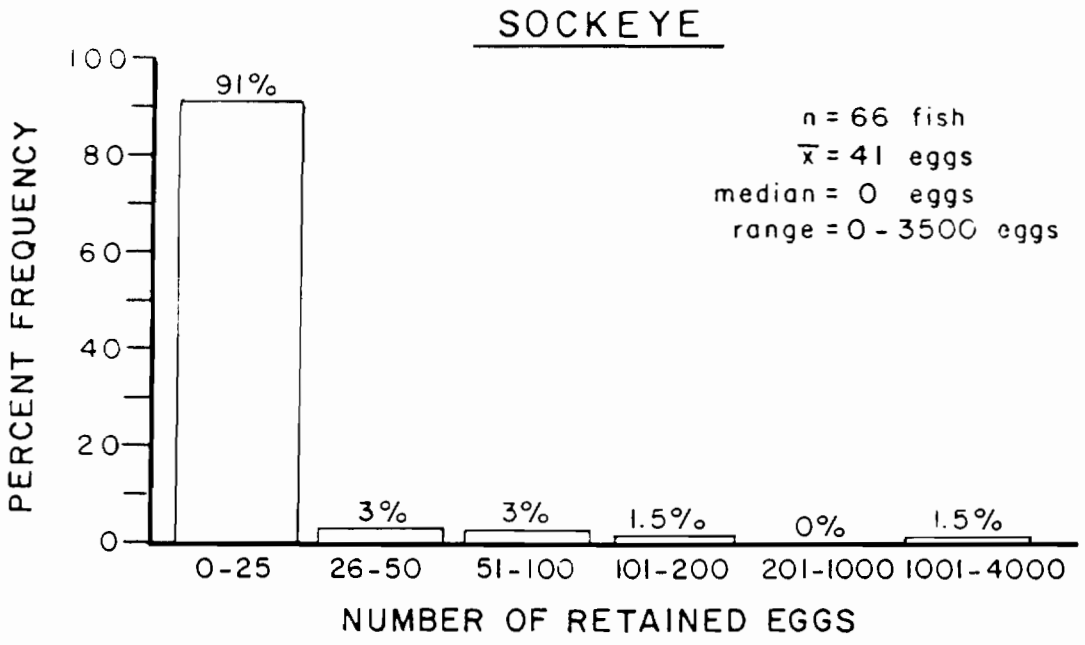


Figure 20. Percent frequency of the numbers of eggs retained by sockeye salmon at sloughs 8A, 11 and 21 combined, 1985.

Table 16. Estimated sockeye salmon escapements to three middle Susitna River sloughs, 1985.

Slough	River Mile	Total Fish[1] Days	Peak Live Survey Count	Mean[3] Observation Life Days	Slough Escapement	% of Curry[2] Station Escapement
8A	125.4	5,467	161	10.4	526	6.0
11	135.3	19,336	672	10.4	1,859	24.0
21	141.1	1,353	53	10.4	130	2.0
	TOTALS	26,156	886	-	2,515	32.0

1 Number of fish days were calculated for sloughs that had peak survey counts > 15 fish.
2 1985 Curry Station chum salmon escapement was approximately 2,800 fish.
3 Mean observation life in days was obtained by averaging observation days from 1983 and 1984 observation life data.

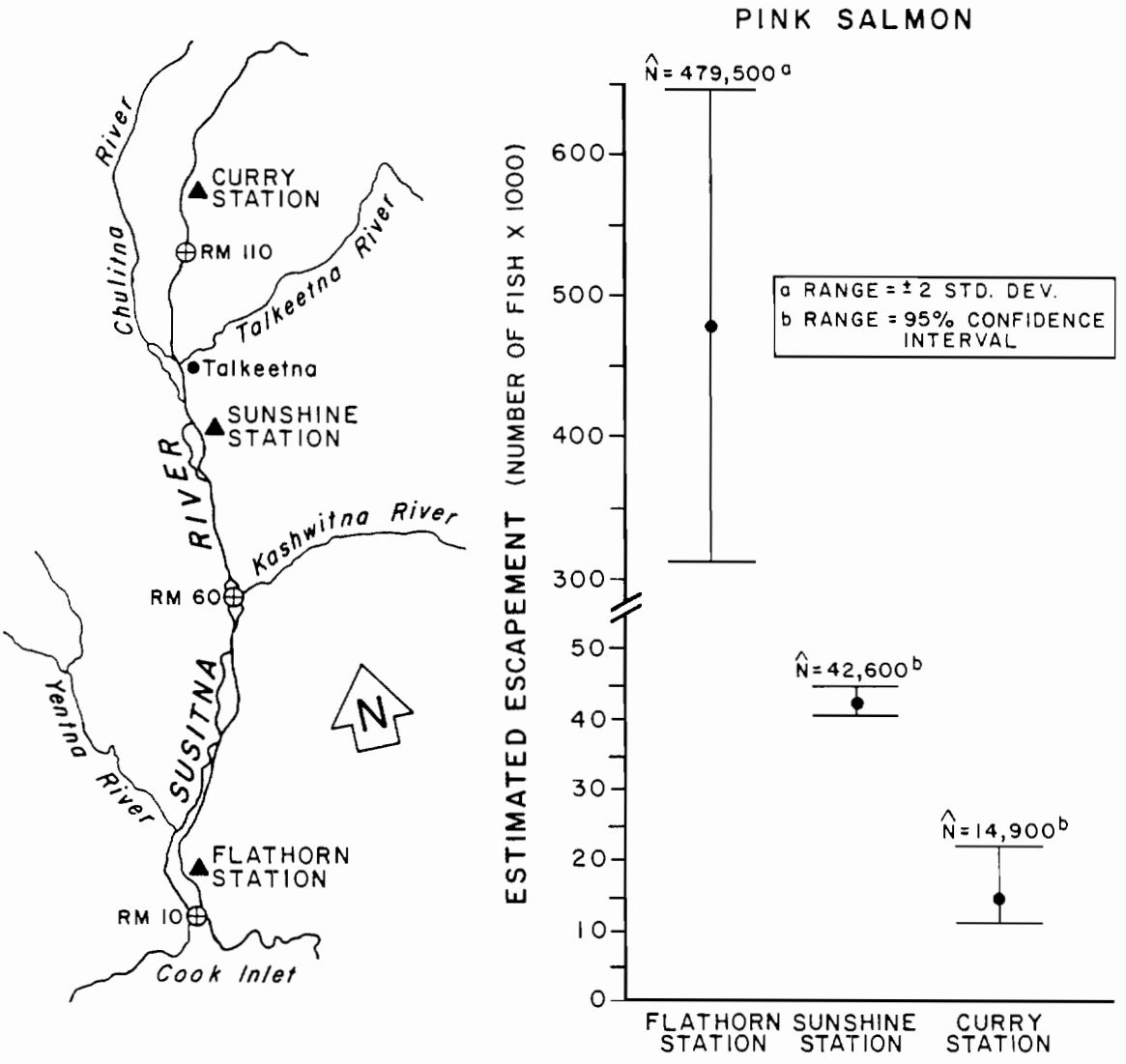


Figure 21. Pink salmon escapements by sampling statios, 1985.

Pink salmon were captured in fishwheels at Flathorn Station from June 22 through September 1 (Figure 22 and Appendix Table 2-3). The beginning of the pink salmon migration, characterized by capture of five percent of the season's total fishwheel catch, was July 14 (Appendix Table 5-1). The peak fishwheel catch was recorded August 12 and reached a mid-point on August 1. About ninety-five percent of the migration passed Flathorn Station by August 15.

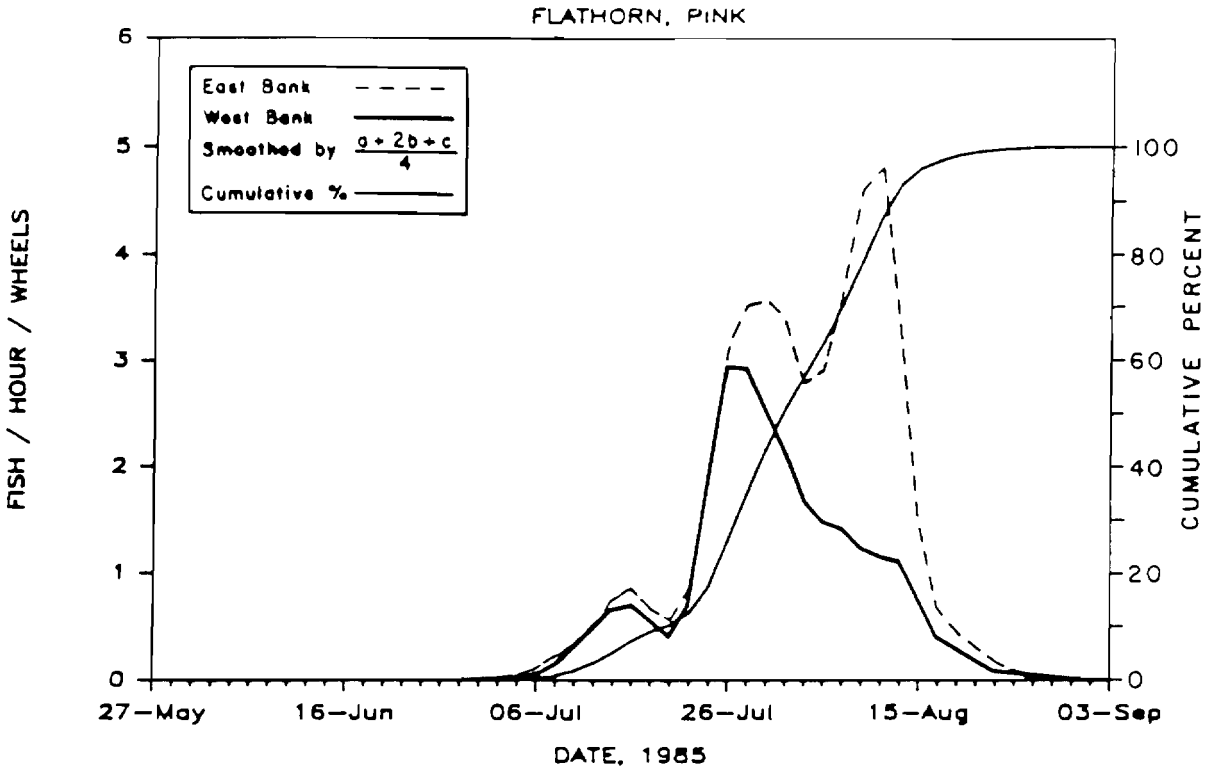


Figure 22. Mean hourly and cumulative percent fishwheel catch of pink salmon by two day periods at Flathorn Station, 1985.

Though pink salmon were documented at Sunshine Station on June 26, the species was not present in fishwheel catches on a continuous basis until July 10 (Figure 23 and Appendix Table 2-4). Five percent of the total catch had occurred at Sunshine Station by July 23 (Appendix Table 5-1). Both the peak catch and mid-point of the escapement occurred on August 2. Ninety-five percent of the migration had passed Sunshine Station by August 8.

Pink salmon were present in fishwheel catches at Curry Station from July 15 through August 28 (Figure 24 and Appendix Table 2-5). Five percent of the catch had occurred at Curry Station by July 28. Timing of the peak fishwheel catch and fifty percent passage rate of the pink salmon escapement by Curry Station were similar occurring on August 6 and August 5, respectively. Ninety-five percent of the pink salmon catch at Curry Station was recorded by August 13.

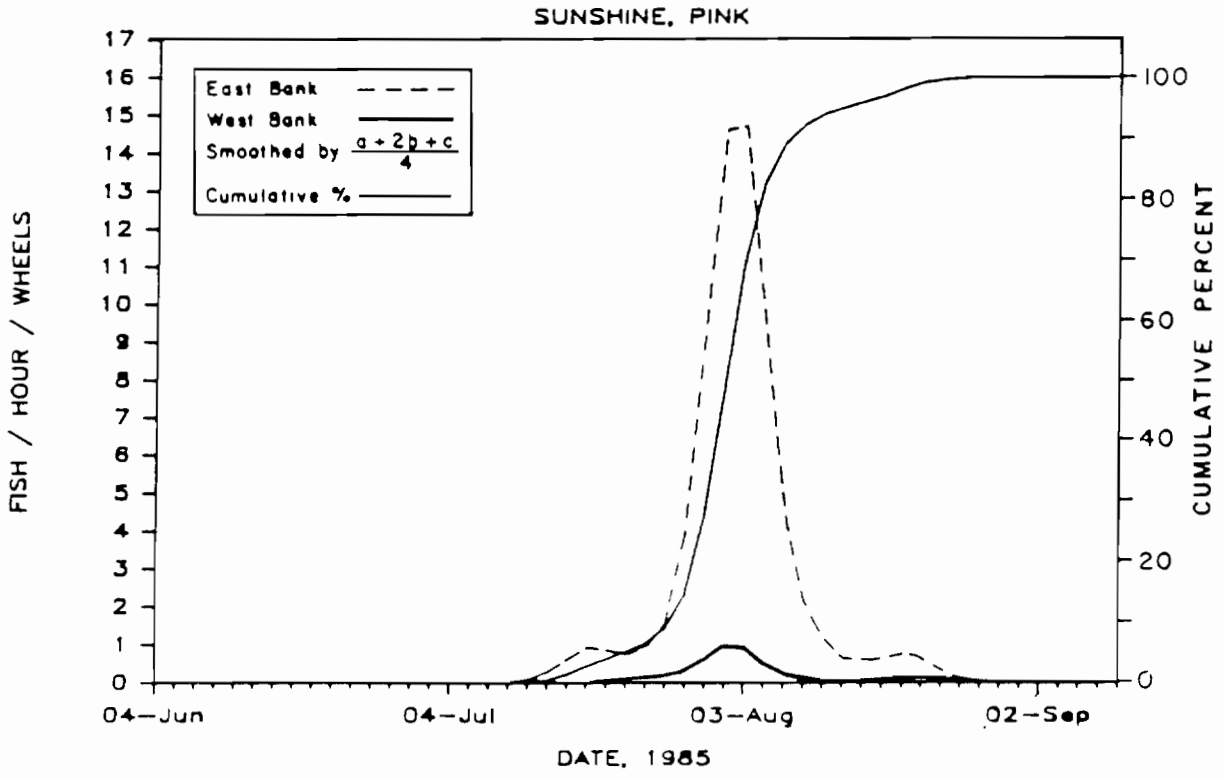


Figure 23. Mean hourly and cumulative percent fishwheel catch of pink salmon by two day periods at Sunshine Station, 1985.

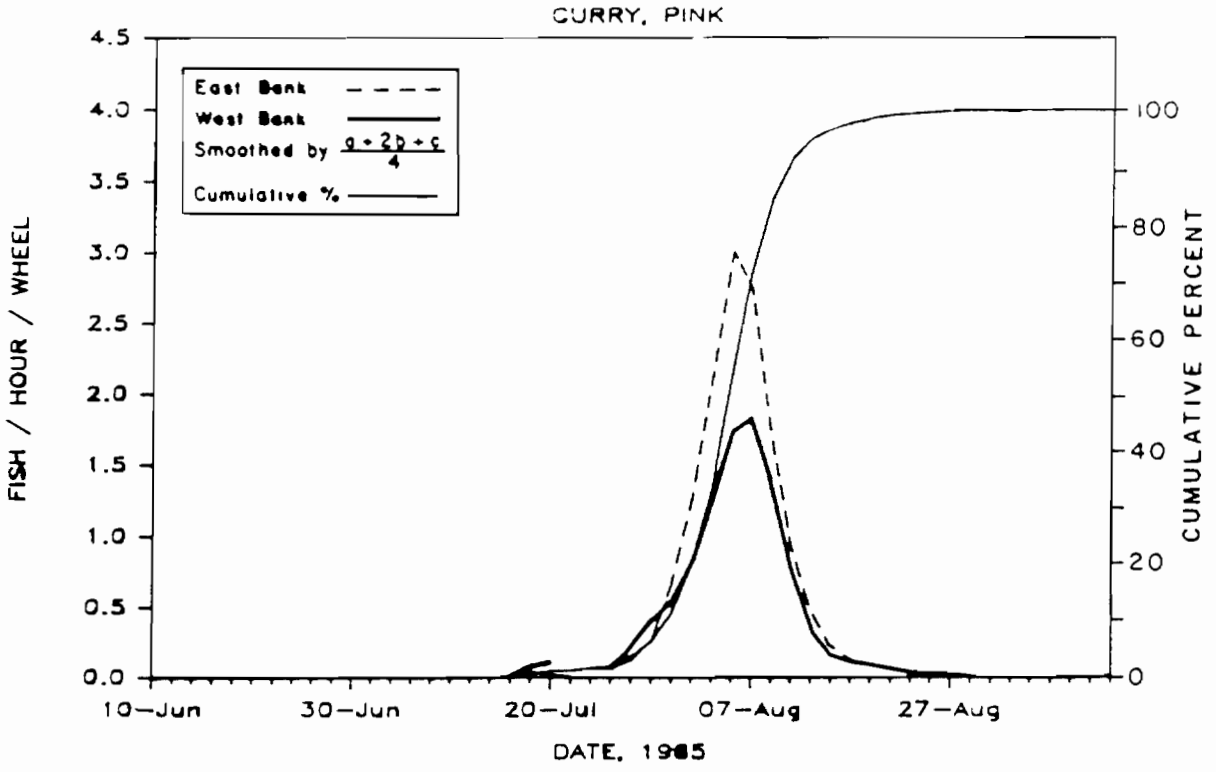


Figure 24. Mean hourly and cumulative percent fishwheel catch of pink salmon by two day periods at Curry Station, 1985.

Pink salmon, which were captured in both east and west channel fishwheels at Flathorn Station, were recaptured at Yentna and Sunshine stations. Approximately 57 percent of the 252 recaptures at Yentna Station originated from west channel fishwheels at Flathorn Station with the remaining 43 percent originating in east channel fishwheels. Tagged pink salmon recaptured at Sunshine Station displayed an east channel orientation at Flathorn Station as evidenced by approximately 89 percent of the 66 recaptures coming from east channel fishwheels and only 11 percent from west channel fishwheels.

Migration rates of pink salmon between sampling stations were determined from tag recoveries of marked pink salmon. Pink salmon tagged at Flathorn station reached Yentna Station, a distance of 10 miles, in one day for a travel rate of 10 mpd (Figure 25). Pink salmon moved between Flathorn and Sunshine stations in 7 days for a rate of 8.3 mpd. The migration rate from Sunshine Station to Curry Station was consistent with that between Flathorn and Sunshine stations (moving 8.0 mpd). Pink salmon tagged at Flathorn Station and recovered at Curry Station traveled at a rate of 8.9 mpd.

Lengths for male and female pink salmon caught in fishwheels at the three sampling stations were consistent considering a sampling bias of plus or minus five millimeters, with mean lengths ranging from 418 to 420 mm (Table 17). Male pink salmon had mean lengths from 422 to 424 mm. Female pink salmon were smaller than males at all sampling locations, with mean lengths of 413 to 419 mm.

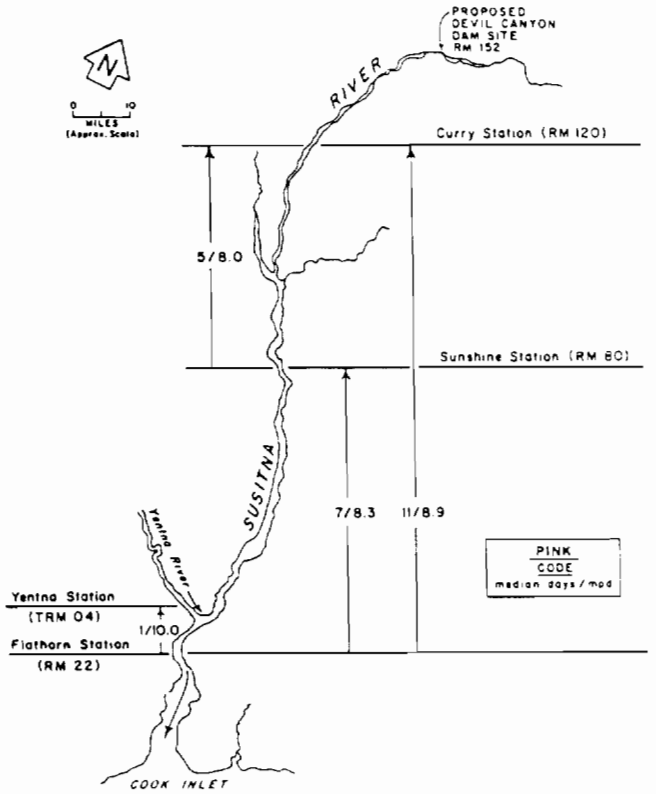


Figure 25. Migration rates of pink salmon between Susitna River sampling stations based on tag recoveries and expressed in median days and miles per day (mpd), 1985.

Table 17. Analysis of pink salmon lengths, in millimeters, by sex and age class from fishwheel CPUE weighted escapement samples collected at Flathorn, Sunshine and Curry, 1985.

Location	Male			Female			Combined		
	Mean Length	Std Error	Sample Size	Mean Length	Std Error	Sample Size	Mean Length	Std Error	Sample Size
Flathorn Station	423	0.91	828	413	0.70	998	418	0.58	1,826
Sunshine Station	423	1.20	844	415	1.17	790	419	0.84	1,634
Curry Station	422	1.47	358	419	1.14	366	420	0.93	724

The incidence of male and female pink salmon in fishwheel catches were similar at Flathorn, Sunshine and Curry stations with ratios of 0.8:1, 1.0:1 and 0.9:1, respectively (Table 18).

Table 18. Sex ratios of pink salmon from fishwheel escapement samples collected at Flathorn, Sunshine and Curry stations, 1985.

Location	Sample Size	Sex Ratio (M:F)
Flathorn Station	1,826	0.8:1
Sunshine Station	1,634	1.1:1
Curry Station	724	0.9:1

3.3.2 Spawning Areas

Spawning surveys of the middle-river main channel revealed no pink salmon spawning areas in 1985.

Pink salmon were found in 16 of the 25 middle-river tributary streams surveyed (Table 19 and Appendix Table 3-1). Spawning occurred in all of these streams with Indian River, Fourth of July, and Portage creeks supporting the majority of spawners based on a combined 82 percent of a total 1,176 fish peak survey count (Figure 26).

In Lane and Fourth of July creeks and Indian River, pink salmon spawned within the first stream mile. Pink salmon spawned in the remaining streams within the first one-half mile. Fourth of July, Skull and Portage creeks and Indian River had pink salmon spawning in the stream mouth and in the interface downstream of the mouth approximately one-eighth mile.

Pink salmon spawned in middle-reach streams from the last week in July until the third week in August. Spawning reached a peak in the first and second week of August.

Pink salmon were observed in the five middle-river sloughs: 8, 8B, 9, 16 and 20 (Table 20 and Appendix Table 3-2). With the exception of sloughs 9 and 20 almost all pink salmon observed were milling fish. Less than 10 pink salmon spawned at these two sites indicating that sloughs were of little importance as spawning habitat in 1985.

Table 19. Pink salmon peak survey counts for streams in the middle Susitna River reach in order of contribution, 1985.

Stream	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
Indian River	138.6	8/8	645	3	648	54.6
4th of July Creek	131.1	8/9	175	2	177	14.9
Portage Creek	148.9	8/8	148	1	149	12.6
Lane Creek	113.6	8/18	125	2	127	10.7
5th of July Creek	123.7	8/18	35	1	36	3.0
Sherman Creek	130.8	8/17	12	0	12	1.0
Clyde Creek	113.8	8/18	7	0	7	0.6
Little Portage Creek	117.7	8/18	6	1	7	0.6
Maggot Creek	115.6	8/18	4	0	4	0.3
Chase Creek	106.9	7/21	4	0	4	0.3
Fromunda Creek	119.3	8/25	3	1	4	0.3
Lower McKenzie Creek	116.2	8/18	3	0	3	0.3
Skull Creek	124.7	8/22	3	0	3	0.3
Upper McKenzie Creek	116.7	8/18	2	0	2	0.2
Gold Creek	136.7	8/19	2	0	2	0.2
Gash Creek	111.6	8/25	2	0	2	0.2
		TOTALS[1]	1,176	11	1,187	100.1

1 Percent contribution total may not equal 100 due to rounding errors.

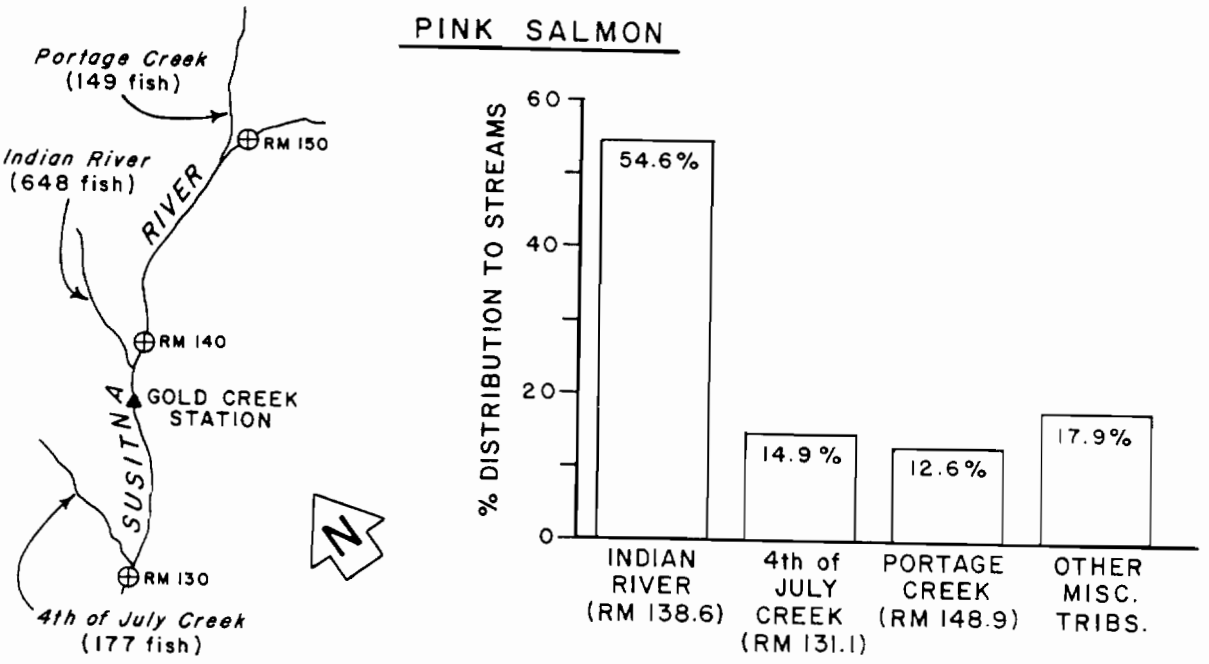


Figure 26. The three major pink salmon streams in the middle reach pink salmon and the respective percent escapement based on peak survey counts, 1985.

Table 20. Peak pink salmon survey counts for sloughs in the middle Susitna River reach, 1985.

Slough	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
6A	112.3	8/25	0	1	1	7.1
8	113.7	8/25	0	2	2	14.3
Bushrod	117.8	8/25	0	1	1	7.1
8B	122.2	8/25	0	2	2	14.3
9	128.3	8/29	1	0	1	7.1
16	137.3	8/24	0	5	5	35.7
20	140.0	8/30	2	0	2	14.3
		TOTALS[1]	3	11	14	99.9

1 Percent contribution total may not equal 100 due to rounding errors.

3.4 Chum Salmon

3.4.1 Main Channel Escapements

An estimated escapement of 316,800 chum salmon reached Flathorn Station in 1985 (Figure 27). The standard deviation of the estimate was 77,100 fish. At Sunshine Station the escapement was estimated to be 373,600 chum salmon with a 95 percent confidence interval of 349,200 to 401,800 fish. The escapement to Curry Station was 24,400 chum salmon with an associated 95 percent confidence interval of 21,700 to 27,800 fish.

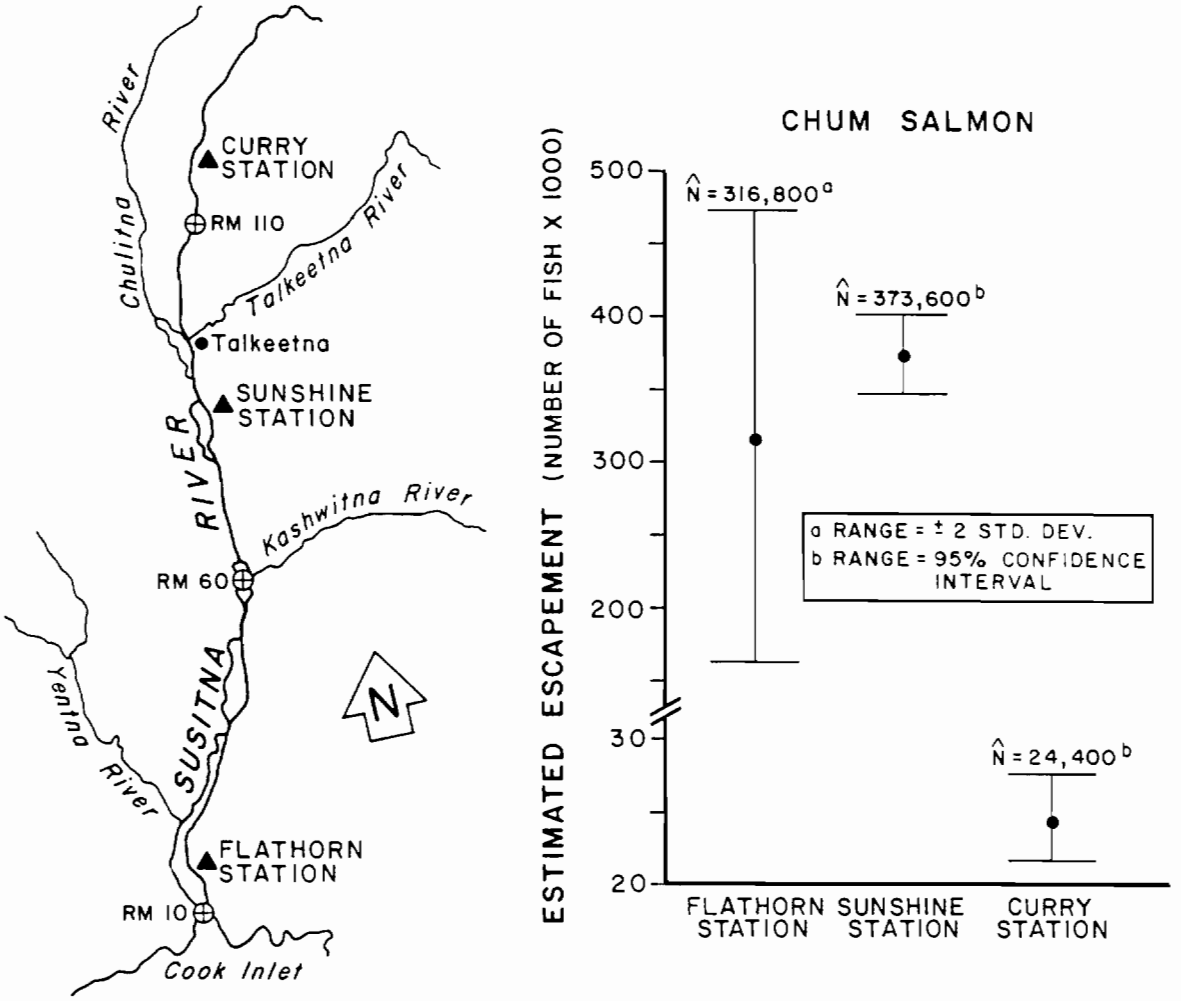


Figure 27. Chum salmon escapements by sampling station, 1985.

Flathorn Station fishwheels intercepted 5,168 chum salmon in 1985 (Table 2 and Appendix Table 2-3). These catches indicated that the migration began, reached a midpoint and ended on the following dates respectively: July 27, August 14 and August 20 (Figure 28 and Appendix Table 5-1). The right, east channel fishwheel was moved on July 29 and the new site increased the fishwheels efficiency for capturing chum salmon. This move artificially delayed reported timing information because 89 percent of the fishwheel catches were in the east channel, the majority occurring after the fishwheel was moved. The migration timing at Sunshine Station was more representative of the actual escapement timing, beginning, 50 percent complete and completed on July 29, August 4 and August 26, respectively (Figure 29 and Appendix Table 5-1). The largest daily catch at Sunshine Station occurred on August 2 when 3,348 chum salmon were intercepted. The migration at Curry Station started August 2, was 50 percent complete August 7 and finished on August 28 (Figure 30 and Appendix Table 5-1). A peak daily fishwheel catch of 166 chum salmon occurred on August 6.

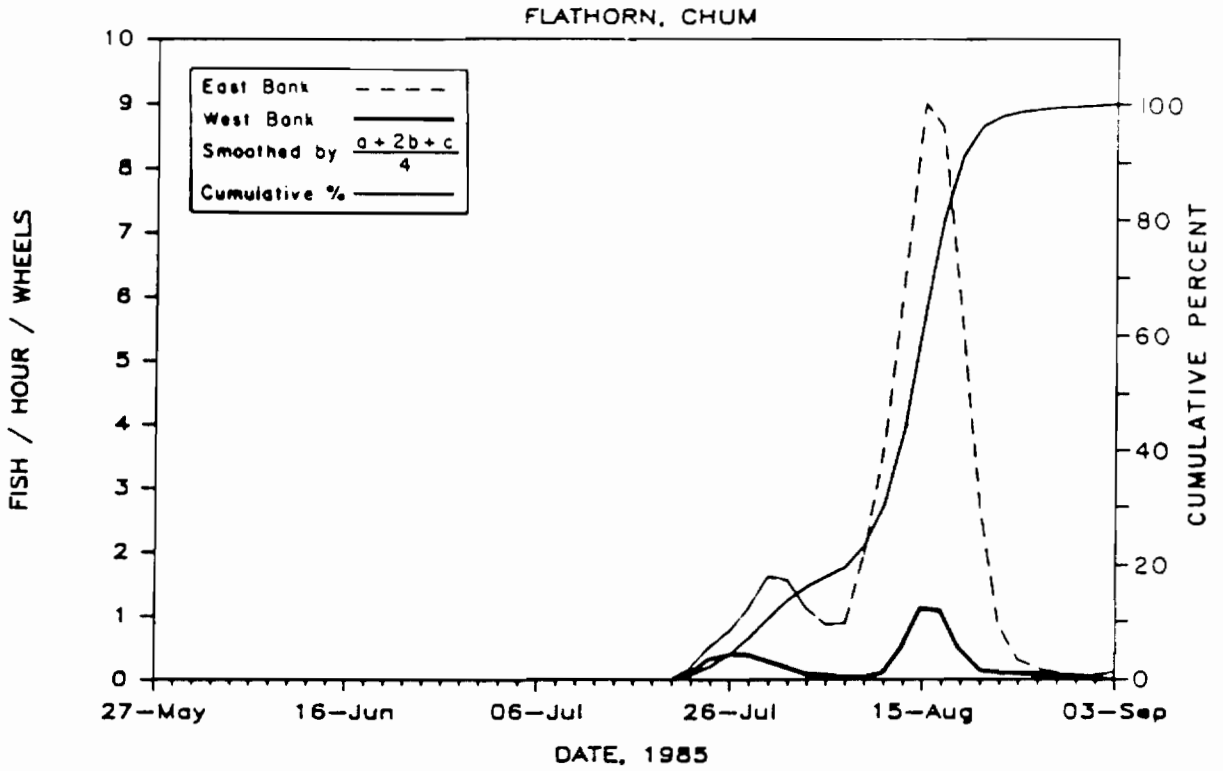


Figure 28. Mean hourly and cumulative percent fishwheel catch of chum salmon by two day periods at Flathorn Station, 1985.

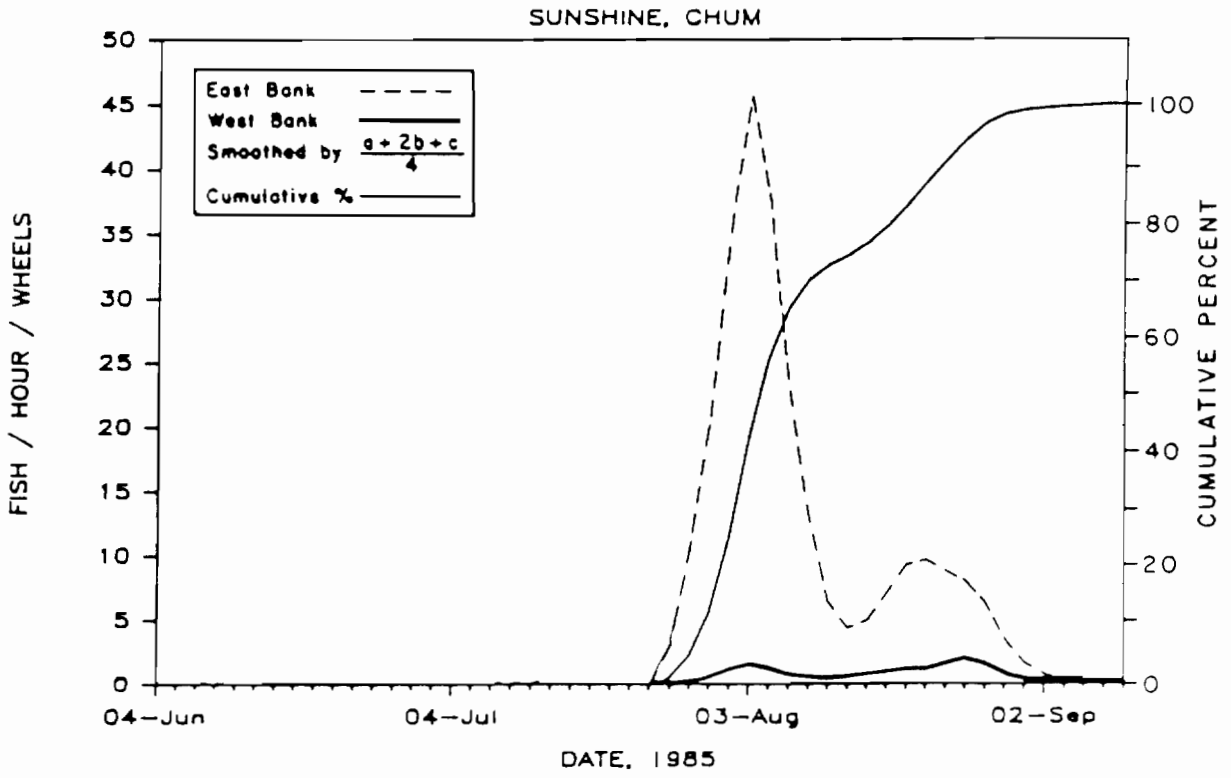


Figure 29. Mean hourly and cumulative percent fishwheel catch of chum salmon by two day periods at Sunshine Station, 1985.

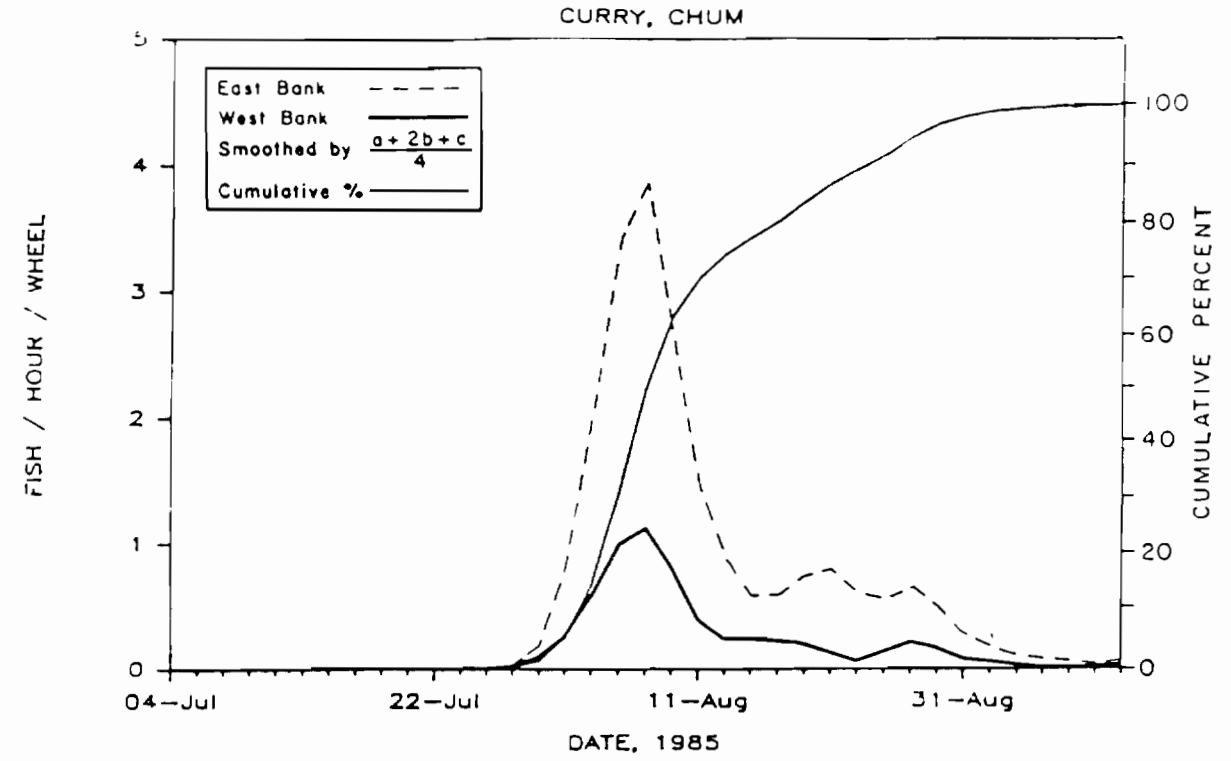


Figure 30. Mean hourly and cumulative percent fishwheel catch of chum salmon by two day periods at Curry Station, 1985.

Fishwheel catches indicated that chum salmon migrated primarily in the east channel at Flathorn Station, (Appendix Table 3). A total of 4,614 (89 percent) chum salmon were intercepted in east channel fishwheels and only 546 (11 percent) in west channel fishwheels. Sunshine Station fishwheels recaptured 172 of the chum salmon tagged at Flathorn Station, 96 percent of which were tagged in the east channel. At Yentna Station, only eight chum salmon with Flathorn Station tags were recovered, five were tagged in the east channel and three in the west channel.

Based on tag recoveries, chum salmon traveled between Flathorn and Yentna stations in five days (median of sample) at a rate of two mpd (Figure 31). Chum salmon spent 12 days traveling days between Flathorn and Sunshine stations and 16 between Flathorn and Curry stations. The respective rates of travel were 4.8 and 6.1 mpd. The travel rate between Sunshine and Curry stations, based on peak to peak fishwheel catches, was 10.0 mpd, two mpd faster than the rate based on tag recoveries. The slower rate may have been due to tagging stress, as previously discussed for chinook salmon. Peak-to-peak treatment of Flathorn Station fishwheel catches was not done because the right east channel fishwheel was moved mid-season.

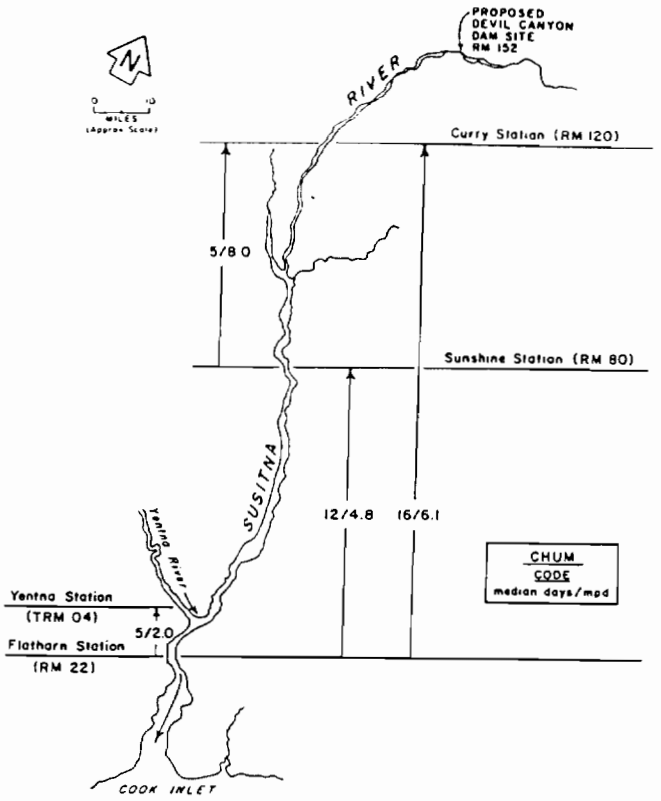


Figure 31. Migration rates of chum salmon between Susitna River sampling stations based on tag recoveries and expressed in median days and miles per day (mpd), 1985.

Analysis of chum salmon lengths, age class composition and male to female ratios were accomplished from a subsample of each stations fishwheel catch. At Flathorn Station the average lengths age class 4, of male and female chum salmon were 588 and 577 mm, respectively (Table 21). The average length of age class 4_1 males at Sunshine Station was similar to that recorded at Flathorn, 599 mm while the female average length at Sunshine Station was 580 mm. The average lengths of both males and females at Curry Station were larger than those of Flathorn and Sunshine station. The age class composition for Flathorn and Sunshine stations were similar, however, the sample at Curry Station was comprised of a comparatively greater percentage of age 5_1 fish which would account for the larger average lengths (Table 22). Age 4_1 chum salmon were the dominant age class comprising over 70 percent of the age samples at all three sampling stations.

The ratio of male to female chum salmon varied between stations, with the frequency of males increasing as distance upstream increased (Table 23). This was probably because of the difficulty in differentiating between male and female chum salmon upon initial entry into freshwater. The ratio at Flathorn, Sunshine and Curry stations were 0.7:1, 1.1:1 and 1.4:1, respectively.

3.4.2 Spawning Areas

In 1985, three chum salmon spawning areas in the main river channel were located (Figure 32). The highest concentration was at RM 115.0R (right bank) where 17 spawning chum salmon were observed. All observations were made in September and the first part of October. Peak counts occurred in the third week of September. Due to continual rains during September, main channel flows were high, and visibility was poor for most of the month. Because of the poor survey conditions spawning areas and timing were difficult to assess.

Chum salmon occupied 20 middle river sloughs, 18 of which were spawning areas (Table 24 and Appendix Table 3-2). Chum salmon observed in sloughs 1 and A' were milling fish as no redds or spawning activity were observed. Peak survey counts totaled 1,964 fish with the majority (60.3%) located in sloughs 11, 21 and 8A (Figure 33 and Table 25 and 26). Spawning occurred from the first week of August until the first week of October (Appendix Table 3-2). The observed peak of spawning in sloughs 8A, 11 and 21 occurred between the last week of August and the first week of September (Figure 34).

There were however, some late spawning chum salmon that continued to move into the middle-river and spawned into the second week of October (Appendix Table 3-2). One such area was Slough 8B, in which initial spawning peaked on September 2 with a count of 151 fish. Subsequent to their spawning a second group appeared on September 23, based on a peak count of 111 fish. Other areas such as sloughs 8C, 9A, and to a lesser extent sloughs 8A, and 11 received late spawning chum salmon in smaller numbers. These fish were identified by their fresh appearance and pre-spawning condition.

Table 21. Analysis of chum salmon lengths, in millimeters, by sex and age class from fishwheel CPUE weighted escapement samples collected at Flathorn, Sunshine and Curry Stations, 1985.

Location	Age Class	Male			Female			Combined		
		Mean Length[1]	Std. Error	Sample Size	Mean Length[1]	Std. Error	Sample Size	Mean Length[1]	Std. Error	Sample Size
Flathorn Station	3_1	538	2.8	72	535	2.8	102	536	2.0	174
	4_1	588	1.9	342	577	1.2	610	581	1.0	952
	5_1	609	2.7	116	594	2.5	106	602	1.9	222
	All[1]	591	1.7	557	524	1.2	884	580	1.0	1,441
Sunshine Station	3_1	537	2.8	88	541	2.9	101	539	2.0	189
	4_1	599	1.4	668	580	1.3	631	590	1.0	1,299
	5_1	616	3.1	180	592	3.0	124	607	2.3	304
	6_1	600	-	1	-	-	-	600	-	1
	All[1]	594	1.3	1,017	576	1.2	932	586	0.91	1,950
Curry Station	3_1	534	6.4	22	551	7.8	15	540	5.0	37
	4_1	608	1.9	320	604	1.7	250	606	1.3	570
	5_1	621	2.9	119	614	3.1	65	618	2.2	184
	All[1]	607	1.7	479	600	1.6	346	604	1.2	825

[1] Includes all aged and non-aged samples.

Table 22. Age composition by percent of chum salmon escapements to Flathorn, Sunshine and Curry stations, based on catch samples weighted by fishwheel CPUE, 1985.

Collection Site	n	Age Class[1] 3_1	4_1	5_1	6_1
Flathorn Station	1,348	13	71	16	-
Sunshine Station	1,793	11	72	17	*
Curry Station	791	5	72	23	-

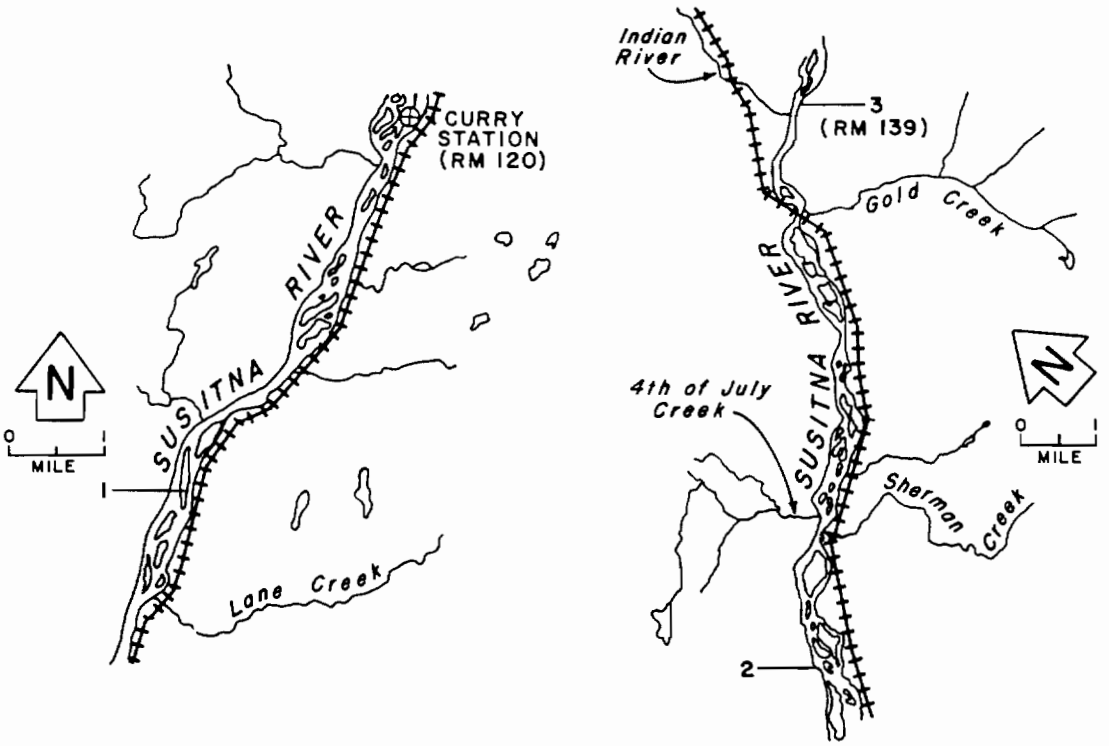
[1] Gilbert-Rich notation

* Frequency of occurrence is less than 1%.

Table 23. Sex ratios of chum salmon by age from fishwheel escapement samples collected at Flathorn, Sunshine and Curry stations, 1985.

Collection Site	Age	Combined Sample Size	Number Males	Number Females	Sex Ratio (M:F)
Flathorn Station	3_1	174	72	102	0.7:1
	4_1	952	342	610	0.6:1
	5_1	222	116	106	1.1:1
All[1]		1,441	557	884	0.7:1
Sunshine Station	3_1	189	88	101	0.9:1
	4_1	1,299	668	631	1.1:1
	5_1	304	180	124	1.5:1
All[1]		1,950	1,017	932	1.1:1
Curry Station	3_1	37	22	15	1.5:1
	4_1	570	320	250	1.3:1
	5_1	184	119	65	1.8:1
All[1]		825	479	346	1.4:1

[1] Includes all aged and non-aged samples.



Map ID Number	Location		Highest Fish Count	Spawning Observation Dates
	RM	Bank		
1	115.0	R	17	9/4, 9/11, 9/26, 10/2/85
2	128.6	R	16	9/26, 10/2/85
3	139.0	L	13	9/28/85

Figure 32. Chum salmon middle river mainstem spawning areas in the Susitna River mainstem middle reach, 1985.

Table 24. Peak chum salmon survey counts for streams in the middle reach in order of contribution, 1985.

Stream	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
Indian River	138.6	8/23	1,153	75	1,228	64.0
Portage Creek	148.9	8/28	524	15	539	28.1
4th of July Creek	131.1	8/17	140	0	140	7.3
Slash Creek	111.2	9/16	5	0	5	0.3
Little Portage Creek	117.7	8/25	4	0	4	0.2
Skull Creek	124.7	8/16	2	0	2	0.1
Lane Creek	113.6	8/11	1	0	1	0.1
Upper McKenzie Creek	116.7	9/9	0	1	1	0.1
		TOTALS[1]	1,829	91	1,920	100.2

1 Percent contribution total may not equal 100 due to rounding errors.

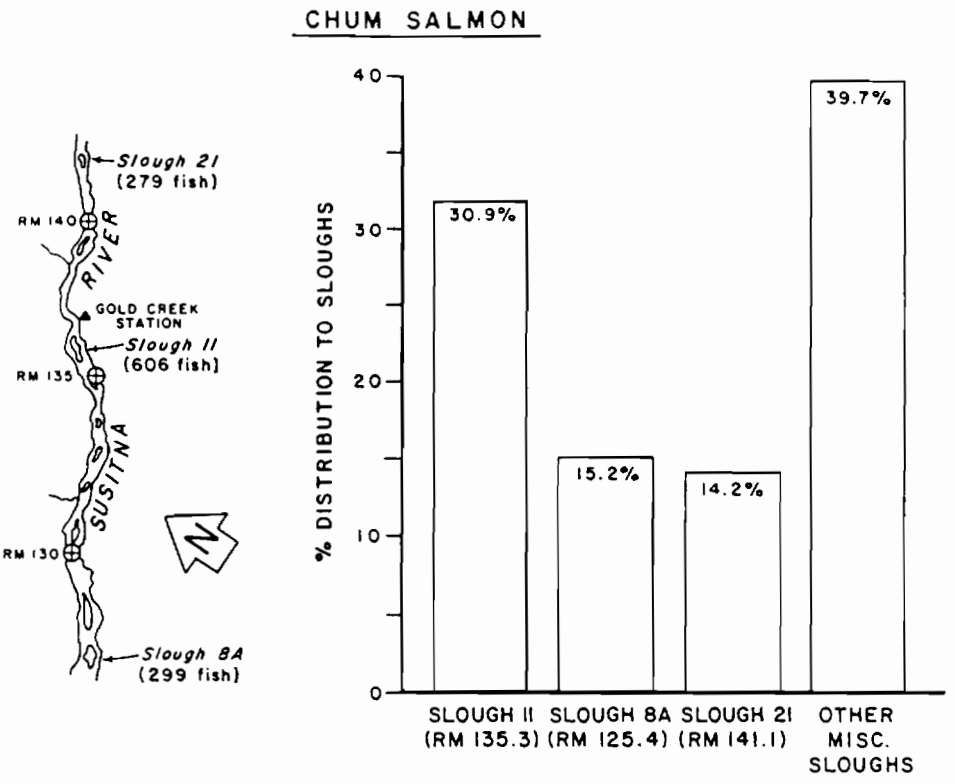


Figure 33. The three major chum salmon sloughs in the middle reach and the respective percent escapement based on peak survey counts, 1985.

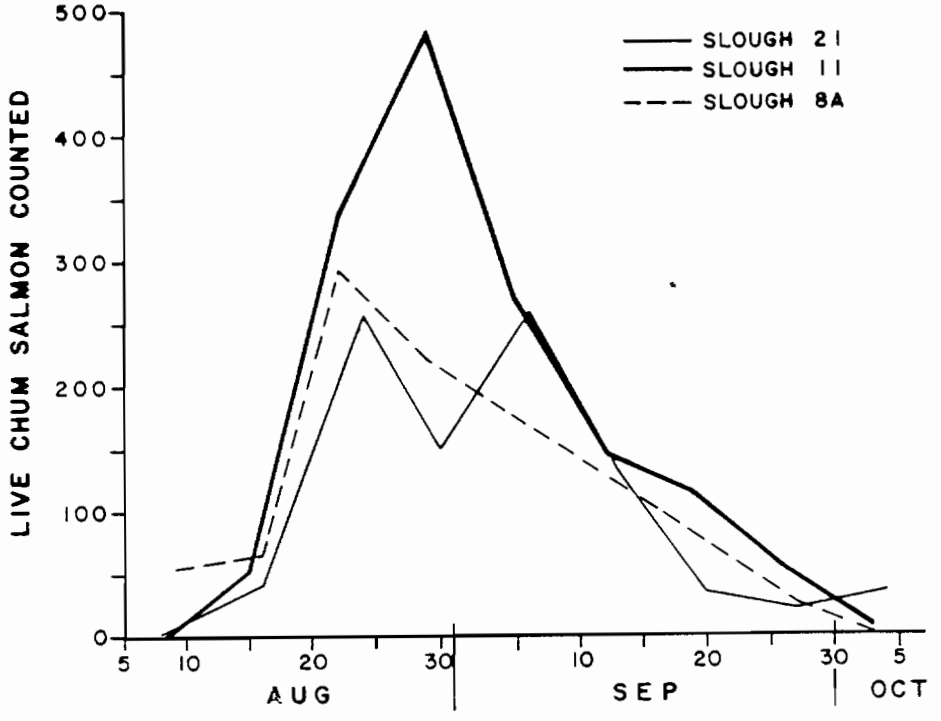


Figure 34. Chum salmon live counts by date in Sloughs 8A, 11 and 21, 1985.

Table 25. Peak chum salmon survey counts for sloughs in the middle Susitna River reach, 1985.

Slough	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
1	99.6	9/17	2	0	2	0.1
2	100.2	10/1	15	6	21	1.1
3B	101.4	9/24	1	1	2	0.1
3A	101.9	9/24	2	0	2	0.1
8	113.7	9/2	47	29	76	3.9
8D	121.8	9/16	1	0	1	0.1
8C	121.9	9/23	47	18	65	3.3
8B	122.2	8/25	177	6	183	9.3
Moose	123.5	9/9	22	2	24	1.2
A'	124.6	8/16	1	0	1	0.1
8A	125.4	8/22	292	7	299	15.2
B	126.3	9/12	72	17	89	4.5
9	128.3	8/29	61	33	94	4.8
9A	133.8	9/26	118	13	131	6.7
11	135.3	9/19	115	491	606	30.9
16	137.3	8/24	8	2	10	0.5
20	140.0	8/24	54	0	54	2.7
21	141.1	9/6	260	19	279	14.2
22	144.5	8/24	20	4	24	1.2
21A	145.3	8/16	1	0	1	0.1
		TOTALS[1]	1,316	648	1,964	100.1

1 Percent contribution total may not equal 100 due to rounding errors.

Table 26. Estimated chum salmon slough escapements to twelve middle Susitna River sloughs, 1985.

Slough	River Mile	Total Fish[1] Days	Peak Live Survey Count	Mean[3] Observation Life Days	Slough[3] Escapement	% of Curry[2] Station Escapement
8	113.7	1,455	47	6.86	212	0.9
8C	121.9	672	47	6.86	98	0.4
8B	122.2	4,608	177	-	673	2.7
Moose	123.5	244	22	6.86	36	0.1
8A	125.4	6,582	292	6.86	1,110	4.6
B	126.3	1,442	72	6.86	210	0.9
9	128.3	807	61	6.86	118	0.5
9A	133.8	1,029	118	6.86	150	0.6
11	135.3	10,089	485	6.86	1,843	7.6
20	140.0	523	54	6.86	76	0.3
21	141.1	6,465	260	6.86	942	3.9
22	144.5	255	20	6.86	37	0.2
	TOTALS	34,171	1,655	-	5,505	22.7

1 Number of fish days were calculated for sloughs that had peak survey counts > 15 fish.
2 1985 Curry Station chum salmon escapement was approximately 24,400 fish.
3 Mean observation life in days was obtained by averaging observation days from 1983 and 1984 observation life data.

Egg retention studies indicated 94 percent of the 93 females sampled in sloughs 8A, 11, 20 and 21 deposited almost all of their eggs (Figure 35). Egg retention was highest in sloughs 11 and 21 with a median (of sample) retention of 79 and 92 eggs, respectively.

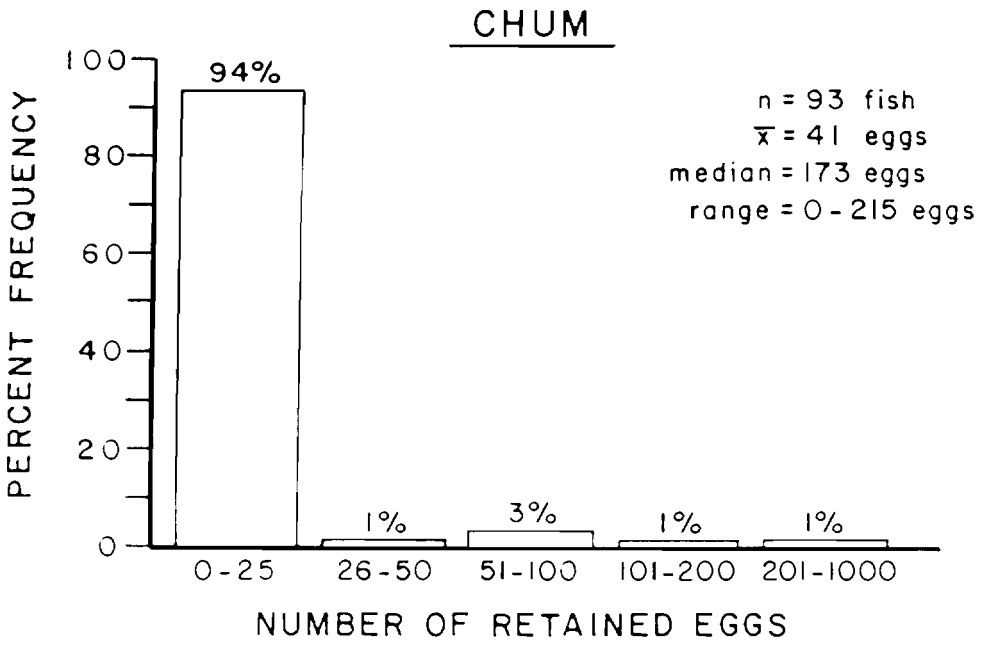


Figure 35. Percent frequency of the numbers of eggs retained by chum salmon at eleven middle reach sloughs, 1985.

Eight of 25 middle-river tributary streams surveyed were occupied by chum salmon (Appendix Table 3-1). Peak live counts totaled 1,829 fish (Table 25). Approximately 99 percent of these fish spawned in Indian River, Portage Creek and Fourth of July Creek (Figure 36). Spawning was noted in these streams from the first week of August until the end of September, and reached a peak during the last two weeks of August.

3.5 Coho Salmon

3.5.1 Main Channel Escapements

The 1985 escapement of coho salmon at Flathorn Station was an estimated 77,400 fish with a standard deviation of 63,500 (Figure 37). This estimate was derived by stratifying the Flathorn Station tag releases and Sunshine Station tag recoveries into three time strata. There were insufficient tag recoveries at Yentna Station to incorporate that geographic reach as a strata in the model. The estimated escapement to Sunshine Station was 36,800 coho salmon with an associated 95 percent confidence interval of 34,300 to 39,600 fish (Figure 37). These

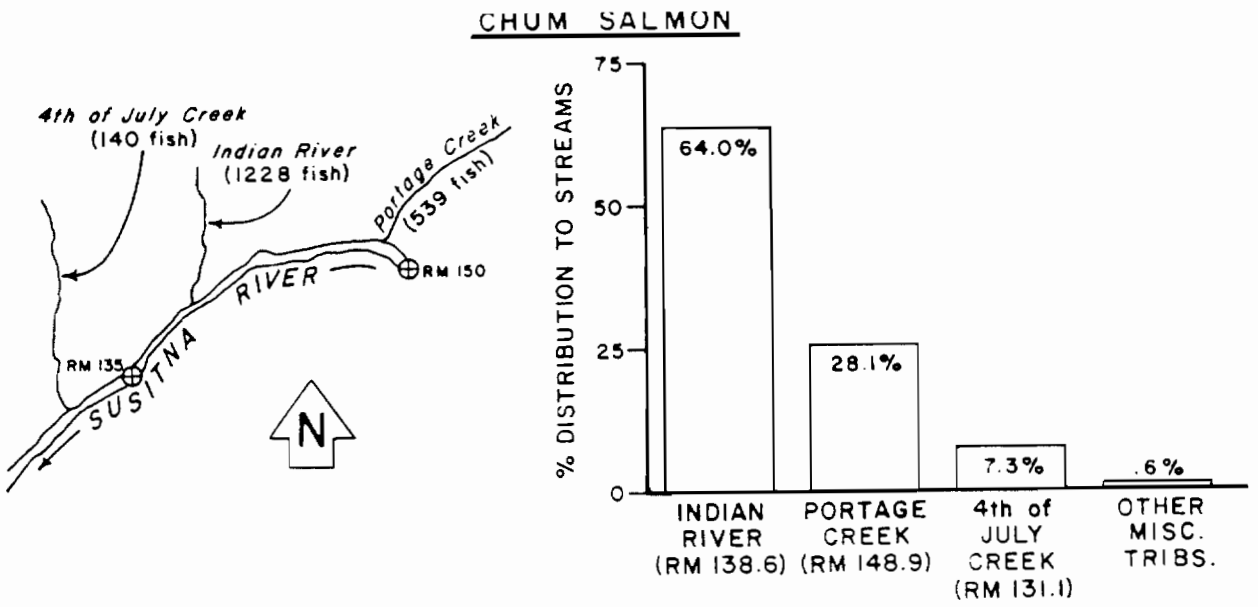


Figure 36. The three major chum salmon streams in the middle reach and the respective percent escapement based on peak survey counts, 1985.

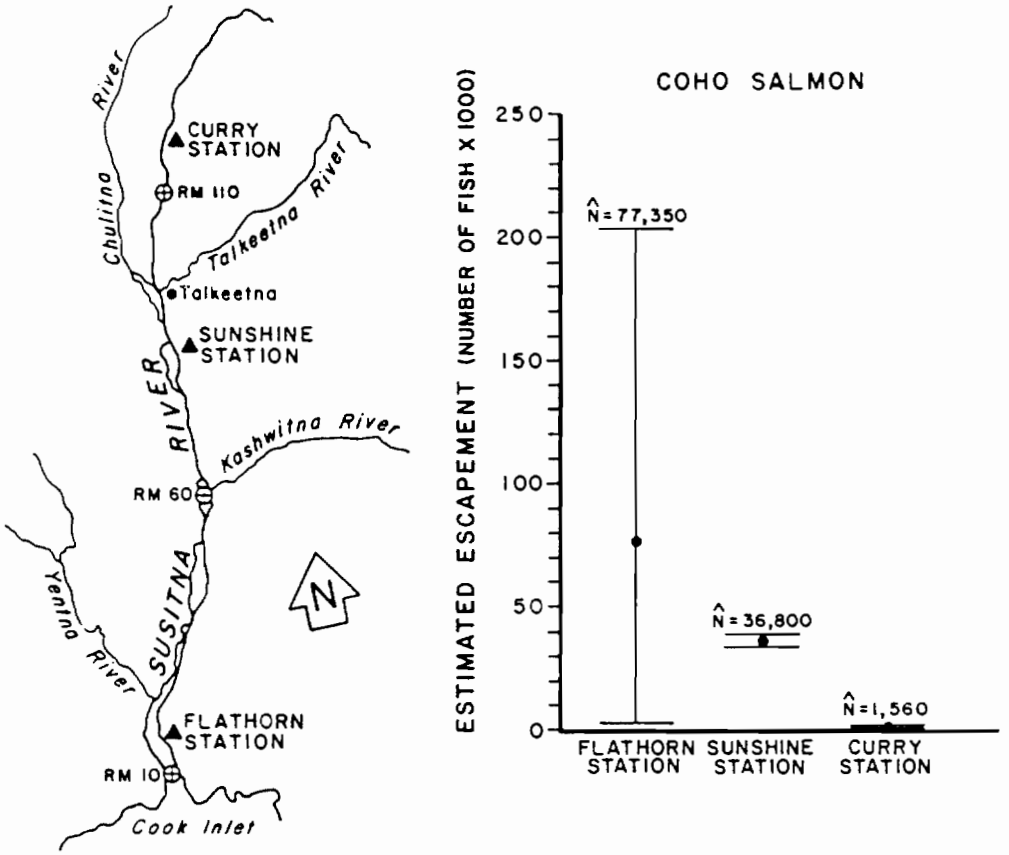


Figure 37. Coho salmon escapements by sampling station, 1985.

estimates were calculated using the Petersen model which pools all survey and fishwheel recovery data. The Curry Station coho salmon escapement was 1,600 fish (Figure 37). The 95 percent confidence interval extended from 1,200 to 2,300 fish. Curry Station estimates were also derived using the Petersen model.

All escapement estimates are for the location at which the tags were deployed. The estimates include some unknown number of milling fish which reached the tagging site but ultimately spawned in a downstream location. For example, coho salmon tagged at Curry Station have been seen in the Deshka River some 80 miles downriver. The incidence of downstream milling fish tagged at a site such as Curry Station were higher in streams near the tagging site and decreased with distance downstream.

Coho salmon passage at Flathorn Station, based on fishwheel catches, extended from July 23 until August 19. Fifty percent of the catch occurred by July 30 while the peak fishwheel catch of 184 fish occurred on July 27 (Figure 38 and Appendix Table 2-3). Coho salmon passage at Sunshine Station, based on fishwheel catches, occurred between August 1 and August 25. Fifty percent of the catch occurred by August 14 and peaked on August 19 when 512 fish were captured (Figure 39 and Appendix Tables 2-4 and 5-1). At Curry Station, the migration ranged from August 5 to September 4 and reached a median on August 18. A peak fishwheel catch of 18 fish occurred on August 20 (Figure 40 and Appendix Tables 2-5 and 5-1).

At Flathorn Station, the distribution of coho salmon fishwheel catches was 56 percent (1,423) east channel and 44 percent (1,098) west channel (Appendix Tables 2-1 and 2-2). Coho salmon recaptured at Yentna and Sunshine stations indicated that the majority (82.1 percent) of the tagged fish reaching Yentna Station traveled past Flathorn in the west channel while 84.8 percent of those reaching Sunshine Station traveled predominantly in the east channel.

Based on recovery of tagged fish, coho salmon traveled the ten mile distance between Flathorn and Yentna stations in five days (median) for a rate of two mpd (Figure 41). Between Flathorn and Sunshine stations, a distance of 58 miles, the median travel time was 21 days for a rate of 2.8 mpd. The rate of travel between Flathorn and Curry stations was not determined because of an inadequate sample size.

Coho salmon sampled at Flathorn Station were predominantly age 3_2 (50 percent) and 4_3 (44 percent) (Table 27), with a similar trend occurring at Sunshine and Curry stations. The combined mean lengths of age 3_2 coho salmon at Flathorn, Sunshine and Curry stations were 521 mm, 531 mm and 530 mm, respectively (Table 28). Age 4_3 fish at the above sites had mean lengths of 538 mm, 549 mm and 569 mm, respectively. The sex ratios were 1.3:1 at all three sampling sites (Table 29).

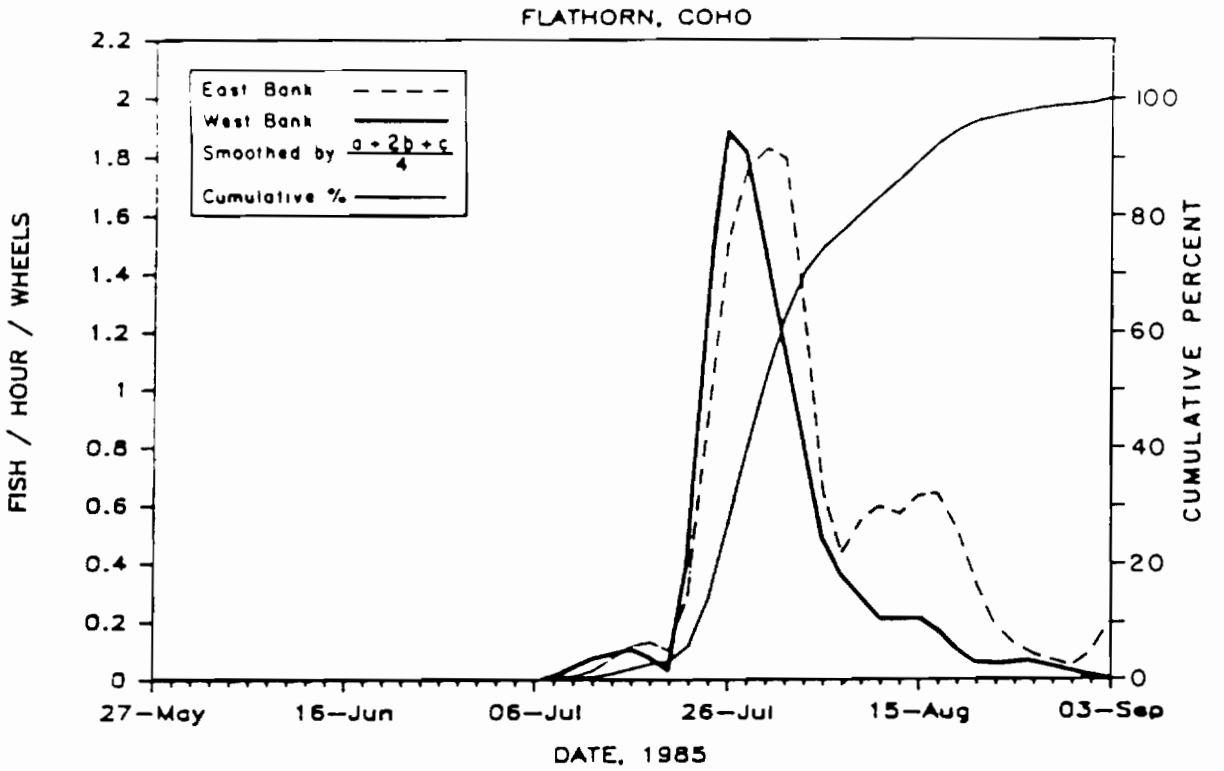


Figure 38. Mean hourly and cumulative percent fishwheel catch of coho salmon by two day periods at Flathorn Station, 1985.

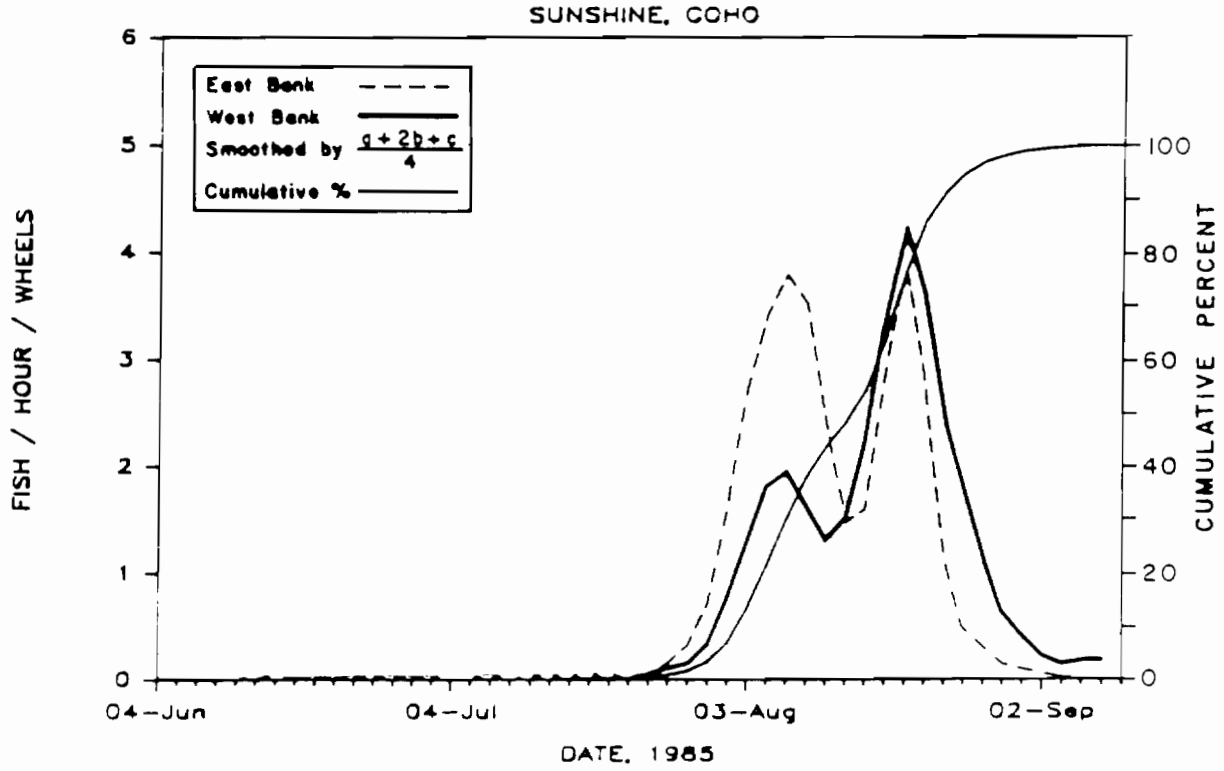


Figure 39. Mean hourly and cumulative percent fishwheel catch of coho salmon by two day periods at Sunshine Station, 1985.

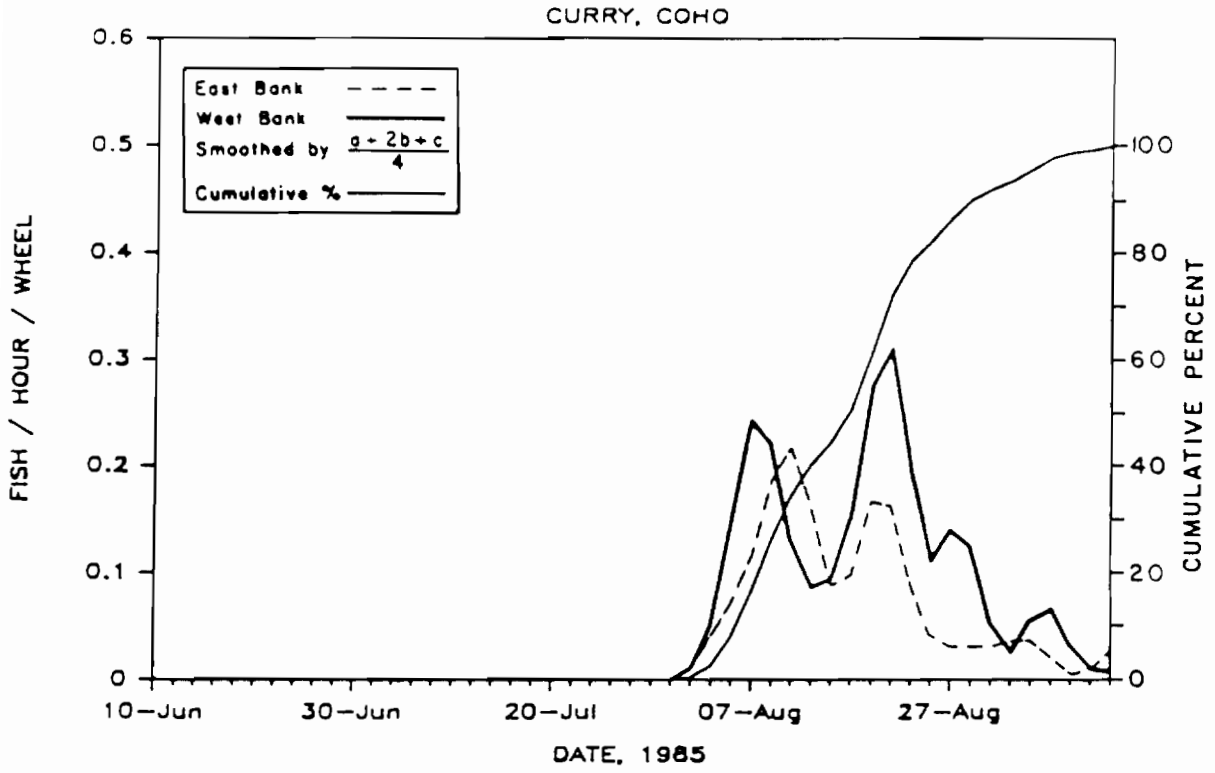


Figure 40. Mean hourly and cumulative percent fishwheel catch of coho salmon by two day periods at Curry Station, 1985.

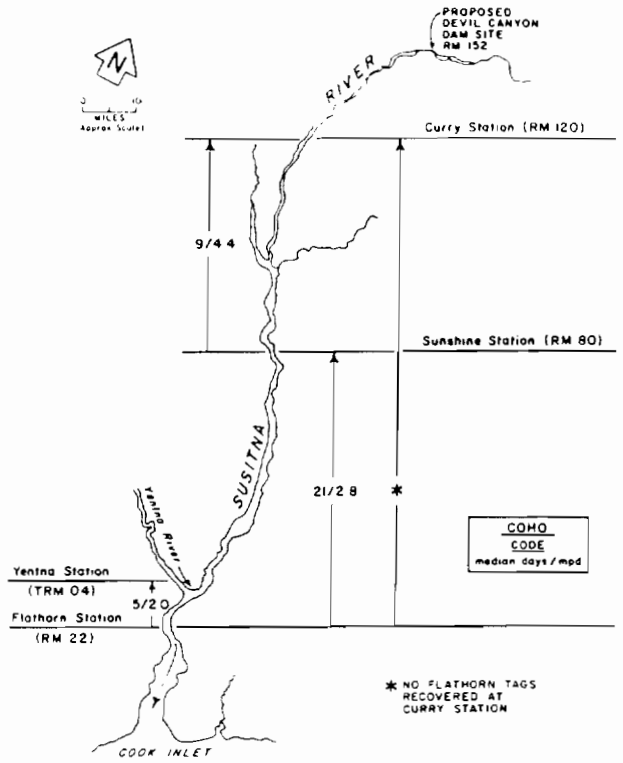


Table 27. Analysis of coho salmon lengths, in millimeters, by sex and age class from fishwheel CPUE weighted escapement samples collected at Flathorn, Sunshine and Curry Stations, 1985.

Location	Age Class	Male			Female			Combined		
		Mean Length	Std. Error	Sample Size	Mean Length	Std. Error	Sample Size	Mean Length	Std. Error	Sample Size
Flathorn Station	2_2	310	12.0	7	-	-	-	310	12.0	7
	3_2	520	3.2	340	521	3.3	232	521	2.4	572
	3_2	289	6.9	21	-	-	-	289	6.9	21
	4_3	545	3.7	258	530	3.5	238	538	2.6	496
	4_4	301	9.5	10	-	-	-	301	9.5	10
	5_4	545	25.7	10	560	14.3	12	553	14.0	22
	5_5	362	19.6	3	-	-	-	362	19.6	3
	All	511	2.85	912	524	2.1	680	417	1.9	1,592
Sunshine Station	3_2	526	3.0	358	539	2.7	280	531	2.1	638
	3_3	371	18.9	3	-	-	-	371	18.9	3
	4_3	542	4.2	201	558	3.1	177	549	2.7	378
	4_4	376	2.1	2	-	-	-	376	2.1	2
	5_4	576	22.3	3	583	17.4	2	578	14.6	5
	All	531	2.1	904	544	1.8	706	537	1.4	1,610
Curry Station	3_2	516	10.4	30	551	5.5	22	530	6.8	52
	4_3	562	9.2	38	586	6.9	18	569	6.8	56
	5_4	-	-	-	600	-	1	600	-	1
	All	538	6.0	102	567	3.9	76	550	3.9	178

[1] Includes all aged and non-aged samples.

Table 28. Age composition by percent of coho salmon escapements to Flathorn, Sunshine and Curry stations based on catch samples weighted by fishwheel CPUE, 1985.

Collection Site	n	Age Class[1]						
		2_2	3_2	3_3	4_3	4_4	5_4	5_5
Flathorn Station	1,131	*	50	2	44	*	2	*
Sunshine Station	1,026	-	62	*	37	*	*	-
Curry Station	109	-	48	-	52	-	*	-

[1] Gilbert-Rich notation

* Frequency of occurrence is less than 1%.

Table 29. Sex ratios of coho salmon by age from fishwheel escapement samples collected at Flathorn, Sunshine and Curry stations, 1985.

Collection Site	Age	Combined Sample Size	Number		Sex Ratio (M:F)
			Males	Females	
Flathorn Station	2_2	7	7	-	-
	3_2	572	340	232	1.5:1
	3_3	21	21	-	-
	4_3	496	258	238	1.1:1
	4_4	10	10	-	-
	5_4	22	10	12	0.8:1
	5_5	3	3	-	-
All[1]		1,592	912	680	1.3:1
Sunshine Station	3_2	638	358	280	1.3:1
	3_3	3	3	-	-
	4_3	378	201	177	1.1:1
	4_4	2	2	-	-
	5_4	5	3	2	1.5:1
All[1]		1,610	904	706	1.3:1
Curry Station	3_2	52	30	22	1.4:1
	4_3	56	38	18	2.1:1
	5_4	1	-	1	0:1
All[1]		178	102	76	1.3:1

[1] Includes all aged and non-aged samples.

3.5.2 Fecundity

The average fecundity of females varies both between and within salmon species, with stocks in northern latitudes averaging more eggs per female than those in southern latitudes (McNeil and Bailey, 1975). Scott and Crossman (1973) reported that British Columbia stocks of coho salmon generally average between 2,190 to 2,789 eggs per female. This agrees with Hart's (1973) value of 2,500 eggs for a 550 mm female.

Susitna River coho salmon fecundity information is limited to samples collected at Sunshine Station. The 27 females sampled here on August 16 averaged 3,437 eggs, with a 95 percent confidence interval of 3,134 to 3,740 (Table 30).

Table 30. Number of eggs, length, weight and associated statistics for coho salmon sampled for fecundity at Sunshine Station, 1985.

Variables	Sample Size	Mean	Standard Deviation	95 Percent[1/] C.I. of the Mean
Number of eggs	27	3,437	805	3,134 - 3,740
Length (mm)	27	549	45	532 - 566
Weight (g)	27	2,637	742	2,357 - 2,917

[1/] 95 percent confidence interval of the mean.

Susitna River coho salmon appear to be more fecund than British Columbia stocks. A 550 mm Susitna River coho would be expected to contain 3,400 eggs, 900 more than the 2,500 reported by Hart (Figure 42). This follows the general pattern of greater average fecundities in more northern latitudes.

3.5.3 Spawning Areas

The middle-river main channel was surveyed for salmon spawning activity from July 15 through October 7. No coho salmon were observed spawning in the main channel during this time period.

Coho salmon occupied five sloughs in 1985 (Appendix Table 3-2). However, except for nine coho salmon observed spawning in Slough 8A, they were all milling fish. Spawning here was attributed to high water flows and ice scouring which destroyed beaver dams that had previously impeded access to the sloughs upper reaches.

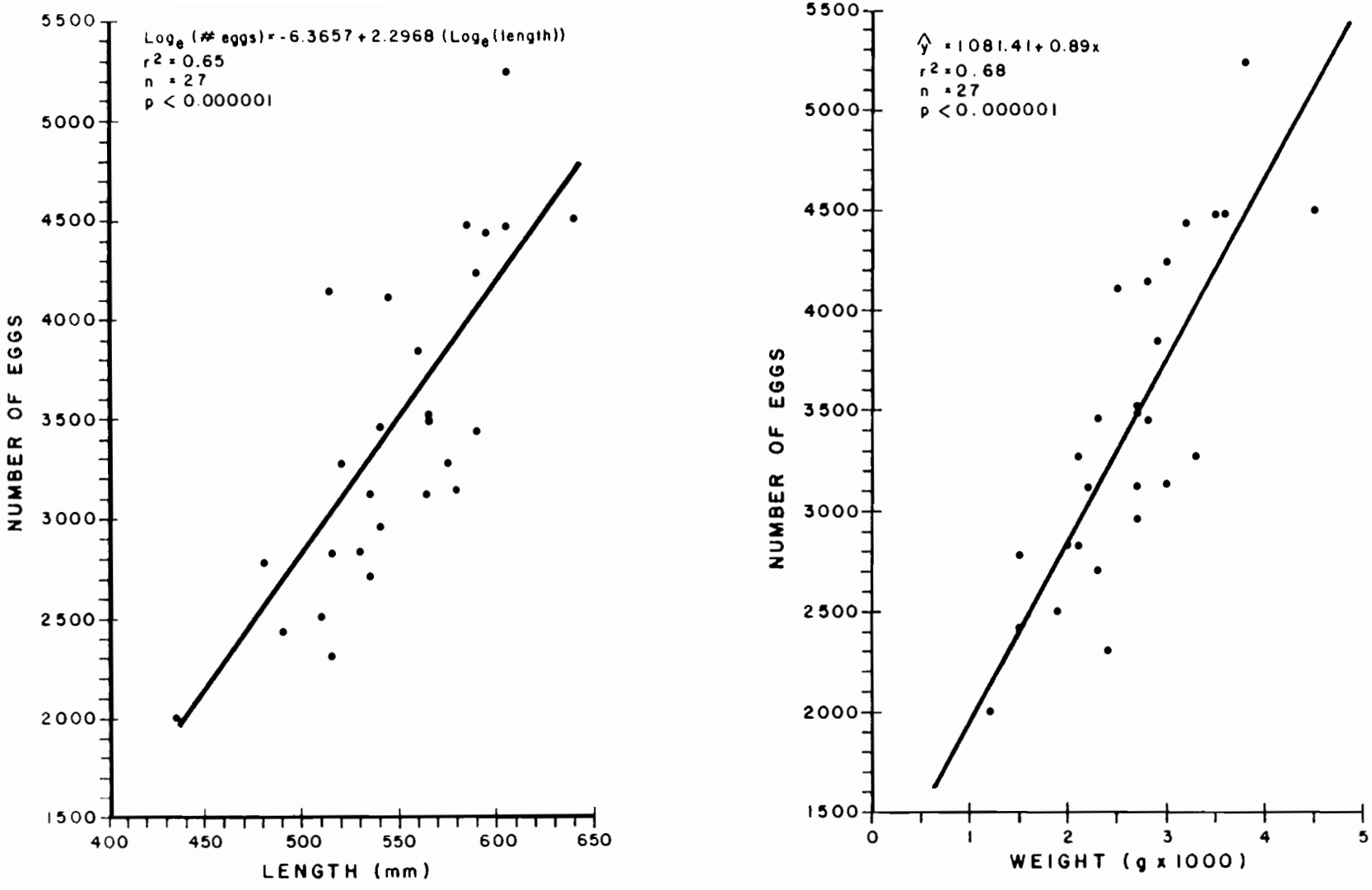


Figure 42. Number of eggs for coho salmon sampled at Sunshine Station as a function of length and weight, 1985.

Most coho salmon spawned in middle-river streams. Ten of the 25 streams surveyed had adult coho salmon present. Spawning was observed in all ten streams (Appendix Table 3-1). Based on a total peak count of 901 fish revealed that 89 percent of middle reach coho salmon spawned in Whiskers, Chase and Gold creeks and Indian River (Table 31 and Figure 43). Coho salmon spawned in middle-reach streams from the last week in August until the last week of September. Spawning activity reached a peak during the first two weeks of September.

Table 31. Peak coho survey counts for middle river streams in order of contribution, 1985.

Stream	River Mile	Date	Number Counted			Percent Contribution
			Live	Dead	Total	
Whiskers Creek	101.4	9/4	442	1	443	48.6
Chase Creek	106.9	9/10	218	0	218	23.9
Indian River	138.6	9/4	71	0	71	7.8
Gash Creek	111.6	9/16	70	1	71	7.8
Lower McKenzie Creek	116.2	9/30	41	9	50	5.5
Portage Creek	148.9	8/23	25	0	25	2.7
Lane Creek	113.6	9/26	13	0	13	1.4
Jack Long Creek	144.5	9/11	11	0	11	1.2
Slash Creek	111.2	9/23	8	0	8	0.9
Little Portage Creek	117.7	9/23	2	0	2	0.2
		TOTALS[1]	901	11	912	100.0

1 Percent contribution total may not equal 100 due to rounding errors.

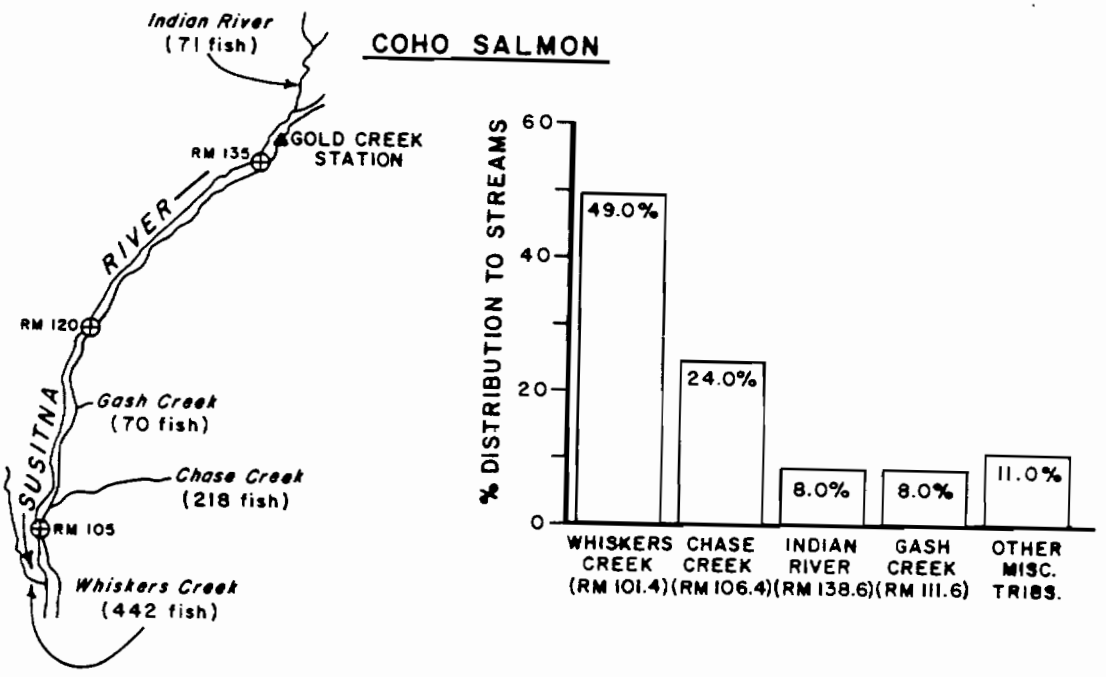


Figure 43. The three major coho salmon streams in the middle reach and the respective percent escapement based on peak survey counts, 1985.

4.0 ACKNOWLEDGEMENTS

The authors especially wish to acknowledge Bruce Barrett for his guidance and patiently sharing his extensive knowledge of the Susitna River; the contributions of Mr. Allen Bingham for his biometric review of the Flathorn Station population estimates and his assistance with writing the methods section; Ms. Linda Brannian for her suggestions and assistance with the chinook salmon population estimates; Rick Gustin for his assistance in preparing the stream and slough survey data; the field crews for their many hours of work under sometimes trying conditions; the data processing staff for their untiring work; and to the many others who without their dedicated efforts, this work would not have been possible.

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6.0 APPENDICES

APPENDIX 1

Susitna River Drainage Salmon
Escapement Data Summary, 1951-84.

Presented in Volume II

APPENDIX 2

Fishwheel Daily and Cumulative Catches, by Station.

Appendix Table 2-1. Flathorn Station east channel daily and cumulative fishwheel catch by species, 1985.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
052685	2	10.50	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
052785	2	47.00	3	3	2	3	0	0	0	0	0	0	0	0	0	5	6
052885	3	51.00	4	7	2	5	0	0	0	0	0	0	0	2	2	8	14
052985	3	72.00	6	13	2	7	0	0	0	0	0	0	0	8	10	16	30
053085	3	72.00	8	21	5	12	0	0	0	0	0	0	0	10	20	23	53
053185	3	72.00	10	31	3	15	0	0	0	0	0	0	0	11	31	24	77
060185	3	72.00	16	47	7	22	0	0	0	0	0	0	0	22	53	45	122
060285	4	65.50	13	60	8	30	0	0	0	0	0	0	0	1	54	22	144
060385	3	70.00	88	148	12	42	0	0	0	0	0	0	1	3	58	104	248
060485	3	70.00	71	219	9	51	0	0	0	0	0	0	0	2	60	82	330
060585	3	71.00	102	321	26	77	0	0	0	0	0	0	0	12	72	140	470
060685	4	77.50	83	404	15	92	0	0	0	0	0	0	0	4	76	102	572
060785	4	95.50	101	505	9	101	0	0	0	0	0	0	0	12	88	122	694
060885	4	78.00	293	798	13	114	0	0	0	0	0	0	0	20	108	326	1020
060985	4	96.00	457	1255	29	143	0	0	0	0	0	0	0	31	139	517	1537
061085	4	95.50	537	1792	29	172	0	0	0	0	0	0	0	23	162	589	2126
061185	4	96.00	553	2345	17	189	0	0	0	0	0	0	0	5	167	575	2701
061285	4	95.50	476	2821	12	201	0	0	0	0	0	0	0	4	171	492	3193
061385	4	95.50	420	3241	10	211	0	0	0	0	0	0	0	15	186	445	3638
061485	4	96.00	264	3505	8	219	0	0	0	0	0	0	0	8	194	280	3918
061585	4	96.00	492	3997	6	225	0	0	0	0	0	0	0	17	211	515	4433
061685	4	95.50	470	4467	2	227	0	0	0	0	0	0	0	12	223	484	4917
061785	4	96.00	439	4906	1	228	0	0	0	0	0	0	0	23	246	463	5380
061885	4	96.00	322	5228	2	230	0	0	0	0	0	0	0	15	261	339	5719
061985	4	96.00	259	5487	7	237	0	0	1	1	0	0	0	15	276	282	6001
062085	4	96.00	365	5852	1	238	0	0	0	1	0	0	0	13	289	379	6380
062185	4	96.00	318	6170	5	243	0	0	0	1	0	0	0	5	294	328	6708
062285	4	95.50	259	6429	3	246	1	1	0	1	0	0	0	11	305	274	6982
062385	4	95.50	315	6744	4	250	1	2	0	1	0	0	0	9	314	329	7311

Appendix Table 2-1. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
062485	4	96.00	227	6971	2	252	1	3	0	1	0	0	0	11	325	241	7552
062585	4	96.00	162	7133	5	257	0	3	0	1	0	0	0	21	346	188	7740
062685	4	96.00	121	7254	4	261	0	3	0	1	0	0	0	12	358	137	7877
062785	4	96.00	85	7339	7	268	0	3	0	1	0	0	0	9	367	101	7978
062885	4	96.00	66	7405	2	270	1	4	0	1	0	0	0	9	376	78	8056
062985	4	76.75	70	7475	0	270	2	6	0	1	0	0	0	1	377	73	8129
063085	2	48.00	57	7532	1	271	1	7	0	1	0	0	0	3	380	62	8191
070185	2	46.00	29	7561	2	273	0	7	0	1	0	0	0	1	381	32	8223
070285	2	48.00	14	7575	3	276	2	9	0	1	0	0	0	1	382	20	8243
070385	2	48.00	10	7585	4	280	1	10	0	1	0	0	0	1	383	16	8259
070485	2	48.00	6	7591	7	287	3	13	0	1	0	0	0	1	384	17	8276
070585	2	48.00	21	7612	5	292	2	15	1	2	0	0	0	2	386	31	8307
070685	2	48.00	18	7630	11	303	6	21	0	2	0	0	0	2	388	37	8344
070785	2	48.00	18	7648	11	314	8	29	0	2	0	0	0	3	391	40	8384
070885	2	48.00	19	7667	12	326	14	43	1	3	0	0	0	2	393	48	8432
070985	2	47.50	5	7672	12	338	15	58	1	4	0	0	0	0	393	33	8465
071085	2	48.00	6	7678	11	349	17	75	0	4	1	1	0	4	397	39	8504
071185	2	48.00	7	7685	4	353	19	94	0	4	1	2	0	11	408	42	8546
071285	2	48.00	3	7688	5	358	23	117	0	4	1	3	0	3	411	35	8581
071385	2	48.00	7	7695	9	367	25	142	0	4	3	6	0	5	416	49	8630
071485	2	48.00	4	7699	6	373	51	193	0	4	4	10	0	2	418	67	8697
071585	2	46.50	5	7704	22	395	54	247	1	5	6	16	0	6	424	94	8791
071685	2	48.00	5	7709	25	420	39	286	0	5	5	21	0	13	437	87	8878
071785	2	48.00	3	7712	23	443	40	326	1	6	9	30	0	15	452	91	8969
071885	2	47.50	1	7713	10	453	22	348	0	6	6	36	0	6	458	45	9014
071985	2	48.00	1	7714	6	459	16	364	0	6	6	42	0	8	466	37	9051
072085	2	48.00	2	7716	8	467	20	384	0	6	1	43	2	8	476	41	9092
072185	2	48.00	2	7718	6	473	29	413	0	6	2	45	0	4	480	43	9135
072285	2	48.00	1	7719	29	502	49	462	7	13	6	51	0	3	483	95	9230

Appendix Table 2-1. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
072385	2	48.00	0	7719	262	764	47	509	23	36	36	87	0	8	491	376	9606
072485	2	47.00	1	7720	271	1035	82	591	37	73	55	142	0	8	499	454	10060
072585	2	48.00	2	7722	189	1224	159	750	29	102	69	211	0	23	522	471	10531
072685	2	48.00	0	7722	214	1438	205	955	42	144	81	292	0	9	531	551	11082
072785	2	48.00	0	7722	254	1692	182	1137	44	188	88	380	0	4	535	572	11654
072885	2	46.00	1	7723	414	2106	148	1285	43	231	93	473	0	11	546	710	12364
072985	2	44.50	0	7723	262	2368	115	1400	74	305	72	545	0	13	559	536	12900
073085	2	48.00	0	7723	199	2567	189	1589	105	410	78	623	0	16	575	587	13487
073185	2	48.00	1	7724	101	2668	191	1780	96	506	118	741	1	4	580	512	13999
080185	2	48.00	0	7724	84	2752	213	1993	66	572	88	829	0	10	590	461	14460
080285	2	48.00	3	7727	87	2839	111	2104	55	627	79	908	0	16	606	351	14811
080385	2	48.00	1	7728	62	2901	73	2177	34	661	42	950	1	15	622	228	15039
080485	2	48.00	0	7728	84	2985	179	2356	59	720	31	981	2	28	652	383	15422
080585	2	48.00	2	7730	79	3064	116	2472	29	749	18	999	0	15	667	259	15681
080685	2	48.00	0	7730	96	3160	154	2626	38	787	19	1018	2	15	684	324	16005
080785	2	48.00	1	7731	78	3238	181	2807	27	814	11	1029	0	25	709	323	16328
080885	2	48.00	1	7732	65	3303	144	2951	59	873	23	1052	1	10	720	303	16631
080985	2	48.00	0	7732	98	3401	301	3252	66	939	34	1086	0	13	733	512	17143
081085	2	48.00	0	7732	125	3526	275	3527	152	1091	31	1117	1	10	744	594	17737
081185	2	48.00	0	7732	107	3633	264	3791	285	1376	34	1151	7	12	763	709	18446
081285	2	48.00	0	7732	89	3722	260	4051	301	1677	34	1185	8	13	784	705	19151
081385	2	48.00	0	7732	35	3757	61	4112	128	1805	7	1192	8	7	799	246	19397
081485	2	48.00	2	7734	37	3794	53	4165	492	2297	22	1214	5	12	816	623	20020
081585	2	48.00	1	7735	26	3820	47	4212	622	2919	48	1262	9	14	839	767	20787
081685	2	48.00	1	7736	29	3849	25	4237	385	3304	44	1306	3	7	849	494	21281
081785	2	48.00	0	7736	53	3902	34	4271	416	3720	17	1323	10	5	864	535	21816
081885	2	48.00	0	7736	33	3935	13	4284	339	4059	36	1359	14	19	897	454	22270
081985	2	48.00	0	7736	28	3963	30	4314	245	4304	19	1378	22	39	958	383	22653
082085	2	48.00	0	7736	13	3976	17	4331	143	4447	14	1392	26	46	1030	259	22912

Appendix Table 2-1. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
082185	2	48.00	0	7736	6	3982	13	4344	62	4509	14	1406	57	38	1125	190	23102
082285	2	48.00	0	7736	5	3987	9	4353	16	4525	6	1412	53	34	1212	123	23225
082385	2	48.00	0	7736	4	3991	4	4357	23	4548	9	1421	26	38	1276	104	23329
082485	2	48.00	0	7736	2	3993	5	4362	20	4568	6	1427	37	55	1368	125	23454
082585	2	48.00	0	7736	4	3997	6	4368	15	4583	6	1433	37	42	1447	110	23564
082685	2	45.00	0	7736	3	4000	1	4369	7	4590	4	1437	11	16	1474	42	23606
082785	2	48.00	0	7736	2	4002	1	4370	4	4594	3	1440	23	26	1523	59	23665
082885	2	48.00	0	7736	0	4002	1	4371	4	4598	3	1443	29	31	1583	68	23733
082985	2	48.00	0	7736	1	4003	1	4372	6	4604	3	1446	19	20	1622	50	23783
083085	2	48.00	0	7736	4	4007	1	4373	3	4607	2	1448	20	18	1660	48	23831
083185	2	48.00	0	7736	0	4007	2	4375	2	4609	3	1451	24	18	1702	49	23880
090185	2	48.00	0	7736	3	4010	1	4376	4	4613	0	1451	4	4	1710	16	23896
090285	2	48.00	0	7736	0	4010	0	4376	1	4614	2	1453	17	9	1736	29	23925
090385	2	24.00	0	7736	0	4010	0	4376	4	4618	7	1460	50	13	1799	74	23999

Appendix Table 2-2. Flathorn Station west channel daily and cumulative fishwheel catch by species, 1985.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
052685	2	20.00	2	2	0	0	0	0	0	0	0	0	1	2	3	5	5
052785	2	48.00	2	4	2	2	0	0	0	0	0	0	1	15	19	20	25
052885	3	55.50	7	11	1	3	0	0	0	0	0	0	0	4	23	12	37
052985	3	72.00	7	18	1	4	0	0	0	0	0	0	0	8	31	16	53
053085	3	69.00	13	31	4	8	0	0	0	0	0	0	0	6	37	23	76
053185	3	72.00	11	42	7	15	0	0	0	0	0	0	0	5	42	23	99
060185	4	66.75	7	49	9	24	0	0	0	0	0	0	0	7	49	23	122
060285	3	72.00	11	60	7	31	0	0	0	0	0	0	0	2	51	20	142
060385	3	70.00	32	92	10	41	0	0	0	0	0	0	2	2	55	46	188
060485	3	71.00	51	143	12	53	0	0	0	0	0	0	0	0	55	63	251
060585	3	70.00	43	186	8	61	0	0	0	0	0	0	0	1	56	52	303
060685	3	58.75	35	221	4	65	0	0	0	0	0	0	0	2	58	41	344
060785	2	48.00	78	299	13	78	0	0	0	0	0	0	0	2	60	93	437
060885	2	46.50	179	478	17	95	0	0	0	0	0	0	1	2	63	199	636
060985	2	47.50	272	750	13	108	0	0	0	0	0	0	0	3	66	288	924
061085	2	47.50	226	976	10	118	0	0	0	0	0	0	0	1	67	237	1161
061185	2	48.00	215	1191	6	124	0	0	0	0	0	0	0	2	69	223	1384
061285	2	48.00	152	1343	5	129	0	0	0	0	0	0	0	2	71	159	1543
061385	2	48.00	134	1477	3	132	0	0	0	0	0	0	0	4	75	141	1684
061485	2	48.00	119	1596	1	133	0	0	0	0	0	0	0	3	78	123	1807
061585	2	48.00	201	1797	2	135	0	0	0	0	0	0	0	7	85	210	2017
061685	2	48.00	210	2007	4	139	0	0	0	0	0	0	0	8	93	222	2239
061785	2	48.00	168	2175	4	143	0	0	0	0	0	0	0	7	100	179	2418
061885	2	48.00	157	2332	2	145	0	0	0	0	0	0	0	5	105	164	2582
061985	2	40.50	108	2440	3	148	0	0	0	0	0	0	0	1	106	112	2694
062085	2	30.50	93	2533	0	148	0	0	0	0	0	0	0	1	107	94	2788
062185	2	48.00	162	2695	1	149	0	0	0	0	0	0	0	8	115	171	2959
062285	2	48.00	126	2821	1	150	0	0	0	0	0	0	0	5	120	132	3091
062385	2	48.00	123	2944	2	152	0	0	0	0	0	0	0	6	126	131	3222

Appendix Table 2-2. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
062485	2	47.50	82	3026	2	154	0	0	0	0	0	0	0	6	132	90	3312
062585	2	48.00	56	3082	0	154	0	0	0	0	0	0	0	19	151	75	3387
062685	2	46.00	35	3117	0	154	0	0	0	0	0	0	0	21	172	56	3443
062785	2	48.00	26	3143	0	154	0	0	0	0	0	0	0	20	192	46	3489
062885	2	48.00	25	3168	0	154	0	0	0	0	0	0	0	8	200	33	3522
062985	2	48.00	14	3182	0	154	0	0	0	0	0	0	0	4	204	18	3540
063085	2	48.00	25	3207	1	155	0	0	0	0	0	0	0	1	205	27	3567
070185	2	47.00	6	3213	2	157	0	0	0	0	0	0	0	1	206	9	3576
070285	2	45.50	4	3217	1	158	0	0	0	0	0	0	0	1	207	6	3582
070385	2	47.00	2	3219	0	158	0	0	0	0	0	0	0	0	207	2	3584
070485	2	48.00	4	3223	7	165	0	0	0	0	0	0	0	0	207	11	3595
070585	2	48.00	6	3229	5	170	1	1	0	0	0	0	0	2	209	14	3609
070685	2	48.00	11	3240	13	183	1	2	1	1	0	0	0	4	213	30	3639
070785	2	48.00	5	3245	16	199	7	9	1	2	0	0	0	4	217	33	3672
070885	2	48.00	10	3255	7	206	9	18	2	4	0	0	0	1	218	29	3701
070985	2	48.00	3	3258	14	220	11	29	0	4	2	2	0	0	218	30	3731
071085	2	48.00	4	3262	6	226	16	45	0	4	1	3	0	5	223	32	3763
071185	2	48.00	2	3264	8	234	26	71	0	4	4	7	0	4	227	44	3807
071285	2	48.00	2	3266	14	248	31	102	0	4	5	12	0	4	231	56	3863
071385	2	48.00	3	3269	6	254	22	124	1	5	3	15	0	3	234	38	3901
071485	2	48.00	5	3274	8	262	38	162	0	5	3	18	0	4	238	58	3959
071585	2	48.00	2	3276	38	300	53	215	0	5	7	25	0	2	240	102	4061
071685	2	48.00	3	3279	38	338	29	244	1	6	7	32	0	8	248	86	4147
071785	2	48.00	1	3280	29	367	29	273	0	6	4	36	0	4	252	67	4214
071885	2	47.50	1	3281	14	381	20	293	0	6	3	39	0	2	254	40	4254
071985	2	48.00	2	3283	5	386	18	311	0	6	2	41	0	11	265	38	4292
072085	2	48.00	2	3285	3	389	12	323	0	6	0	41	0	2	267	19	4311
072185	2	48.00	0	3285	2	391	21	344	0	6	0	41	0	2	269	25	4336
072285	2	48.00	1	3286	61	452	29	373	1	7	2	43	0	4	273	98	4434

Appendix Table 2-2. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
072385	2	48.00	2	3288	457	909	47	420	17	24	47	90	0	5	278	575	5009
072485	2	48.00	1	3289	516	1425	94	514	25	49	107	197	0	5	283	748	5757
072585	2	48.00	0	3289	400	1825	184	698	22	71	112	309	0	8	291	726	6483
072685	2	48.00	2	3291	451	2276	191	889	15	86	87	396	0	5	296	751	7234
072785	2	48.00	1	3292	481	2757	126	1015	20	106	96	492	0	4	300	728	7962
072885	2	48.00	0	3292	546	3303	116	1131	22	128	76	568	0	8	308	768	8730
072985	2	48.00	0	3292	470	3773	117	1248	18	146	97	665	0	4	312	706	9436
073085	2	48.00	0	3292	133	3906	148	1396	10	156	52	717	0	1	313	344	9780
073185	2	48.00	0	3292	68	3974	115	1511	7	163	62	779	0	2	315	254	10034
080185	2	48.00	0	3292	54	4028	83	1594	8	171	37	816	0	4	319	186	10220
080285	2	48.00	0	3292	131	4159	85	1679	7	178	41	857	0	1	320	265	10485
080385	2	48.00	1	3293	103	4262	74	1753	4	182	44	901	0	7	327	233	10718
080485	2	48.00	1	3294	95	4357	85	1838	2	184	19	920	0	3	330	205	10923
080585	2	48.00	0	3294	60	4417	44	1882	0	184	8	928	0	1	331	113	11036
080685	2	48.00	0	3294	124	4541	72	1954	5	189	24	952	0	2	333	227	11263
080785	2	48.00	0	3294	63	4604	78	2032	3	192	18	970	0	1	334	163	11426
080885	2	48.00	2	3296	43	4647	76	2108	0	192	19	989	0	1	335	141	11567
080985	2	48.00	0	3296	39	4686	35	2143	1	193	3	992	0	0	335	78	11645
081085	2	48.00	0	3296	39	4725	59	2202	5	198	7	999	0	2	337	112	11757
081185	2	48.00	0	3296	31	4756	41	2243	3	201	11	1010	0	0	337	86	11843
081285	2	48.00	0	3296	55	4811	109	2352	10	211	15	1025	0	1	338	190	12033
081385	2	48.00	0	3296	25	4836	22	2374	10	221	4	1029	1	3	342	65	12098
081485	2	47.00	0	3296	23	4859	24	2398	74	295	8	1037	0	11	353	140	12238
081585	2	48.00	0	3296	21	4880	35	2433	70	365	13	1050	0	4	357	143	12381
081685	2	48.00	2	3298	15	4895	12	2445	50	415	8	1058	1	0	358	88	12469
081785	2	48.00	0	3298	15	4910	19	2464	73	488	8	1066	3	0	361	118	12587
081885	2	48.00	0	3298	16	4926	15	2479	13	501	7	1073	0	2	363	53	12640
081985	2	48.00	0	3298	9	4935	19	2498	8	509	2	1075	2	3	368	43	12683
082085	2	48.00	0	3298	2	4937	12	2510	5	514	2	1077	0	3	371	24	12707

Appendix Table 2-2. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
082185	2	48.00	0	3298	5	4942	2	2512	8	522	2	1079	0	10	381	27	12734
082285	2	48.00	0	3298	3	4945	1	2513	1	523	3	1082	7	23	411	38	12772
082385	2	48.00	0	3298	2	4947	6	2519	3	526	1	1083	3	30	444	45	12817
082485	2	48.00	0	3298	3	4950	5	2524	10	536	4	1087	4	46	494	72	12889
082585	2	48.00	0	3298	0	4950	2	2526	4	540	3	1090	4	22	520	35	12924
082685	2	48.00	0	3298	3	4953	1	2527	1	541	4	1094	5	7	532	21	12945
082785	2	48.00	1	3299	1	4954	0	2527	4	545	2	1096	3	3	538	14	12959
082885	2	48.00	0	3299	1	4955	1	2528	3	548	1	1097	1	5	544	12	12971
082985	2	47.00	0	3299	1	4956	1	2529	0	548	3	1100	1	4	549	10	12981
083085	2	48.00	0	3299	2	4958	0	2529	1	549	2	1102	1	0	550	6	12987
083185	2	48.00	0	3299	2	4960	0	2529	0	549	1	1103	0	0	550	3	12990
090185	2	48.00	0	3299	0	4960	0	2529	0	549	0	1103	0	0	550	0	12990
090285	2	48.00	0	3299	0	4960	0	2529	1	550	0	1103	1	0	551	2	12992
090385	2	24.00	0	3299	0	4960	0	2529	0	550	0	1103	0	1	552	1	12993

Appendix Table 2-3. Flathorn Station daily and cumulative fishwheel catch by species, 1985.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
052685	4	30.50	2	2	1	1	0	0	0	0	0	0	1	2	3	6	6
052785	4	95.00	5	7	4	5	0	0	0	0	0	0	1	15	19	25	31
052885	6	106.50	11	18	3	8	0	0	0	0	0	0	0	6	25	20	51
052985	6	144.00	13	31	3	11	0	0	0	0	0	0	0	16	41	32	83
053085	6	141.00	21	52	9	20	0	0	0	0	0	0	0	16	57	46	129
053185	6	144.00	21	73	10	30	0	0	0	0	0	0	0	16	73	47	176
060185	7	138.75	23	96	16	46	0	0	0	0	0	0	0	29	102	68	244
060285	7	137.50	24	120	15	61	0	0	0	0	0	0	0	3	105	42	286
060385	6	140.00	120	240	22	83	0	0	0	0	0	0	3	5	113	150	436
060485	6	141.00	122	362	21	104	0	0	0	0	0	0	0	2	115	145	581
060585	6	141.00	145	507	34	138	0	0	0	0	0	0	0	13	128	192	773
060685	7	136.25	118	625	19	157	0	0	0	0	0	0	0	6	134	143	916
060785	6	143.50	179	804	22	179	0	0	0	0	0	0	0	14	148	215	1131
060885	6	124.50	472	1276	30	209	0	0	0	0	0	0	1	22	171	525	1656
060985	6	143.50	729	2005	42	251	0	0	0	0	0	0	0	34	205	805	2461
061085	6	143.00	763	2768	39	290	0	0	0	0	0	0	0	24	229	826	3287
061185	6	144.00	768	3536	23	313	0	0	0	0	0	0	0	7	236	798	4085
061285	6	143.50	628	4164	17	330	0	0	0	0	0	0	0	6	242	651	4736
061385	6	143.50	554	4718	13	343	0	0	0	0	0	0	0	19	261	586	5322
061485	6	144.00	383	5101	9	352	0	0	0	0	0	0	0	11	272	403	5725
061585	6	144.00	693	5794	8	360	0	0	0	0	0	0	0	24	296	725	6450
061685	6	143.50	680	6474	6	366	0	0	0	0	0	0	0	20	316	706	7156
061785	6	144.00	607	7081	5	371	0	0	0	0	0	0	0	30	346	642	7798
061885	6	144.00	479	7560	4	375	0	0	0	0	0	0	0	20	366	503	8301
061985	6	136.50	367	7927	10	385	0	0	1	1	0	0	0	16	382	394	8695
062085	6	126.50	458	8385	1	386	0	0	0	1	0	0	0	14	396	473	9168
062185	6	144.00	480	8865	6	392	0	0	0	1	0	0	0	13	409	499	9667
062285	6	143.50	385	9250	4	396	1	1	0	1	0	0	0	16	425	406	10073
062385	6	143.50	438	9688	6	402	1	2	0	1	0	0	0	15	440	460	10533

Appendix Table 2-3. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
062485	6	143.50	309	9997	4	406	1	3	0	1	0	0	0	17	457	331	10864
062585	6	144.00	218	10215	5	411	0	3	0	1	0	0	0	40	497	263	11127
062685	6	142.00	156	10371	4	415	0	3	0	1	0	0	0	33	530	193	11320
062785	6	144.00	111	10482	7	422	0	3	0	1	0	0	0	29	559	147	11467
062885	6	144.00	91	10573	2	424	1	4	0	1	0	0	0	17	576	111	11578
062985	6	124.75	84	10657	0	424	2	6	0	1	0	0	0	5	581	91	11669
063085	4	96.00	82	10739	2	426	1	7	0	1	0	0	0	4	585	89	11758
070185	4	93.00	35	10774	4	430	0	7	0	1	0	0	0	2	587	41	11799
070285	4	93.50	18	10792	4	434	2	9	0	1	0	0	0	2	589	26	11825
070385	4	95.00	12	10804	4	438	1	10	0	1	0	0	0	1	590	18	11843
070485	4	96.00	10	10814	14	452	3	13	0	1	0	0	0	1	591	28	11871
070585	4	96.00	27	10841	10	462	3	16	1	2	0	0	0	4	595	45	11916
070685	4	96.00	29	10870	24	486	7	23	1	3	0	0	0	6	601	67	11983
070785	4	96.00	23	10893	27	513	15	38	1	4	0	0	0	7	608	73	12056
070885	4	96.00	29	10922	19	532	23	61	3	7	0	0	0	3	611	77	12133
070985	4	95.50	8	10930	26	558	26	87	1	8	2	2	0	0	611	63	12196
071085	4	96.00	10	10940	17	575	33	120	0	8	2	4	0	9	620	71	12267
071185	4	96.00	9	10949	12	587	45	165	0	8	5	9	0	15	635	86	12353
071285	4	96.00	5	10954	19	606	54	219	0	8	6	15	0	7	642	91	12444
071385	4	96.00	10	10964	15	621	47	266	1	9	6	21	0	8	650	87	12531
071485	4	96.00	9	10973	14	635	89	355	0	9	7	28	0	6	656	125	12656
071585	4	94.50	7	10980	60	695	107	462	1	10	13	41	0	8	664	196	12852
071685	4	96.00	8	10988	63	758	68	530	1	11	12	53	0	21	685	173	13025
071785	4	96.00	4	10992	52	810	69	599	1	12	13	66	0	19	704	158	13183
071885	4	95.00	2	10994	24	834	42	641	0	12	9	75	0	8	712	85	13268
071985	4	96.00	3	10997	11	845	34	675	0	12	8	83	0	19	731	75	13343
072085	4	96.00	4	11001	11	856	32	707	0	12	1	84	2	10	743	60	13403
072185	4	96.00	2	11003	8	864	50	757	0	12	2	86	0	6	749	68	13471
072285	4	96.00	2	11005	90	954	78	835	8	20	8	94	0	7	756	193	13664

Appendix Table 2-3. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
072385	4	96.00	2	11007	719	1673	94	929	40	60	83	177	0	13	769	951	14615
072485	4	95.00	2	11009	787	2460	176	1105	62	122	162	339	0	13	782	1202	15817
072585	4	96.00	2	11011	589	3049	343	1448	51	173	181	520	0	31	813	1197	17014
072685	4	96.00	2	11013	665	3714	396	1844	57	230	168	688	0	14	827	1302	18316
072785	4	96.00	1	11014	735	4449	308	2152	64	294	184	872	0	8	835	1300	19616
072885	4	94.00	1	11015	960	5409	264	2416	65	359	169	1041	0	19	854	1478	21094
072985	4	92.50	0	11015	732	6141	232	2648	92	451	169	1210	0	17	871	1242	22336
073085	4	96.00	0	11015	332	6473	337	2985	115	566	130	1340	0	17	888	931	23267
073185	4	96.00	1	11016	169	6642	306	3291	103	669	180	1520	1	6	895	766	24033
080185	4	96.00	0	11016	138	6780	296	3587	74	743	125	1645	0	14	909	647	24680
080285	4	96.00	3	11019	218	6998	196	3783	62	805	120	1765	0	17	926	616	25296
080385	4	96.00	2	11021	165	7163	147	3930	38	843	86	1851	1	22	949	461	25757
080485	4	96.00	1	11022	179	7342	264	4194	61	904	50	1901	2	31	982	588	26345
080585	4	96.00	2	11024	139	7481	160	4354	29	933	26	1927	0	16	998	372	26717
080685	4	96.00	0	11024	220	7701	226	4580	43	976	43	1970	2	17	1017	551	27268
080785	4	96.00	1	11025	141	7842	259	4839	30	1006	29	1999	0	26	1043	486	27754
080885	4	96.00	3	11028	108	7950	220	5059	59	1065	42	2041	1	11	1055	444	28198
080985	4	96.00	0	11028	137	8087	336	5395	67	1132	37	2078	0	13	1068	590	28788
081085	4	96.00	0	11028	164	8251	334	5729	157	1289	38	2116	1	12	1081	706	29494
081185	4	96.00	0	11028	138	8389	305	6034	288	1577	45	2161	7	12	1100	795	30289
081285	4	96.00	0	11028	144	8533	369	6403	311	1888	49	2210	8	14	1122	895	31184
081385	4	96.00	0	11028	60	8593	83	6486	138	2026	11	2221	9	10	1141	311	31495
081485	4	95.00	2	11030	60	8653	77	6563	566	2592	30	2251	5	23	1169	763	32258
081585	4	96.00	1	11031	47	8700	82	6645	692	3284	61	2312	9	18	1196	910	33168
081685	4	96.00	3	11034	44	8744	37	6682	435	3719	52	2364	4	7	1207	582	33750
081785	4	96.00	0	11034	68	8812	53	6735	489	4208	25	2389	13	5	1225	653	34403
081885	4	96.00	0	11034	49	8861	28	6763	352	4560	43	2432	14	21	1260	507	34910
081985	4	96.00	0	11034	37	8898	49	6812	253	4813	21	2453	24	42	1326	426	35336
082085	4	96.00	0	11034	15	8913	29	6841	148	4961	16	2469	26	49	1401	283	35619

Appendix Table 2-3. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
082185	4	96.00	0	11034	11	8924	15	6856	70	5031	16	2485	57	48	1506	217	35836
082285	4	96.00	0	11034	8	8932	10	6866	17	5048	9	2494	60	57	1623	161	35997
082385	4	96.00	0	11034	6	8938	10	6876	26	5074	10	2504	29	68	1720	149	36146
082485	4	96.00	0	11034	5	8943	10	6886	30	5104	10	2514	41	101	1862	197	36343
082585	4	96.00	0	11034	4	8947	8	6894	19	5123	9	2523	41	64	1967	145	36488
082685	4	93.00	0	11034	6	8953	2	6896	8	5131	8	2531	16	23	2006	63	36551
082785	4	96.00	1	11035	3	8956	1	6897	8	5139	5	2536	26	29	2061	73	36624
082885	4	96.00	0	11035	1	8957	2	6899	7	5146	4	2540	30	36	2127	80	36704
082985	4	95.00	0	11035	2	8959	2	6901	6	5152	6	2546	20	24	2171	60	36764
083085	4	96.00	0	11035	6	8965	1	6902	4	5156	4	2550	21	18	2210	54	36818
083185	4	96.00	0	11035	2	8967	2	6904	2	5158	4	2554	24	18	2252	52	36870
090185	4	96.00	0	11035	3	8970	1	6905	4	5162	0	2554	4	4	2260	16	36886
090285	4	96.00	0	11035	0	8970	0	6905	2	5164	2	2556	18	9	2287	31	36917
090385	4	48.00	0	11035	0	8970	0	6905	4	5168	7	2563	50	14	2351	75	36992

Appendix Table 2-4. Sunshine Station daily and cumulative fishwheel catch by species, 1985.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
060385	2	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
060485	2	48.00	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
060585	4	64.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
060685	4	83.00	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
060785	4	96.00	1	1	2	2	0	0	0	0	0	0	0	1	3	4	6
060885	4	96.00	2	3	8	10	0	0	0	0	0	0	0	8	11	18	24
060985	4	96.00	18	21	21	31	0	0	0	0	0	0	0	19	30	58	82
061085	4	91.00	24	45	19	50	0	0	0	0	0	0	0	16	46	59	141
061185	4	96.00	45	90	31	81	0	0	0	0	0	0	0	33	79	109	250
061285	4	93.00	71	161	45	126	0	0	0	0	0	0	0	14	93	130	380
061385	4	89.00	63	224	18	144	0	0	0	0	0	0	0	5	98	86	466
061485	4	94.00	94	318	37	181	0	0	0	0	0	0	0	5	103	136	602
061585	4	96.00	182	500	27	208	0	0	0	0	0	0	0	4	107	213	815
061685	4	94.00	162	662	22	230	0	0	0	0	0	0	0	8	115	192	1007
061785	4	96.00	132	794	14	244	0	0	0	0	0	0	0	3	118	149	1156
061885	4	96.00	166	960	3	247	0	0	0	0	0	0	0	2	120	171	1327
061985	4	96.00	210	1170	8	255	0	0	0	0	0	0	0	2	122	220	1547
062085	4	96.00	292	1462	3	258	0	0	0	0	0	0	0	7	129	302	1849
062185	4	92.00	329	1791	1	259	0	0	0	0	0	0	0	2	131	332	2181
062285	4	95.50	402	2193	5	264	0	0	0	0	0	0	0	0	131	407	2588
062385	4	96.00	422	2615	4	268	0	0	0	0	0	0	0	0	131	426	3014
062485	4	94.00	334	2949	3	271	0	0	0	0	0	0	0	2	133	339	3353
062585	4	96.00	210	3159	1	272	0	0	0	0	0	0	0	2	135	213	3566
062685	4	94.00	201	3360	1	273	1	1	0	0	0	0	0	0	135	203	3769
062785	4	93.00	343	3703	3	276	0	1	0	0	0	0	0	1	136	347	4116
062885	4	92.50	512	4215	4	280	0	1	0	0	0	0	0	1	137	517	4633
062985	4	94.00	444	4659	1	281	0	1	0	0	0	0	0	2	139	447	5080
063085	4	95.00	379	5038	5	286	0	1	0	0	0	0	0	0	139	384	5464
070185	4	94.00	213	5251	4	290	0	1	0	0	0	0	0	2	141	219	5683

Appendix Table 2-4. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
070285	4	96.00	56	5307	1	291	0	1	0	0	0	0	0	1	142	58	5741
070385	4	96.00	35	5342	0	291	0	1	0	0	0	0	0	0	142	35	5776
070485	4	96.00	96	5438	1	292	0	1	0	0	0	0	0	1	143	98	5874
070585	4	96.00	119	5557	2	294	0	1	0	0	0	0	0	0	143	121	5995
070685	4	96.00	173	5730	5	299	0	1	0	0	0	0	0	1	144	179	6174
070785	4	96.00	174	5904	6	305	0	1	0	0	0	0	0	1	145	181	6355
070885	4	95.00	149	6053	8	313	0	1	0	0	0	0	0	0	145	157	6512
070985	4	96.00	185	6238	11	324	0	1	0	0	0	0	0	1	146	197	6709
071085	4	96.00	106	6344	17	341	1	2	1	1	0	0	0	0	146	125	6834
071185	4	96.00	102	6446	40	381	4	6	2	3	0	0	0	0	146	148	6982
071285	4	94.00	68	6514	26	407	0	6	4	7	0	0	0	2	148	100	7082
071385	4	93.00	52	6566	26	433	15	21	0	7	0	0	0	3	151	96	7178
071485	4	96.00	43	6609	25	458	17	38	4	11	0	0	0	2	153	91	7269
071585	4	94.00	47	6656	22	480	26	64	2	13	1	1	0	3	156	101	7370
071685	4	96.00	34	6690	31	511	29	93	2	15	1	2	0	1	157	98	7468
071785	4	93.00	34	6724	33	544	35	128	3	18	0	2	0	2	159	107	7575
071885	4	96.00	19	6743	50	594	69	197	3	21	4	6	0	4	163	149	7724
071985	4	96.00	14	6757	72	666	54	251	1	22	2	8	0	2	165	145	7869
072085	4	93.00	13	6770	42	708	50	301	0	22	3	11	0	3	168	111	7980
072185	3	72.00	6	6776	17	725	6	307	0	22	0	11	0	0	168	29	8009
072285	4	79.25	10	6786	11	736	29	336	0	22	1	12	0	2	170	53	8062
072385	4	96.00	13	6799	20	756	57	393	1	23	6	18	0	1	171	98	8160
072485	4	96.00	9	6808	18	774	80	473	1	24	6	24	0	2	173	116	8276
072585	4	94.00	8	6816	216	990	68	541	4	28	12	36	0	0	173	308	8584
072685	4	96.00	2	6818	1732	2722	46	587	37	65	14	50	0	1	174	1832	10416
072785	4	93.25	3	6821	2353	5075	101	688	242	307	12	62	0	1	175	2712	13128
072885	4	86.25	3	6824	2005	7080	175	863	735	1042	31	93	0	3	178	2952	16080
072985	4	86.50	2	6826	2068	9148	399	1262	1013	2055	29	122	0	0	178	3511	19591
073085	4	95.50	2	6828	1547	10695	461	1723	697	2752	42	164	0	0	178	2749	22340

Appendix Table 2-4. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
073185	4	95.25	4	6832	2014	12709	951	2674	1567	4319	102	266	0	0	178	4638	26978
080185	4	96.00	0	6832	1855	14564	740	3414	1635	5954	118	384	0	0	178	4348	31326
080285	4	93.75	0	6832	1442	16006	970	4384	3348	9302	207	591	0	4	182	5971	37297
080385	4	77.50	0	6832	683	16689	533	4917	1915	11217	167	758	0	1	183	3299	40596
080485	4	96.00	0	6832	428	17117	519	5436	1711	12928	221	979	0	1	184	2880	43476
080585	4	95.00	0	6832	337	17454	437	5873	1533	14461	277	1256	0	5	189	2589	46065
080685	4	95.75	0	6832	218	17672	191	6064	1411	15872	323	1579	0	1	190	2144	48209
080785	4	96.00	0	6832	175	17847	149	6213	1053	16925	278	1857	0	1	191	1656	49865
080885	4	96.00	2	6834	142	17989	117	6330	607	17532	303	2160	0	1	192	1172	51037
080985	4	96.00	1	6835	88	18077	102	6432	455	17987	205	2365	0	1	193	852	51889
081085	4	94.50	0	6835	100	18177	70	6502	422	18409	207	2572	0	2	195	801	52690
081185	4	95.00	0	6835	75	18252	42	6544	208	18617	153	2725	0	1	196	479	53169
081285	4	96.00	1	6836	73	18325	35	6579	290	18907	168	2893	0	1	197	568	53737
081385	4	96.00	0	6836	40	18365	8	6587	22	18929	29	2922	0	1	198	100	53837
081485	4	96.00	0	6836	180	18545	49	6636	301	19230	228	3150	0	3	201	761	54598
081585	4	96.00	0	6836	126	18671	37	6673	324	19554	165	3315	0	2	203	654	55252
081685	4	96.00	0	6836	57	18728	10	6683	138	19692	112	3427	0	0	203	317	55569
081785	4	96.00	0	6836	160	18888	35	6718	525	20217	395	3822	0	0	203	1115	56684
081885	4	92.00	1	6837	185	19073	66	6784	550	20767	489	4311	0	6	209	1297	57981
081985	4	96.00	0	6837	118	19191	44	6828	561	21328	512	4823	0	5	214	1240	59221
082085	4	96.00	0	6837	90	19281	50	6878	539	21867	331	5154	0	2	216	1012	60233
082185	4	91.00	0	6837	59	19340	25	6903	480	22347	207	5361	0	2	218	773	61006
082285	4	96.00	0	6837	61	19401	30	6933	454	22801	150	5511	0	6	224	701	61707
082385	4	96.00	0	6837	30	19431	8	6941	498	23299	159	5670	0	2	226	697	62404
082485	4	94.00	0	6837	24	19455	10	6951	697	23996	162	5832	0	6	232	899	63303
082585	4	96.00	0	6837	8	19463	3	6954	294	24290	44	5876	0	4	236	353	63656
082685	4	96.00	0	6837	12	19475	0	6954	463	24753	67	5943	0	6	242	548	64204
082785	4	89.00	0	6837	8	19483	2	6956	383	25136	71	6014	5	4	251	473	64677
082885	4	96.00	0	6837	8	19491	2	6958	205	25341	24	6038	3	3	257	245	64922

Appendix Table 2-4. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
082985	4	96.00	0	6837	2	19493	1	6959	72	25413	21	6059	0	6	263	102	65024
083085	4	94.00	0	6837	5	19498	1	6960	79	25492	37	6096	3	5	271	130	65154
083185	4	96.00	0	6837	1	19499	0	6960	124	25616	28	6124	2	7	280	162	65316
090185	4	96.00	0	6837	0	19499	0	6960	30	25646	8	6132	2	1	283	41	65357
090285	4	96.00	0	6837	1	19500	0	6960	21	25667	8	6140	0	1	284	31	65388
090385	4	96.00	0	6837	2	19502	0	6960	15	25682	7	6147	0	0	284	24	65412
090485	4	96.00	0	6837	2	19504	0	6960	15	25697	8	6155	2	0	286	27	65439
090585	4	96.00	0	6837	0	19504	0	6960	41	25738	15	6170	2	9	297	67	65506
090685	3	72.00	0	6837	0	19504	0	6960	24	25762	3	6173	4	4	305	35	65541
090785	3	72.00	0	6837	1	19505	0	6960	15	25777	4	6177	12	4	321	36	65577
090885	3	60.00	0	6837	0	19505	0	6960	8	25785	1	6178	3	4	328	16	65593
090985	2	48.00	0	6837	0	19505	0	6960	4	25789	0	6178	2	0	330	6	65599
091085	2	24.00	0	6837	0	19505	0	6960	1	25790	0	6178	4	0	334	5	65604

Appendix Table 2-5. Curry Station daily and cumulative fishwheel catch by species, 1985.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
061085	2	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
061185	2	48.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
061285	2	48.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
061385	2	48.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
061485	2	48.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
061585	2	48.00	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
061685	2	44.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
061785	2	47.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
061885	2	47.00	0	0	0	0	0	0	0	0	0	0	0	5	6	5	6
061985	2	46.50	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
062085	2	48.00	2	2	0	0	0	0	0	0	0	0	0	0	6	2	8
062185	2	48.00	1	3	0	0	0	0	0	0	0	0	0	1	7	2	10
062285	2	48.00	0	3	0	0	0	0	0	0	0	0	0	1	8	1	11
062385	2	48.00	0	3	0	0	0	0	0	0	0	0	0	1	9	1	12
062485	2	48.00	1	4	0	0	0	0	0	0	0	0	0	1	10	2	14
062585	2	48.00	4	8	0	0	0	0	0	0	0	0	0	1	11	5	19
062685	2	48.00	5	13	0	0	0	0	0	0	0	0	0	0	11	5	24
062785	2	48.00	22	35	0	0	0	0	0	0	0	0	0	0	11	22	46
062885	2	48.00	26	61	0	0	0	0	0	0	0	0	0	1	12	27	73
062985	2	48.00	32	93	0	0	0	0	0	0	0	0	0	0	12	32	105
063085	2	48.00	48	141	0	0	0	0	0	0	0	0	0	2	14	50	155
070185	2	48.00	62	203	0	0	0	0	0	0	0	0	0	1	15	63	218
070285	2	31.75	9	212	0	0	0	0	0	0	0	0	0	0	15	9	227
070385	1	24.00	4	216	0	0	0	0	0	0	0	0	0	0	15	4	231
070485	1	24.00	17	233	0	0	0	0	0	0	0	0	0	1	16	18	249
070585	2	37.00	49	282	0	0	0	0	0	0	0	0	0	1	17	50	299
070685	2	48.00	60	342	0	0	0	0	0	0	0	0	0	1	18	61	360
070785	2	48.00	87	429	0	0	0	0	0	0	0	0	0	2	20	89	449
070885	2	48.00	98	527	0	0	0	0	0	0	0	0	0	1	21	99	548

Appendix Table 2-5. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
070985	2	48.00	41	568	0	0	0	0	0	0	0	0	0	0	21	41	589
071085	2	48.00	43	611	0	0	0	0	0	0	0	0	0	0	21	43	632
071185	2	48.00	73	684	0	0	0	0	0	0	0	0	0	1	22	74	706
071285	2	48.00	54	738	0	0	0	0	0	0	0	0	0	0	22	54	760
071385	2	48.00	42	780	0	0	0	0	0	0	0	0	0	1	23	43	803
071485	2	48.00	41	821	0	0	0	0	0	0	0	0	0	2	25	43	846
071585	2	48.00	50	871	0	0	2	2	0	0	0	0	0	1	26	53	899
071685	2	48.00	52	923	1	1	0	2	0	0	0	0	0	0	26	53	952
071785	2	48.00	25	948	0	1	2	4	1	1	0	0	0	2	28	30	982
071885	2	48.00	26	974	1	2	4	8	0	1	0	0	0	0	28	31	1013
071985	2	48.00	21	995	1	3	4	12	0	1	0	0	0	0	28	26	1039
072085	2	44.00	16	1011	0	3	6	18	1	2	0	0	0	0	28	23	1062
072185	2	32.50	7	1018	1	4	1	19	0	2	0	0	0	1	29	10	1072
072285	1	24.00	1	1019	0	4	0	19	0	2	0	0	0	0	29	1	1073
072385	2	37.00	5	1024	0	4	3	22	0	2	0	0	0	0	29	8	1081
072485	2	46.00	12	1036	0	4	1	23	1	3	0	0	0	0	29	14	1095
072585	2	48.00	11	1047	2	6	2	25	0	3	0	0	0	1	30	16	1111
072685	2	48.00	8	1055	0	6	12	37	0	3	0	0	0	0	30	20	1131
072785	2	48.00	6	1061	1	7	15	52	1	4	0	0	0	0	30	23	1154
072885	2	48.00	4	1065	2	9	20	72	1	5	0	0	0	2	32	29	1183
072985	2	48.00	8	1073	3	12	14	86	2	7	0	0	0	2	34	29	1212
073085	2	48.00	1	1074	10	22	31	117	7	14	0	0	0	2	36	51	1263
073185	2	48.00	7	1081	5	27	54	171	11	25	0	0	0	0	36	77	1340
080185	2	48.00	4	1085	16	43	57	228	23	48	0	0	0	0	36	100	1440
080285	2	48.00	0	1085	20	63	50	278	34	82	0	0	0	0	36	104	1544
080385	2	48.00	2	1087	22	85	83	361	93	175	4	4	0	1	37	205	1749
080485	2	48.00	3	1090	24	109	138	499	94	269	5	9	0	0	37	264	2013
080585	2	48.00	4	1094	18	127	137	636	113	382	5	14	0	0	37	277	2290
080685	2	48.00	1	1095	29	156	147	783	166	548	7	21	0	0	37	350	2640

Appendix Table 2-5. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
080785	2	48.00	1	1096	22	178	88	871	143	691	12	33	0	0	37	266	2906
080885	2	48.00	0	1096	15	193	92	963	89	780	10	43	0	3	40	209	3115
080985	2	48.00	1	1097	14	207	49	1012	45	825	11	54	0	0	40	120	3235
081085	2	48.00	0	1097	7	214	50	1062	61	886	13	67	0	1	41	132	3367
081185	2	40.00	0	1097	10	224	24	1086	25	911	4	71	0	0	41	63	3430
081285	2	48.00	0	1097	6	230	17	1103	37	948	9	80	0	0	41	69	3499
081385	2	48.00	0	1097	4	234	18	1121	8	956	2	82	0	1	42	33	3532
081485	2	48.00	0	1097	4	238	8	1129	19	975	2	84	0	0	42	33	3565
081585	2	48.00	0	1097	3	241	6	1135	21	996	6	90	0	0	42	36	3601
081685	2	48.00	1	1098	10	251	9	1144	24	1020	0	90	0	0	42	44	3645
081785	2	48.00	0	1098	7	258	4	1148	7	1027	8	98	0	0	42	26	3671
081885	2	48.00	0	1098	5	263	2	1150	17	1044	15	113	0	1	43	40	3711
081985	2	48.00	0	1098	17	280	6	1156	32	1076	10	123	0	0	43	65	3776
082085	2	48.00	0	1098	7	287	4	1160	29	1105	18	141	0	1	44	59	3835
082185	2	48.00	0	1098	2	289	3	1163	20	1125	9	150	0	0	44	34	3869
082285	2	48.00	0	1098	4	293	0	1163	15	1140	6	156	0	0	44	25	3894
082385	2	48.00	0	1098	2	295	1	1164	12	1152	6	162	0	3	47	24	3918
082485	2	48.00	0	1098	2	297	3	1167	18	1170	1	163	0	2	49	26	3944
082585	2	48.00	0	1098	4	301	2	1169	7	1177	2	165	0	3	52	18	3962
082685	2	48.00	0	1098	5	306	1	1170	29	1206	7	172	0	2	54	44	4006
082785	2	48.00	0	1098	6	312	1	1171	26	1232	4	176	0	0	54	37	4043
082885	2	48.00	0	1098	3	315	1	1172	14	1246	6	182	0	0	54	24	4067
082985	2	48.00	0	1098	3	318	0	1172	15	1261	2	184	0	3	57	23	4090
083085	2	48.00	0	1098	1	319	0	1172	7	1268	2	186	0	2	59	12	4102
083185	2	48.00	0	1098	2	321	0	1172	5	1273	1	187	0	1	60	9	4111
090185	2	48.00	0	1098	2	323	0	1172	11	1284	1	188	0	2	62	16	4127
090285	2	48.00	0	1098	0	323	0	1172	4	1288	1	189	0	1	63	6	4133
090385	2	48.00	0	1098	0	323	0	1172	1	1289	0	189	0	2	65	3	4136
090485	2	48.00	0	1098	1	324	0	1172	1	1290	5	194	0	2	67	9	4145

Appendix Table 2-5. Continued.

Date	No. of Wheels	Wheel Hours	Chinook		Sockeye		Pink		Chum		Coho		Miscellaneous			Total Catch All Species	
			Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Bering Cisco	Other	Cum.	Daily	Cum.
090585	2	48.00	0	1098	0	324	0	1172	2	1292	4	198	0	1	68	7	4152
090685	2	48.00	0	1098	0	324	0	1172	2	1294	2	200	0	0	68	4	4156
090785	2	48.00	0	1098	0	324	0	1172	2	1296	0	200	0	0	68	2	4158
090885	2	48.00	0	1098	0	324	0	1172	2	1298	0	200	0	0	68	2	4160
090985	2	48.00	0	1098	0	324	0	1172	0	1298	0	200	0	1	69	1	4161
091085	2	48.00	0	1098	0	324	0	1172	0	1298	1	201	0	0	69	1	4162
091185	2	48.00	0	1098	0	324	0	1172	0	1298	0	201	0	0	69	0	4162
091285	2	48.00	0	1098	0	324	0	1172	7	1305	2	203	0	3	72	12	4174

APPENDIX 3

Escapement and Tag Recovery Surveys

Appendix Table 3-1. Escapement survey counts of Susitna River streams between RM 10.0 and 165.0, 1985.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
ALEXANDER CREEK	10.1	B	07 13	F	4	0	4	3	0	3	0	0	0	0	0	0	0	0	0
FISH CRK RED SHIRT LAKE DOWN	13.5	H	08 28	E	1	1	2	136	0	136	0	0	0	0	0	0	0	0	0
FISH CREEK KROTO SLOUGH	28.0	B	07 12	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISH CREEK KROTO SLOUGH	28.0	B	07 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISH CREEK KROTO SLOUGH	28.0	B	08 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISH CREEK KROTO SLOUGH	28.0	B	08 27	PF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISH CREEK KROTO SLOUGH	28.0	B	09 04	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISH CREEK KROTO SLOUGH	28.0	B	09 20	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHELL CREEK	28.0	B	08 27	G	0	0	0	1	0	1	0	0	0	0	0	0	201	0	201
TALACHULITNA RIVER	28.0	R	07 22	GE	1357	12	1369	0	0	0	4	0	4	2	0	2	0	0	0
TALACHULITNA RIVER	28.0	BF	08 27	PF	0	0	0	0	0	0	28	54	82	1	0	1	7	0	7
YENTNA RIVER FISH CREEK	28.0	BF	07 05	E	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0
YENTNA RIVER FISH CREEK	28.0	F	07 12	E	11	0	11	43	1	44	0	0	0	0	0	0	0	0	0
YENTNA RIVER FISH CREEK	28.0	F	07 19	E	15	0	15	1737	31	1768	0	0	0	0	0	0	0	0	0
YENTNA RIVER FISH CREEK	28.0	B	07 29	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YENTNA RIVER LAKE CREEK	28.0	BF	07 12	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YENTNA RIVER LAKE CREEK	28.0	B	08 26	F	0	0	0	0	0	0	12	9	21	50	2	52	0	0	0
NO NAME CREEK	31.7	B	07 13	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO NAME CREEK	31.7	B	07 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO NAME CREEK	31.7	B	07 29	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO NAME CREEK	31.7	B	08 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO NAME CREEK	31.7	B	08 26	PF	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
NO NAME CREEK	31.7	B	09 03	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO NAME CREEK	31.7	B	09 12	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO NAME CREEK	31.7	B	09 19	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Conditions (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
WHITSOL CREEK	35.2	B	07 12	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHITSOL CREEK	35.2	B	07 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHITSOL CREEK	35.2	B	07 29	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHITSOL CREEK	35.2	F	08 09	F	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24
WHITSOL CREEK	35.2	B	08 18	FG	0	0	0	0	0	0	0	0	0	0	0	0	307	0	307
WHITSOL CREEK	35.2	B	08 27	F	0	0	0	0	0	0	0	0	0	0	0	0	285	0	285
WHITSOL CREEK	35.2	B	09 04	PF	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17
WHITSOL CREEK	35.2	B	09 20	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	07 13	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	07 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	07 29	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	08 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	09 03	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	09 12	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROLLY CREEK	39.0	B	09 19	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DESHKA RIVER WEST FORK	40.6	R	07 22	FG	4064	22	4086	0	0	0	0	0	0	0	0	0	0	0	0
DESHKA RIVER MOOSE CREEK	40.6	R	07 30	G	3494	83	3577	0	0	0	1	0	1	1	0	1	35	0	35
DESHKA RIVER TRAPPER CREEK	40.6	H	08 28	PF	0	58	58	0	0	0	0	1	1	0	0	0	0	0	0
WILLOW CREEK	49.1	B	07 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	07 17	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	BF	07 28	G	0	0	0	0	0	0	34	0	34	13	0	13	0	0	0
WILLOW CREEK	49.1	B	08 08	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	08 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	08 25	F	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
WILLOW CREEK	49.1	B	09 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	09 12	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	09 19	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	09 27	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WILLOW CREEK	49.1	B	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
LITTLE WILLOW CREEK	50.5	B	07 11	FG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	F	07 17	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	BF	07 28	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	08 08	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	08 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	08 25	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	09 03	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	09 12	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	09 19	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	09 27	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE WILLOW CREEK	50.5	B	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAYS CREEK	59.5	B	07 11	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAYS CREEK	59.5	B	07 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAYS CREEK	59.5	B	07 28	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAYS CREEK	59.5	B	08 08	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAYS CREEK	59.5	B	08 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAYS CREEK	59.5	B	08 25	F	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
CASWELL CREEK	64.0	F	07 11	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASWELL CREEK	64.0	F	07 17	F	23	0	23	1	0	1	0	0	0	0	0	0	0	0	0
CASWELL CREEK	64.0	F	07 28	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASWELL CREEK	64.0	F	08 08	F	0	0	0	0	0	0	16	0	16	0	0	0	67	0	67
CASWELL CREEK	64.0	B	08 16	FG	0	0	0	0	0	0	0	0	0	0	0	0	52	0	52
CASWELL CREEK	64.0	B	08 24	F	0	0	0	0	0	0	0	0	0	0	0	0	237	0	237
CASWELL CREEK	64.0	B	09 03	FG	0	0	0	0	0	0	0	0	0	0	0	0	238	0	238
CASWELL CREEK	64.0	B	09 11	FG	0	0	0	0	0	0	0	0	0	4	0	4	122	0	122
CASWELL CREEK	64.0	B	09 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASWELL CREEK	64.0	B	09 26	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CASWELL CREEK	64.0	BF	10 04	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	07 11	F	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	07 17	G	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	07 28	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	08 08	F	0	24	24	0	0	0	4	0	4	1	7	8	0	0	0
SHEEP CREEK	66.1	F	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	08 24	PF	0	0	0	0	0	0	0	3	3	1	2	3	0	0	0
SHEEP CREEK	66.1	F	09 03	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	09 11	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	09 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	09 26	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHEEP CREEK	66.1	F	10 04	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
GOOSE CREEK	72.0	F	07 11	E	29	0	29	1	0	1	0	0	0	0	0	0	0	0	0
GOOSE CREEK	72.0	F	07 11	P	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0
GOOSE CREEK	72.0	BF	07 17	E	27	0	27	0	0	0	2	0	2	2	0	2	0	0	0
GOOSE CREEK	72.0	F	07 28	P	0	0	0	0	0	0	2	0	2	2	0	2	0	0	0
GOOSE CREEK	72.0	F	07 28	E	2	0	2	0	0	0	1	0	1	0	0	0	0	0	0
GOOSE CREEK	72.0	F	08 08	G	0	0	0	0	0	0	30	0	30	59	0	59	4	0	4
GOOSE CREEK	72.0	F	08 16	F	0	0	0	0	0	0	6	0	6	6	2	8	10	0	10
GOOSE CREEK	72.0	F	08 24	G	0	3	3	0	0	0	3	18	21	4	12	16	3	0	3
GOOSE CREEK	72.0	F	09 03	G	0	0	0	0	0	0	0	9	9	4	5	9	3	0	3
GOOSE CREEK	72.0	F	09 11	E	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0
GOOSE CREEK	72.0	F	09 18	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONTANA CREEK	77.0	F	07 11	FG	31	0	31	0	0	0	0	0	0	0	0	0	0	0	0
MONTANA CREEK	77.0	F	07 17	P	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
MONTANA CREEK	77.0	F	07 17	E	99	0	99	0	0	0	10	0	10	0	0	0	1	0	1
MONTANA CREEK	77.0	F	07 28	GE	21	2	23	0	0	0	30	2	32	3	1	4	0	1	1
MONTANA CREEK	77.0	F	08 01	G	230	24	254	0	0	0	0	0	0	0	0	0	0	0	0
MONTANA CREEK	77.0	F	08 02	G	739	0	739	0	0	0	0	0	0	0	0	0	0	0	0
MONTANA CREEK	77.0	F	08 16	PF	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
MONTANA CREEK	77.0	F	08 24	P	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
MONTANA CREEK	77.0	F	09 03	G	0	0	0	0	0	0	0	0	0	1	0	1	7	0	7
MONTANA CREEK	77.0	F	09 11	G	0	0	0	0	0	0	0	0	0	4	1	5	13	2	15
MONTANA CREEK	77.0	F	09 18	F	0	0	0	0	0	0	0	0	0	1	0	1	11	0	11
MONTANA CREEK	77.0	F	09 26	P	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1
MONTANA CREEK	77.0	F	10 03	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	07 10	G	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	07 16	F	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	07 27	FG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	07 28	E	114	4	118	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	08 07	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	B	08 23	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	BF	09 03	PF	0	0	0	0	0	0	0	0	0	0	0	0	32	0	32
RABIDEUX CREEK	83.1	F	09 11	PF	0	0	0	0	0	0	0	0	0	0	4	4	43	12	55
RABIDEUX CREEK	83.1	F	09 18	PF	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
RABIDEUX CREEK	83.1	F	09 26	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RABIDEUX CREEK	83.1	F	10 02	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
ANSWER CREEK	84.1	F	09 05	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANSWER CREEK	84.1	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	27	0	27
ANSWER CREEK	84.1	F	09 24	F	0	0	0	0	0	0	0	0	0	0	0	0	8	1	9
ANSWER CREEK	84.1	F	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
QUESTION CREEK	84.1	F	09 05	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
QUESTION CREEK	84.1	F	09 24	G	0	0	0	0	0	0	0	0	0	0	0	0	75	1	76
QUESTION CREEK	84.1	F	10 02	GE	0	0	0	0	0	0	0	0	0	0	0	0	43	4	47
SUNSHINE CREEK	85.1	F	07 10	E	31	0	31	0	0	0	0	0	0	0	0	0	0	0	0
SUNSHINE CREEK	85.1	F	07 16	G	2	0	2	0	0	0	17	0	17	0	0	0	0	0	0
SUNSHINE CREEK	85.1	F	07 27	GE	0	0	0	0	1	1	43	1	44	0	0	0	0	0	0
SUNSHINE CREEK	85.1	F	08 07	E	0	0	0	0	0	0	74	0	74	0	0	0	7	0	7
SUNSHINE CREEK	85.1	F	08 16	PF	0	0	0	0	0	0	78	12	90	3	0	3	11	0	11
SUNSHINE CREEK	85.1	F	08 23	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUNSHINE CREEK	85.1	F	09 02	G	0	0	0	1	0	1	0	0	0	0	3	3	64	1	65
SUNSHINE CREEK	85.1	B	09 10	G	0	0	0	0	0	0	0	0	0	1	0	1	39	0	39
SUNSHINE CREEK	85.1	B	09 17	F	0	0	0	0	0	0	0	0	0	3	0	3	4	0	4
SUNSHINE CREEK	85.1	B	09 25	F	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
SUNSHINE CREEK	85.1	B	10 03	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BIRCH CREEK	89.2	F	07 10	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BIRCH CREEK	89.2	F	07 16	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BIRCH CREEK	89.2	F	07 28	E	5	0	5	0	0	0	3	0	3	0	0	0	0	0	0
BIRCH CREEK	89.2	F	08 07	G	16	6	22	3	0	3	117	2	119	0	0	0	0	0	0
BIRCH CREEK	89.2	F	08 15	G	5	4	9	0	0	0	564	15	579	0	0	0	2	0	2
BIRCH CREEK	89.2	F	08 23	E	5	5	10	0	0	0	502	75	577	0	0	0	0	0	0
BIRCH CREEK	89.2	F	09 02	E	0	0	0	1	0	1	17	71	88	0	1	1	0	0	0
BIRCH CREEK	89.2	F	09 10	E	0	0	0	0	0	0	0	0	0	8	0	8	9	0	9
BIRCH CREEK	89.2	F	09 17	F	0	0	0	0	0	0	0	0	0	3	0	3	13	0	13
BIRCH CREEK	89.2	F	09 25	G	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14
BIRCH CREEK	89.2	F	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
TRAPPER CREEK	91.5	BF	07 11	G	22	0	22	0	0	0	0	0	0	0	0	0	0	0	0
TRAPPER CREEK	91.5	BF	07 17	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAPPER CREEK	91.5	F	08 07	FG	3	0	3	4	0	4	31	0	31	0	0	0	294	0	294
TRAPPER CREEK	91.5	F	08 15	F	0	0	0	0	0	0	1	1	2	0	0	0	9	0	9
TRAPPER CREEK	91.5	BF	08 23	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAPPER CREEK	91.5	BF	09 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
CACHE CREEK	95.5	F	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CACHE CREEK	95.5	F	07 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CACHE CREEK	95.5	F	08 07	G	0	0	0	1	0	1	3	0	3	2	0	2	0	0	0
CACHE CREEK	95.5	F	08 15	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CACHE CREEK	95.5	F	08 23	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CACHE CREEK	95.5	F	09 02	FG	0	0	0	2	0	2	0	0	0	45	0	45	2	0	2
CACHE CREEK	95.5	F	09 10	G	0	0	0	7	0	7	0	0	0	40	2	42	0	0	0
CACHE CREEK	95.5	F	09 17	P	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0
CACHE CREEK	95.5	F	09 25	F	0	0	0	0	0	0	0	0	0	7	3	10	2	0	2
CACHE CREEK	95.5	F	10 02	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BYERS CREEK	97.8	F	07 27	E	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
BYERS CREEK	97.8	F	08 14	G	0	0	0	139	0	139	0	0	0	8	0	8	3	0	3
CHULITNA RIVER MIDDLE FORK	97.8	RF	07 27	G	3039	0	3039	0	0	0	0	0	0	0	0	0	0	0	0
CHULITNA RIVER MIDDLE FORK	97.8	RF	08 06	G	447	433	880	0	0	0	0	0	0	0	0	0	0	0	0
PAPA BEAR LAKE INLET STREAM	97.8	F	07 12	E	0	0	0	538	2	540	0	0	0	0	0	0	0	0	0
PAPA BEAR LAKE INLET STREAM	97.8	F	07 12	P	0	0	0	750	0	750	0	0	0	0	0	0	0	0	0
PAPA BEAR LAKE INLET STREAM	97.8	F	07 19	G	0	0	0	399	0	399	0	0	0	0	0	0	0	0	0
PRAIRIE CREEK	97.8	F	07 19	G	1193	0	1193	5	0	5	0	0	0	0	0	0	0	0	0
PRAIRIE CREEK	97.8	F	07 28	G	1941	80	2021	0	0	0	0	0	0	0	0	0	0	0	0
TALKEETNA RIVER CLEAR CREEK	97.8	H	07 17	F	2421	0	2421	0	0	0	0	0	0	0	0	0	0	0	0
TALKEETNA RIVER FISH CREEK	97.8	F	08 15	G	0	1	1	45	0	45	293	15	308	62	1	63	13	0	13
TALKEETNA RIVER FISH CREEK	97.8	F	08 22	G	0	0	0	0	0	0	161	0	161	33	0	33	55	0	55
TOKOSITNA RIVER UNNAMED CREEK	97.8	F	08 22	F	0	0	0	12	0	12	0	0	0	8	0	8	0	0	0
TROUBLESOME CREEK	97.8	F	07 27	E	23	2	25	0	0	0	0	0	0	0	0	0	0	0	0
TROUBLESOME CREEK	97.8	F	08 14	P	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
WHISKERS CREEK	101.4	H	07 17	E	87	0	87	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	H	07 25	E	101	2	103	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	68	0	68
WHISKERS CREEK	101.4	H	08 28	G	0	0	0	0	0	0	0	0	0	0	0	0	208	0	208
WHISKERS CREEK	101.4	H	09 04	E	0	0	0	0	0	0	0	0	0	0	0	0	442	1	443
WHISKERS CREEK	101.4	H	09 11	P	0	0	0	0	0	0	0	0	0	0	0	0	227	0	227
WHISKERS CREEK	101.4	H	09 18	G	0	0	0	0	0	0	0	0	0	0	0	0	150	0	150
WHISKERS CREEK	101.4	H	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	215	6	221
WHISKERS CREEK	101.4	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	151	15	166
WHISKERS CREEK	101.4	F	07 21	E	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	F	08 02	G	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	F	08 13	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	F	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	F	08 27	G	0	0	0	0	0	0	0	0	0	0	0	0	135	0	135
WHISKERS CREEK	101.4	F	09 03	G	0	0	0	0	0	0	0	0	0	0	0	0	108	0	108
WHISKERS CREEK	101.4	F	09 10	P	0	0	0	0	0	0	0	0	0	0	0	0	65	0	65
WHISKERS CREEK	101.4	F	09 17	P	0	0	0	0	0	0	0	0	0	0	0	0	10	1	11
WHISKERS CREEK	101.4	F	09 24	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHISKERS CREEK	101.4	F	10 01	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHASE CREEK	106.9	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHASE CREEK	106.9	H	07 24	G	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0
CHASE CREEK	106.9	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
CHASE CREEK	106.9	H	08 28	G	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17
CHASE CREEK	106.9	H	09 04	E	0	0	0	0	0	0	0	0	0	0	0	0	79	0	79
CHASE CREEK	106.9	H	09 11	P	0	0	0	0	0	0	0	0	0	0	0	0	53	0	53
CHASE CREEK	106.9	H	09 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHASE CREEK	106.9	H	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13
CHASE CREEK	106.9	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	25	4	29
CHASE CREEK	106.9	F	07 21	E	31	0	31	0	0	0	4	0	4	0	0	0	0	0	0
CHASE CREEK	106.9	F	07 27	E	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
CHASE CREEK	106.9	F	08 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHASE CREEK	106.9	F	08 13	F	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
CHASE CREEK	106.9	F	08 20	G	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
CHASE CREEK	106.9	F	08 27	E	0	0	0	0	0	0	0	1	1	0	0	0	13	0	13
CHASE CREEK	106.9	F	09 03	E	0	0	0	0	0	0	0	0	0	0	0	0	102	0	102
CHASE CREEK	106.9	F	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	218	0	218
CHASE CREEK	106.9	F	09 17	F	0	0	0	0	0	0	0	0	0	0	0	0	84	0	84
CHASE CREEK	106.9	F	09 24	F	0	0	0	0	0	0	0	0	0	0	0	0	30	4	34
CHASE CREEK	106.9	F	10 01	G	0	0	0	0	0	0	0	0	0	0	0	0	28	8	36

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) = P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
SLASH CREEK	111.2	F	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLASH CREEK	111.2	F	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLASH CREEK	111.2	F	09 02	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLASH CREEK	111.2	F	09 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SLASH CREEK	111.2	F	09 16	G	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0
SLASH CREEK	111.2	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
SLASH CREEK	111.2	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
GASH CREEK	111.6	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	H	08 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	H	09 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	H	09 11	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	H	09 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	H	09 25	G	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
GASH CREEK	111.6	H	10 02	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	F	08 18	G	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
GASH CREEK	111.6	F	08 25	E	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
GASH CREEK	111.6	F	09 02	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	F	09 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GASH CREEK	111.6	F	09 16	G	0	0	0	0	0	0	0	0	0	0	0	0	70	1	71
GASH CREEK	111.6	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13
GASH CREEK	111.6	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14
LANE CREEK	113.6	H	07 17	E	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	H	08 28	G	0	0	0	0	0	0	20	0	20	0	0	0	0	0	0
LANE CREEK	113.6	H	09 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	H	09 11	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	H	09 18	G	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
LANE CREEK	113.6	H	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13
LANE CREEK	113.6	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12
LANE CREEK	113.6	F	07 21	E	17	0	17	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	F	07 27	E	5	1	6	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	F	08 02	E	6	0	6	0	0	0	6	0	6	0	0	0	0	0	0
LANE CREEK	113.6	F	08 11	E	2	1	3	0	0	0	97	1	98	1	0	1	0	0	0
LANE CREEK	113.6	F	08 18	G	0	0	0	0	0	0	125	2	127	0	0	0	0	0	0
LANE CREEK	113.6	F	08 25	E	0	0	0	0	0	0	67	7	74	0	0	0	0	0	0
LANE CREEK	113.6	F	09 02	E	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
LANE CREEK	113.6	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	F	09 16	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LANE CREEK	113.6	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
LANE CREEK	113.6	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
LITTLE PORTAGE CREEK	117.7	F	08 11	E	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
LITTLE PORTAGE CREEK	117.7	F	08 18	G	0	0	0	0	0	0	6	1	7	0	0	0	0	0	0
LITTLE PORTAGE CREEK	117.7	F	08 25	G	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0
LITTLE PORTAGE CREEK	117.7	F	09 02	G	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
LITTLE PORTAGE CREEK	117.7	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE PORTAGE CREEK	117.7	F	09 16	PF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE PORTAGE CREEK	117.7	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTLE PORTAGE CREEK	117.7	F	09 30	E	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
																	1	0	1
FROMUNDA CREEK	119.3	F	08 18	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROMUNDA CREEK	119.3	F	08 25	E	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0
FROMUNDA CREEK	119.3	F	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROMUNDA CREEK	119.3	F	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROMUNDA CREEK	119.3	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FROMUNDA CREEK	119.3	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOWNUNDA CREEK	119.4	F	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOWNUNDA CREEK	119.4	F	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOWNUNDA CREEK	119.4	F	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOWNUNDA CREEK	119.4	F	09 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOWNUNDA CREEK	119.4	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOWNUNDA CREEK	119.4	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEADHORSE CREEK	120.8	F	09 30	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
MAGGOT CREEK	113.6	F	08 11	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	08 18	G	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	09 02	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	09 16	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAGGOT CREEK	113.6	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLYDE CREEK	113.8	F	08 11	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLYDE CREEK	113.8	F	08 18	E	0	0	0	0	0	0	7	0	7	0	0	0	0	0	0
CLYDE CREEK	113.8	F	08 25	E	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0
CLYDE CREEK	113.8	F	09 02	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLYDE CREEK	113.8	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLYDE CREEK	113.8	F	09 16	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLYDE CREEK	113.8	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLYDE CREEK	113.8	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	H	09 04	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	F	08 11	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	F	08 18	G	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	F	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	F	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER MCKENZIE CREEK	116.2	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
LOWER MCKENZIE CREEK	116.2	F	09 16	E	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24
LOWER MCKENZIE CREEK	116.2	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24
LOWER MCKENZIE CREEK	116.2	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	41	9	50
UPPER MCKENZIE CREEK	116.7	F	08 10	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UPPER MCKENZIE CREEK	116.7	F	08 18	G	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
UPPER MCKENZIE CREEK	116.7	F	08 25	E	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
UPPER MCKENZIE CREEK	116.7	F	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UPPER MCKENZIE CREEK	116.7	F	09 09	E	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
UPPER MCKENZIE CREEK	116.7	F	09 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UPPER MCKENZIE CREEK	116.7	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UPPER MCKENZIE CREEK	116.7	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
FIFTH OF JULY CREEK	123.7	H	07 17	E	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	07 20	E	18	0	18	0	0	0	0	0	0	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	07 26	E	21	0	21	0	0	0	0	0	0	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	08 02	E	11	0	11	0	0	0	3	0	3	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	08 09	E	1	0	1	0	0	0	21	0	21	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	08 18	G	0	0	0	0	0	0	35	1	36	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	08 25	E	0	0	0	0	0	0	13	0	13	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	09 02	E	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	09 05	G	0	0	0	0	0	0	0	0	0	0	3	6	9	0	0
FIFTH OF JULY CREEK	123.7	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FIFTH OF JULY CREEK	123.7	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	08 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	08 16	G	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0
SKULL CREEK	124.7	F	08 22	E	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0
SKULL CREEK	124.7	F	08 29	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	09 05	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	09 20	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	09 27	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKULL CREEK	124.7	F	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	07 20	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	07 27	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	08 02	E	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	08 09	G	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	08 17	G	0	0	0	0	0	0	12	0	12	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	08 22	G	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	08 29	G	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	09 05	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	09 19	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHERMAN CREEK	130.8	F	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) = P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
FOURTH OF JULY CREEK	131.1	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	07 24	E	85	0	85	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	07 31	G	24	3	27	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	08 28	G	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	09 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	09 18	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	09 19	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	F	07 20	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	F	07 26	E	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	F	08 02	E	20	0	20	0	0	0	12	0	12	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	F	08 09	G	7	3	10	0	0	0	175	2	177	43	0	43	0	0	0
FOURTH OF JULY CREEK	131.1	F	08 17	G	2	0	2	0	0	0	92	7	99	140	0	140	0	0	0
FOURTH OF JULY CREEK	131.1	F	08 22	G	0	0	0	0	0	0	77	86	163	48	3	51	0	0	0
FOURTH OF JULY CREEK	131.1	F	08 29	G	0	0	0	0	0	0	4	71	75	23	16	39	0	0	0
FOURTH OF JULY CREEK	131.1	F	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	F	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOURTH OF JULY CREEK	131.1	F	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	07 17	E	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	07 24	G	35	1	36	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	07 31	G	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	08 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	09 04	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	09 18	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	09 25	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	07 30	G	22	1	23	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	08 06	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	08 12	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	08 19	G	0	1	1	0	0	0	2	0	2	0	0	0	0	0	0
GOLD CREEK	136.7	F	08 26	G	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
GOLD CREEK	136.7	F	09 02	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	09 16	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	09 23	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOLD CREEK	136.7	F	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = fair, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
INDIAN RIVER	138.6	H	07 17	E	774	1	775	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	H	07 24	E	970	7	977	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	H	07 31	G	517	99	616	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	H	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	H	08 23	G	0	0	0	2	0	2	5	0	5	1153	75	1228	20	0	20
INDIAN RIVER	138.6	H	08 28	G	0	0	0	0	0	0	9	0	9	473	46	519	63	0	63
INDIAN RIVER	138.6	H	09 04	G	0	0	0	0	0	0	0	0	0	171	56	227	71	0	71
INDIAN RIVER	138.6	H	09 11	G	0	0	0	0	0	0	0	0	0	93	8	101	32	0	32
INDIAN RIVER	138.6	H	09 18	G	0	0	0	0	0	0	0	0	0	26	0	26	48	0	48
INDIAN RIVER	138.6	H	09 25	E	0	0	0	0	0	0	0	0	0	0	0	0	37	0	37
INDIAN RIVER	138.6	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	35	0	35
INDIAN RIVER	138.6	F	07 18	E	263	0	263	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	BF	07 19	E	115	2	117	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	F	07 26	E	162	5	167	0	0	0	12	0	12	0	0	0	0	0	0
INDIAN RIVER	138.6	F	08 01	E	110	47	157	0	0	0	46	0	46	17	0	17	0	0	0
INDIAN RIVER	138.6	F	08 08	P	0	0	0	0	0	0	0	0	0	36	0	36	0	0	0
INDIAN RIVER	138.6	F	08 08	E	24	69	93	0	0	0	645	3	648	65	1	66	0	0	0
INDIAN RIVER	138.6	F	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INDIAN RIVER	138.6	F	08 24	G	1	1	2	0	0	0	339	47	386	425	44	469	28	0	28
INDIAN RIVER	138.6	F	08 30	G	0	0	0	0	0	0	7	55	62	331	142	473	66	0	66
INDIAN RIVER	138.6	F	09 06	G	0	0	0	0	0	0	0	0	0	139	195	334	57	0	57
INDIAN RIVER	138.6	F	09 13	G	0	0	0	0	0	0	0	0	0	53	79	132	35	4	39
INDIAN RIVER	138.6	F	09 20	F	0	0	0	0	0	0	0	0	0	12	16	28	38	0	38
INDIAN RIVER	138.6	F	09 27	G	0	0	0	0	0	0	0	0	0	1	20	21	32	2	34
INDIAN RIVER	138.6	F	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	14	1	15
JACK LONG CREEK	144.5	H	07 17	E	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	H	08 01	G	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	H	09 04	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	H	09 18	G	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
JACK LONG CREEK	144.5	H	09 25	E	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
JACK LONG CREEK	144.5	H	10 02	E	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
JACK LONG CREEK	144.5	F	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
JACK LONG CREEK	144.5	F	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	08 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	08 30	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	09 06	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	09 13	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	09 20	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	09 28	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JACK LONG CREEK	144.5	F	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) = P = poor, F = fair, G = good, H = helicopter

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
PORTAGE CREEK	148.9	H	07 17	E	1900	0	1900	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	H	07 24	E	2621	8	2629	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	H	07 31	G	1767	93	1860	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	H	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	H	08 23	G	3	0	3	0	0	0	0	0	0	520	9	529	25	0	25
PORTAGE CREEK	148.9	H	08 28	G	2	0	2	0	0	0	1	0	1	524	15	539	1	0	1
PORTAGE CREEK	148.9	H	09 04	E	0	0	0	0	0	0	0	0	0	285	6	291	0	0	0
PORTAGE CEEEK	148.9	H	09 11	G	0	0	0	0	0	0	0	0	0	14	0	14	0	0	0
PORTAGE CREEK	148.9	H	09 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	H	09 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
PORTAGE CREEK	148.9	F	07 18	E	147	0	147	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	07 19	E	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	07 25	E	261	1	262	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	BF	07 26	E	22	0	22	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	08 01	E	210	33	243	0	0	0	1	0	1	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	08 08	F	3	4	7	0	0	0	148	1	149	314	0	314	0	0	0
PORTAGE CREEK	148.9	F	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	08 24	G	2	0	2	0	0	0	1	0	1	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	08 30	P	0	0	0	0	0	0	0	0	0	6	0	6	7	0	7
PORTAGE CREEK	148.9	F	09 06	G	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
PORTAGE CREEK	148.9	F	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTAGE CREEK	148.9	F	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	07 24	E	18	0	18	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	07 31	G	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	08 28	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	09 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	09 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	09 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEECHAKO CREEK	152.5	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H = helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-1. Continued.

Spawning Site	RM	SM[1]	Date	SC[2]	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total
CHINOOK CREEK	156.8	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	07 31	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	08 23	G	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	08 28	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	09 04	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	09 18	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	09 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHINOOK CREEK	156.8	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	07 31	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	08 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	08 28	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	09 04	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	09 11	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	09 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	09 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEVIL CREEK	161.0	H	10 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOG CREEK	176.1	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOG CREEK	176.1	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FOG CREEK	176.1	H	07 31	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEAR CREEK	178.0	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEAR CREEK	178.0	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEAR CREEK	178.0	H	07 31	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TSUSENA CREEK	181.3	H	07 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TSUSENA CREEK	181.3	H	07 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TSUSENA CREEK	181.3	H	07 31	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Survey Method (SM) - B = boat, F = foot, H - helicopter
2/ Survey Condition (SC) - P = poor, F = fair, G = good, E = excellent

Appendix Table 3-2. Escapement survey counts of Susitna River sloughs between RM 98.6 and 161.0, 1985.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 1	99.6	100	08 11	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	009
SLOUGH 1	99.6	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	033
SLOUGH 1	99.6	100	08 27	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	043
SLOUGH 1	99.6	100	09 03	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	055
SLOUGH 1	99.6	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	069
SLOUGH 1	99.6	100	09 17	E	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	079
SLOUGH 1	99.6	100	09 24	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	091
SLOUGH 1	99.6	100	10 01	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104
SLOUGH 2	100.2	020	08 13	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	010
SLOUGH 2	100.2	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	032
SLOUGH 2	100.2	100	08 27	E	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	043
SLOUGH 2	100.2	100	09 03	E	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	056
SLOUGH 2	100.2	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	068
SLOUGH 2	100.2	100	09 17	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	080
SLOUGH 2	100.2	100	09 24	G	0	0	0	0	0	0	0	0	0	13	4	17	0	0	0	092
SLOUGH 2	100.2	100	10 01	G	0	0	0	0	0	0	0	0	0	15	6	21	0	0	0	104
SLOUGH 3B	101.4	100	08 13	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	019
SLOUGH 3B	101.4	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	032
SLOUGH 3B	101.4	100	08 27	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	045
SLOUGH 3B	101.4	BRE	09 03	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	056
SLOUGH 3B	101.4	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	069
SLOUGH 3B	101.4	BRE	09 17	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	080
SLOUGH 3B	101.4	100	09 24	G	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	092
SLOUGH 3B	101.4	100	10 01	G	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	105
SLOUGH 3A	101.9	100	08 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	019
SLOUGH 3A	101.9	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	032
SLOUGH 3A	101.9	100	08 27	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	045
SLOUGH 3A	101.9	100	09 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	056
SLOUGH 3A	101.9	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	069
SLOUGH 3A	101.9	100	09 17	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	080
SLOUGH 3A	101.9	100	09 24	G	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	092
SLOUGH 3A	101.9	100	10 01	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	Total obs
SLOUGH 4	105.2	100	08 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 021
SLOUGH 4	105.2	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 031
SLOUGH 4	105.2	100	08 27	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 045
SLOUGH 4	105.2	100	09 03	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 057
SLOUGH 4	105.2	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 068
SLOUGH 4	105.2	100	09 17	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 081
SLOUGH 4	105.2	100	09 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 099
SLOUGH 4	105.2	100	10 01	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 105
SLOUGH 5	107.6	100	08 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 021
SLOUGH 5	107.6	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 031
SLOUGH 5	107.6	100	08 27	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 044
SLOUGH 5	107.6	100	09 03	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 057
SLOUGH 5	107.6	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 068
SLOUGH 5	107.6	100	09 17	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 081
SLOUGH 5	107.6	100	09 24	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 093
SLOUGH 5	107.6	100	10 01	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 106
SLOUGH 6	108.2	100	08 13	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 021
SLOUGH 6	108.2	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 031
SLOUGH 6	108.2	100	08 27	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 044
SLOUGH 6	108.2	100	09 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 057
SLOUGH 6	108.2	100	09 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 067
SLOUGH 6	108.2	100	09 17	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 081
SLOUGH 6	108.2	100	09 24	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 093
SLOUGH 6	108.2	100	10 01	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 106
SLOUGH 6A	112.3	100	08 11	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 009
SLOUGH 6A	112.3	100	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 030
SLOUGH 6A	112.3	100	08 25	G	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0 043
SLOUGH 6A	112.3	100	09 02	E	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0 053
SLOUGH 6A	112.3	100	09 09	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 065
SLOUGH 6A	112.3	100	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 079
SLOUGH 6A	112.3	100	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 091
SLOUGH 6A	112.3	100	09 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 104

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 7	113.2	CO	08 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	020
SLOUGH 7	113.2	CO	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	030
SLOUGH 7	113.2	CO	08 25	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	042
SLOUGH 8	113.7	100	08 11	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	009
SLOUGH 8	113.7	100	08 18	G	0	0	0	0	0	0	0	0	0	24	0	24	0	0	0	030
SLOUGH 8	113.7	100	08 25	E	0	0	0	0	0	0	0	0	2	47	5	52	0	0	0	042
SLOUGH 8	113.7	100	09 02	E	0	0	0	0	0	0	0	0	0	47	29	76	0	0	0	053
SLOUGH 8	113.7	100	09 09	G	0	0	0	0	0	0	0	0	0	26	30	56	0	0	0	065
SLOUGH 8	113.7	BRE	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	079
SLOUGH 8	113.7	100	09 23	E	0	0	0	0	0	0	0	0	0	26	28	54	0	0	0	091
SLOUGH 8	113.7	100	09 30	E	0	0	0	0	0	0	0	0	0	5	9	14	0	0	0	103
BUSHROD SLOUGH	117.8	100	08 11	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	008
BUSHROD SLOUGH	117.8	100	08 18	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	029
BUSHROD SLOUGH	117.8	100	08 25	E	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	041
BUSHROD SLOUGH	117.8	100	09 02	G	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	053
BUSHROD SLOUGH	117.8	100	09 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	065
BUSHROD SLOUGH	117.8	BRE	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	078
BUSHROD SLOUGH	117.8	100	09 23	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	090
BUSHROD SLOUGH	117.8	100	09 30	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
ELMO SLOUGH	117.9	100	08 18	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	029
ELMO SLOUGH	117.9	100	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	042
ELMO SLOUGH	117.9	100	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	054
ELMO SLOUGH	117.9	100	09 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	066
ELMO SLOUGH	117.9	BRE	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	078
ELMO SLOUGH	117.9	100	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	090
ELMO SLOUGH	117.9	100	09 30	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
SLOUGH 8D	121.8	100	08 10	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	008
SLOUGH 8D	121.8	100	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	029
SLOUGH 8D	121.8	100	08 25	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	041
SLOUGH 8D	121.8	100	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	054
SLOUGH 8D	121.8	100	09 09	E	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	067
SLOUGH 8D	121.8	100	09 16	G	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	077
SLOUGH 8D	121.8	100	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	090
SLOUGH 8D	121.8	100	09 30	E	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	102

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 8C	121.9	100	08 10	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	008
SLOUGH 8C	121.9	100	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	028
SLOUGH 8C	121.9	100	08 25	E	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	041
SLOUGH 8C	121.9	100	09 02	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	054
SLOUGH 8C	121.9	100	09 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	066
SLOUGH 8C	121.9	100	09 16	G	0	0	0	0	0	0	0	0	0	6	2	8	0	0	0	078
SLOUGH 8C	121.9	100	09 23	G	0	0	0	1	0	1	0	0	0	47	18	65	0	0	0	089
SLOUGH 8C	121.9	100	09 30	E	0	0	0	0	0	0	0	0	0	27	12	39	0	0	0	102
SLOUGH 8B	122.2	100	08 10	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	007
SLOUGH 8B	122.2	100	08 18	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	028
SLOUGH 8B	122.2	100	08 25	E	0	0	0	0	0	0	0	2	2	177	6	183	0	0	0	040
SLOUGH 8B	122.2	100	09 02	G	0	0	0	0	0	0	0	0	0	151	16	167	0	0	0	055
SLOUGH 8B	122.2	100	09 09	E	0	0	0	0	0	0	0	0	0	70	27	97	0	0	0	066
SLOUGH 8B	122.2	BRE	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	077
SLOUGH 8B	122.2	100	09 23	G	0	0	0	2	0	2	0	0	0	111	25	136	1	0	1	089
SLOUGH 8B	122.2	100	09 30	E	0	0	0	0	0	0	0	0	0	50	38	88	0	0	0	102
MOOSE SLOUGH	123.5	100	08 09	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	007
MOOSE SLOUGH	123.5	100	08 18	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	028
MOOSE SLOUGH	123.5	100	08 25	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	040
MOOSE SLOUGH	123.5	100	09 02	G	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	055
MOOSE SLOUGH	123.5	100	09 09	G	0	0	0	0	0	0	0	0	0	22	2	24	0	0	0	067
MOOSE SLOUGH	123.5	BRE	09 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	077
MOOSE SLOUGH	123.5	100	09 23	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	089
MOOSE SLOUGH	123.5	100	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
SLOUGH A1	124.6	100	08 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	006
SLOUGH A1	124.6	100	08 16	G	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	027
SLOUGH A1	124.6	100	08 22	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	036
SLOUGH A1	124.6	100	08 29	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	049
SLOUGH A1	124.6	100	09 05	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	061
SLOUGH A1	124.6	100	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	073
SLOUGH A1	124.6	100	09 20	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	085
SLOUGH A1	124.6	100	09 27	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	097
SLOUGH A1	124.6	100	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH A	124.7	100	08 09	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	007
SLOUGH A	124.7	100	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	027
SLOUGH A	124.7	100	08 22	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	037
SLOUGH A	124.7	100	08 29	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	049
SLOUGH A	124.7	CD	09 05	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	061
SLOUGH A	124.7	CD	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	073
SLOUGH A	124.7	CD	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	085
SLOUGH A	124.7	CD	09 27	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	097
SLOUGH A	124.7	CD	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
SLOUGH 8A	125.4	100	08 09	E	0	0	0	54	0	54	0	0	0	41	0	41	0	0	0	006
SLOUGH 8A	125.4	100	08 16	G	0	0	0	39	0	39	0	0	0	68	0	68	0	0	0	027
SLOUGH 8A	125.4	100	08 22	G	0	0	0	114	0	114	0	0	0	292	7	299	1	0	1	036
SLOUGH 8A	125.4	100	08 29	E	0	0	0	129	1	130	0	0	0	221	24	245	0	0	0	049
SLOUGH 8A	125.4	100	09 05	G	0	0	0	161	4	165	0	0	0	174	77	251	0	0	0	061
SLOUGH 8A	125.4	100	09 12	G	0	0	0	146	9	155	0	0	0	95	70	165	0	0	0	073
SLOUGH 8A	125.4	100	09 20	E	0	0	0	112	13	125	0	0	0	109	139	248	9	0	9	085
SLOUGH 8A	125.4	100	09 27	E	0	0	0	50	20	70	0	0	0	26	80	106	3	0	3	096
SLOUGH 8A	125.4	100	10 03	G	0	0	0	19	30	49	0	0	0	0	63	63	9	0	9	109
SLOUGH B	126.3	040	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	026
SLOUGH B	126.3	100	08 22	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	036
SLOUGH B	126.3	100	08 29	G	0	0	0	2	0	2	0	0	0	25	1	26	0	0	0	048
SLOUGH B	126.3	075	09 05	G	0	0	0	5	0	5	0	0	0	54	19	73	0	0	0	060
SLOUGH B	126.3	100	09 12	G	0	0	0	1	0	1	0	0	0	72	17	89	0	0	0	072
SLOUGH B	126.3	100	09 20	E	0	0	0	1	0	1	0	0	0	47	15	62	0	0	0	084
SLOUGH B	126.3	100	09 27	E	0	0	0	0	0	0	0	0	0	0	26	26	0	0	0	096
SLOUGH B	126.3	100	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109
SLOUGH 9	128.3	100	08 09	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	006
SLOUGH 9	128.3	100	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	026
SLOUGH 9	128.3	100	08 22	P	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	035
SLOUGH 9	128.3	100	08 29	G	0	0	0	0	0	0	1	0	1	61	33	94	0	0	0	048
SLOUGH 9	128.3	100	09 05	G	0	0	0	0	0	0	0	0	0	6	28	34	0	0	0	060
SLOUGH 9	128.3	100	09 12	G	0	0	0	0	0	0	0	0	0	0	29	29	0	0	0	072
SLOUGH 9	128.3	100	09 19	G	0	0	0	0	0	0	0	0	0	18	6	24	1	0	1	084
SLOUGH 9	128.3	100	09 27	E	0	0	0	0	0	0	0	0	0	6	5	11	0	0	0	096
SLOUGH 9	128.3	100	10 03	G	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	109

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 9B	129.2	CO	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	026
SLOUGH 9B	129.2	CO	08 22	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	035
SLOUGH 9B	129.2	CO	08 29	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	048
SLOUGH 9B	129.2	CO	09 05	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	060
SLOUGH 9B	129.2	CO	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	072
SLOUGH 9B	129.2	CO	09 19	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	084
SLOUGH 9B	129.2	CO	09 27	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	095
SLOUGH 9B	129.2	CO	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108
SLOUGH 9A	133.8	030	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	005
SLOUGH 9A	133.8	025	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	025
SLOUGH 9A	133.8	025	08 22	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	035
SLOUGH 9A	133.8	025	08 29	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	047
SLOUGH 9A	133.8	020	09 05	P	0	0	0	0	0	0	0	0	0	11	0	11	0	0	0	059
SLOUGH 9A	133.8	100	09 12	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	071
SLOUGH 9A	133.8	BRE	09 19	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	083
SLOUGH 9A	133.8	100	09 26	G	0	0	0	0	0	0	0	0	0	118	13	131	1	0	1	095
SLOUGH 9A	133.8	100	10 03	G	0	0	0	0	0	0	0	0	0	47	47	94	0	0	0	108
SLOUGH 10	133.9	100	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	005
SLOUGH 10	133.9	100	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	025
SLOUGH 10	133.9	100	08 22	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	034
SLOUGH 10	133.9	100	08 29	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	047
SLOUGH 10	133.9	100	09 05	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	059
SLOUGH 10	133.9	100	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	071
SLOUGH 10	133.9	100	09 19	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	083
SLOUGH 10	133.9	100	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	095
SLOUGH 10	133.9	100	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 11	135.3	100	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	005
SLOUGH 11	135.3	100	08 15	G	0	0	0	9	0	9	0	0	0	52	0	52	0	0	0	022
SLOUGH 11	135.3	100	08 22	G	0	0	0	70	4	74	0	0	0	336	6	342	0	0	0	034
SLOUGH 11	135.3	100	08 29	G	0	0	0	289	1	290	0	0	0	485	67	552	0	0	0	047
SLOUGH 11	135.3	100	09 05	E	0	0	0	498	2	500	0	0	0	270	151	421	0	0	0	059
SLOUGH 11	135.3	100	09 12	G	0	0	0	669	7	676	0	0	0	146	276	422	0	0	0	071
SLOUGH 11	135.3	100	09 19	G	0	0	0	672	22	694	0	0	0	115	491	606	0	0	0	083
SLOUGH 11	135.3	100	09 26	G	0	0	0	384	28	412	0	0	0	56	359	415	0	0	0	094
SLOUGH 11	135.3	100	10 03	G	0	0	0	147	472	619	0	0	0	6	410	416	0	0	0	107
SLOUGH 12	135.4	CD	08 22	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	034
SLOUGH 12	135.4	100	08 29	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	046
SLOUGH 12	135.4	100	09 05	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	058
SLOUGH 12	135.4	100	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	070
SLOUGH 12	135.4	CD	09 19	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	082
SLOUGH 12	135.4	CD	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	094
SLOUGH 12	135.4	CD	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107
SLOUGH 13	135.8	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	033
SLOUGH 13	135.8	100	08 29	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	046
SLOUGH 13	135.8	100	09 05	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	058
SLOUGH 13	135.8	100	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	070
SLOUGH 13	135.8	100	09 19	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	082
SLOUGH 13	135.8	100	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	094
SLOUGH 13	135.8	100	10 03	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107
SLOUGH 14	135.9	100	08 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	033
SLOUGH 14	135.9	100	08 29	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	046
SLOUGH 14	135.9	100	09 05	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	058
SLOUGH 14	135.9	100	09 12	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	070
SLOUGH 14	135.9	100	09 19	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	082
SLOUGH 14	135.9	100	09 26	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	093
SLOUGH 14	135.9	100	10 03	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 15	137.2	100	08 16	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	025
SLOUGH 15	137.2	100	08 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	040
SLOUGH 15	137.2	100	08 30	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	052
SLOUGH 15	137.2	100	09 06	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	064
SLOUGH 15	137.2	100	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	076
SLOUGH 15	137.2	100	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	088
SLOUGH 15	137.2	100	09 27	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	097
SLOUGH 15	137.2	100	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	099
SLOUGH 15	137.2	100	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113
SLOUGH 16	137.3	100	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	004
SLOUGH 16	137.3	100	08 16	F	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	024
SLOUGH 16	137.3	100	08 24	G	0	0	0	0	0	0	0	5	5	8	2	10	0	0	0	039
SLOUGH 16	137.3	100	08 30	E	0	0	0	0	0	0	0	0	0	4	2	6	0	0	0	052
SLOUGH 16	137.3	100	09 06	E	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	064
SLOUGH 16	137.3	100	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	076
SLOUGH 16	137.3	100	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	088
SLOUGH 16	137.3	100	09 27	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	098
SLOUGH 16	137.3	100	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	099
SLOUGH 16	137.3	100	10 04	G	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	112
SLOUGH 17	138.9	100	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	004
SLOUGH 17	138.9	100	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	024
SLOUGH 17	138.9	100	08 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	039
SLOUGH 17	138.9	100	08 30	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	052
SLOUGH 17	138.9	100	09 06	E	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	064
SLOUGH 17	138.9	CD	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	076
SLOUGH 17	138.9	100	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	088
SLOUGH 17	138.9	100	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
SLOUGH 17	138.9	100	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 18	139.1	CO	08 16	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	024
SLOUGH 18	139.1	CO	08 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	039
SLOUGH 18	139.1	CO	08 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	051
SLOUGH 18	139.1	CO	09 06	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	063
SLOUGH 18	139.1	CO	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	075
SLOUGH 18	139.1	CO	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	087
SLOUGH 18	139.1	CO	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
SLOUGH 19	139.7	100	08 08	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	004
SLOUGH 19	139.7	100	08 16	G	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	023
SLOUGH 19	139.7	100	08 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	038
SLOUGH 19	139.7	100	08 30	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	051
SLOUGH 19	139.7	100	09 06	G	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	063
SLOUGH 19	139.7	100	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	075
SLOUGH 19	139.7	100	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	087
SLOUGH 19	139.7	100	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
SLOUGH 19	139.7	100	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112
SLOUGH 20	140.0	100	08 08	E	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	003
SLOUGH 20	140.0	100	08 16	G	0	0	0	0	0	0	0	0	0	13	0	13	0	0	0	023
SLOUGH 20	140.0	100	08 24	E	0	0	0	0	0	0	0	0	0	54	0	54	0	0	0	038
SLOUGH 20	140.0	100	08 30	E	0	0	0	0	0	0	0	2	2	6	10	16	0	0	0	051
SLOUGH 20	140.0	100	09 06	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	063
SLOUGH 20	140.0	100	09 13	G	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	075
SLOUGH 20	140.0	100	09 20	G	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	087
SLOUGH 20	140.0	100	09 28	G	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	100
SLOUGH 20	140.0	100	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-2. Continued.

Spawning Site	RM	SD	Date	SC	Chinook Live	Chinook Dead	Chinook Total	Sockeye Live	Sockeye Dead	Sockeye Total	Pink Live	Pink Dead	Pink Total	Chum Live	Chum Dead	Chum Total	Coho Live	Coho Dead	Coho Total	obs
SLOUGH 21	141.1	050	08 08	E	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	003
SLOUGH 21	141.1	025	08 16	G	0	0	0	0	0	0	0	0	0	42	0	42	0	0	0	023
SLOUGH 21	141.1	100	08 24	E	0	0	0	11	0	11	0	0	0	258	17	275	0	0	0	038
SLOUGH 21	141.1	100	08 30	E	0	0	0	28	0	28	0	0	0	151	51	202	0	0	0	050
SLOUGH 21	141.1	100	09 06	E	0	0	0	28	0	28	0	0	0	260	19	279	0	0	0	062
SLOUGH 21	141.1	100	09 13	G	0	0	0	47	2	49	0	0	0	131	27	158	0	0	0	074
SLOUGH 21	141.1	100	09 20	G	0	0	0	53	0	53	0	0	0	36	2	38	0	0	0	086
SLOUGH 21	141.1	100	09 28	G	0	0	0	20	0	20	0	0	0	22	1	23	0	0	0	100
SLOUGH 21	141.1	100	10 04	G	0	0	0	5	0	5	0	0	0	38	5	43	0	0	0	111
SLOUGH 22	144.5	100	08 08	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	003
SLOUGH 22	144.5	100	08 16	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	022
SLOUGH 22	144.5	100	08 24	G	0	0	0	0	0	0	0	0	0	20	4	24	0	0	0	037
SLOUGH 22	144.5	100	08 30	G	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	050
SLOUGH 22	144.5	100	09 06	E	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	062
SLOUGH 22	144.5	CD	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	074
SLOUGH 22	144.5	100	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	086
SLOUGH 22	144.5	100	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	098
SLOUGH 22	144.5	100	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111
SLOUGH 21A	145.3	100	08 16	G	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	022
SLOUGH 21A	145.3	100	08 24	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	037
SLOUGH 21A	145.3	100	08 30	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	050
SLOUGH 21A	145.3	CD	09 06	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	062
SLOUGH 21A	145.3	CD	09 13	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	074
SLOUGH 21A	145.3	CD	09 20	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	086
SLOUGH 21A	145.3	CD	09 28	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	098
SLOUGH 21A	145.3	CD	10 04	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110

RM = River mile; SD = Percent of slough surveyed; SC = Survey conditions

Appendix Table 3-3. Chinook salmon spawning ground surveys of selected streams and resultant tagged to untagged ratios, 1985.

Chinook salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
ALEXANDER CREEK	10.1	07 13	F	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
YENTNA RIVER FISH CREEK	28.0	07 05	E	1	11	12	0.091	0	12	12	0.0	0	12	12	0.0
YENTNA RIVER FISH CREEK	28.0	07 12	E	3	8	11	0.375	0	11	11	0.0	0	11	11	0.0
YENTNA RIVER FISH CREEK	28.0	07 19	E	0	15	15	0.0	0	15	15	0.0	0	15	15	0.0
TALACHULITNA RIVER	28.0	07 22	EG	6	1351	1357	0.004	0	1357	1357	0.0	0	1357	1357	0.0
DESHKA RIVER WEST FORK	40.6	07 22	FG	86	3978	4064	0.022	3	4061	4064	0.001	12	4052	4064	0.003
DESHKA RIVER MOOSE CREEK	40.6	07 30	G	53	3441	3494	0.015	4	3490	3494	0.001	1	3493	3494	0.0
CASWELL CREEK	64.0	07 17	F	2	21	23	0.095	2	21	23	0.095	0	23	23	0.0
SHEEP CREEK	66.1	07 11	F	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
SHEEP CREEK	66.1	07 17	G	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
GOOSE CREEK	72.0	07 11	P	0	15	15	0.0	0	15	15	0.0	0	15	15	0.0
GOOSE CREEK	72.0	07 11	E	0	29	29	0.0	2	27	29	0.074	0	29	29	0.0
GOOSE CREEK	72.0	07 17	E	0	27	27	0.0	1	26	27	0.038	1	26	27	0.038
GOOSE CREEK	72.0	07 28	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
MONTANA CREEK	77.0	07 11	FG	0	31	31	0.0	0	31	31	0.0	1	30	31	0.033
MONTANA CREEK	77.0	07 17	P	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
MONTANA CREEK	77.0	07 17	E	0	99	99	0.0	8	91	99	0.088	1	98	99	0.010
MONTANA CREEK	77.0	07 28	GE	1	20	21	0.050	4	17	21	0.235	0	21	21	0.0
MONTANA CREEK	77.0	08 01	G	4	226	230	0.018	8	222	230	0.036	3	227	230	0.013
MONTANA CREEK	77.0	08 02	G	2	737	739	0.003	17	722	739	0.023	1	738	739	0.001
RABIDEUX CREEK	83.1	07 10	G	0	14	14	0.0	7	7	14	1.0	0	14	14	0.0
RABIDEUX CREEK	83.1	07 16	F	0	3	3	0.0	1	2	3	0.500	0	3	3	0.0
RABIDEUX CREEK	83.1	07 28	E	1	113	114	0.009	8	106	114	0.075	1	113	114	0.009

Appendix Table 3-3 (Continued).

Chinook salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn untagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine untagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry untagged	Curry total	Curry tag/untag ratio
SUNSHINE CREEK	85.1	07 10	E	5	26	31	0.192	7	24	31	0.292	0	31	31	0.0
SUNSHINE CREEK	85.1	07 16	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
BIRCH CREEK	89.2	07 28	E	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
BIRCH CREEK	89.2	08 07	G	0	16	16	0.0	0	16	16	0.0	0	16	16	0.0
BIRCH CREEK	89.2	08 15	G	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
BIRCH CREEK	89.2	08 23	E	0	5	5	0.0	1	4	5	0.250	0	5	5	0.0
TRAPPER CREEK	91.5	07 11	E	0	5	5	0.0	1	4	5	0.250	0	5	5	0.0
TRAPPER CREEK	91.5	07 11	EF	0	17	17	0.0	2	15	17	0.133	0	17	17	0.0
TRAPPER CREEK	91.5	08 07	GF	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
BYERS CREEK	98.7	07 27	E	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
CHULITNA RIVER MIDDLE FORK	98.7	07 27	G	7	3032	3039	0.002	56	2983	3039	0.019	0	3039	3039	0.0
CHULITNA RIVER MIDDLE FORK	98.7	08 06	G	0	447	447	0.0	4	443	447	0.009	0	447	447	0.0
PRAIRIE CREEK	98.7	07 19	G	2	1191	1193	0.002	18	1175	1193	0.015	0	1193	1193	0.0
PRAIRIE CREEK	98.7	07 28	G	1	1940	1941	0.001	61	1880	1941	0.032	0	1941	1941	0.0
TROUBLESOME CREEK	98.7	07 27	E	0	23	23	0.0	3	20	23	0.150	0	23	23	0.0
WHISKERS CREEK	101.4	07 21	E	1	13	14	0.077	1	13	14	0.077	0	14	14	0.0
WHISKERS CREEK	101.4	08 02	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
CHASE CREEK	106.9	07 21	E	0	31	31	0.0	1	30	31	0.033	1	30	31	0.033
CHASE CREEK	106.9	07 27	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0

Appendix Table 3-3 (Continued).

Chinook salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
LANE CREEK	113.6	07 21	E	0	17	17	0.0	3	14	17	0.214	0	17	17	0.0
LANE CREEK	113.6	07 27	E	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
LANE CREEK	113.6	08 02	E	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
LANE CREEK	113.6	08 11	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
FIFTH OF JULY CREEK	123.7	07 20	E	1	17	18	0.059	1	17	18	0.059	9	9	18	1.000
FIFTH OF JULY CREEK	123.7	07 26	E	0	21	21	0.0	0	21	21	0.0	6	15	21	0.400
FIFTH OF JULY CREEK	123.7	08 02	E	0	11	11	0.0	1	10	11	0.100	1	10	11	0.100
FIFTH OF JULY CREEK	123.7	08 09	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
FOURTH OF JULY CREEK	131.0	07 26	E	0	5	5	0.0	1	4	5	0.250	1	4	5	0.250
FOURTH OF JULY CREEK	131.0	08 02	G	0	20	20	0.0	0	20	20	0.0	2	18	20	0.111
FOURTH OF JULY CREEK	131.0	08 09	G	0	7	7	0.0	1	6	7	0.167	1	6	7	0.167
FOURTH OF JULY CREEK	131.0	08 17	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
FOURTH OF JULY CREEK	131.0	08 28	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
GOLD CREEK	136.7	07 30	G	0	22	22	0.0	1	21	22	0.048	4	18	22	0.222
INDIAN RIVER	138.6	07 18	E	0	263	263	0.0	6	257	263	0.023	9	254	263	0.035
INDIAN RIVER	138.6	07 19	E	0	115	115	0.0	4	111	115	0.036	8	107	115	0.075
INDIAN RIVER	138.6	07 26	E	1	161	162	0.006	8	154	162	0.052	14	148	162	0.095
INDIAN RIVER	138.6	08 01	E	0	110	110	0.0	7	103	110	0.068	9	101	110	0.089
INDIAN RIVER	138.6	08 08	E	0	24	24	0.0	2	22	24	0.091	1	23	24	0.044
INDIAN RIVER	138.6	08 24	G	0	1	1	0.0	0	1	1	0.0	1	0	1	0.0
PORTAGE CREEK	148.9	07 18	E	0	147	147	0.0	5	142	147	0.035	9	138	147	0.065
PORTAGE CREEK	148.9	07 19	E	0	19	19	0.0	0	19	19	0.0	0	19	19	0.0
PORTAGE CREEK	148.9	07 25	E	0	261	261	0.0	7	254	261	0.028	14	247	261	0.057
PORTAGE CREEK	148.9	07 26	E	0	22	22	0.0	0	22	22	0.0	0	22	22	0.0
PORTAGE CREEK	148.9	08 01	G	0	210	210	0.0	9	201	210	0.045	22	188	210	0.117
PORTAGE CREEK	148.9	08 08	E	0	3	3	0.0	0	3	3	0.0	3	0	3	0.0
PORTAGE CREEK	148.9	08 24	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0

Appendix Table 3-4. Chinook salmon spawning ground surveys of selected sloughs and resultant tagged to untagged ratios, 1985.

Chinook salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SHEEP CREEK SLOUGH	66.1	07 11	P	0	45	45	0.0	3	42	45	0.071	0	45	45	0.0
SHEEP CREEK SLOUGH	66.1	07 17	G	6	251	257	0.024	8	249	257	0.032	1	256	257	0.004
SHEEP CREEK SLOUGH	66.1	07 28	FG	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
BIRCH CREEK SLOUGH	88.4	07 10	G	3	118	121	0.025	10	111	121	0.090	1	120	121	0.008
BIRCH CREEK SLOUGH	88.4	07 16	G	2	396	398	0.005	19	379	398	0.050	0	398	398	0.0
BIRCH CREEK SLOUGH	88.4	07 28	FG	0	291	291	0.0	28	263	291	0.106	1	290	291	0.003
BIRCH CREEK SLOUGH	88.4	08 07	E	0	107	107	0.0	10	97	107	0.103	0	107	107	0.0
BIRCH CREEK SLOUGH	88.4	08 15	F	0	12	12	0.0	1	11	12	0.091	0	12	12	0.0
BIRCH CREEK SLOUGH	88.4	08 23	FG	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0

Appendix Table 3-5. Sockeye salmon spawning ground surveys of selected streams and resultant tagged to untagged ratios, 1985.

Sockeye salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
ALEXANDER CREEK	10.1	07 13	F	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
FISH CRK RED SHIRT LAKE DOWN	13.5	08 28	E	4	132	136	0.030	0	136	136	0.0	0	136	136	0.0
YENTNA RIVER FISH CREEK	28.0	07 12	E	7	36	43	0.194	0	43	43	0.0	0	43	43	0.0
YENTNA RIVER FISH CREEK	28.0	07 19	E	34	1703	1737	0.020	0	1737	1737	0.0	0	1737	1737	0.0
SHELL CREEK	28.0	08 27	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
CASWELL CREEK	64.0	07 17	F	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
GOOSE CREEK	72.0	07 11	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SUNSHINE CREEK	85.1	09 02	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
BIRCH CREEK	89.2	00 07	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
BIRCH CREEK	89.2	09 02	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
TRAPPER CREEK	91.5	08 07	GF	1	3	4	0.333	0	4	4	0.0	0	4	4	0.0
CACHE CREEK	95.5	08 07	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
CACHE CREEK	95.5	09 02	FG	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
CACHE CREEK	95.5	09 10	G	1	6	7	0.167	1	6	7	0.167	1	6	7	0.167
BYERS CREEK	97.8	08 14	G	3	136	139	0.022	33	106	139	0.311	0	139	139	0.0

Appendix Table 3-5 (Continued).

Sockeye salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
PAPA BEAR LAKE INLET STREAM	97.8	07 19	G	17	382	399	0.045	34	365	399	0.093	0	399	399	0.0
PRAIRIE CREEK	97.8	07 19	G	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
TALKEETNA RIVER FISH CREEK	97.8	08 15	G	1	44	45	0.023	13	32	45	0.406	0	45	45	0.0
TOKOSITNA RIVER UNNAMED CREEK	97.8	08 22	F	0	12	12	0.0	4	8	12	0.500	0	12	12	0.0
INDIAN RIVER	138.6	08 23	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0

Appendix Table 3-6. Sockeye salmon spawning ground surveys of selected sloughs and resultant tagged to untagged ratios, 1985.

Sockeye salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
BIRCH CREEK SLOUGH	88.4	07 16	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
BIRCH CREEK SLOUGH	88.4	07 28	FG	0	31	31	0.0	2	29	31	0.069	0	31	31	0.0
BIRCH CREEK SLOUGH	88.4	08 07	E	4	207	211	0.019	45	166	211	0.271	0	211	211	0.0
BIRCH CREEK SLOUGH	88.4	08 23	FG	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
BIRCH CREEK SLOUGH	88.4	09 02	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
BIRCH CREEK SLOUGH	88.4	09 10	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
BIRCH CREEK SLOUGH	88.4	09 25	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
PERDIDULA SLOUGH	97.1	09 02	FG	1	69	70	0.014	13	57	70	0.228	0	70	70	0.0
PERDIDULA SLOUGH	97.1	09 10	F	4	60	64	0.067	8	56	64	0.143	0	64	64	0.0
PERDIDULA SLOUGH	97.1	09 25	FG	0	11	11	0.0	2	9	11	0.222	0	11	11	0.0
SLOUGH 6A	112.3	09 02	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
BUSHROD SLOUGH	117.8	09 02	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 8C	121.9	09 23	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 8B	122.2	09 23	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
SLOUGH 8A	125.4	08 09	E	0	54	54	0.0	8	46	54	0.174	7	47	54	0.149
SLOUGH 8A	125.4	08 16	G	0	39	39	0.0	8	31	39	0.258	8	31	39	0.258
SLOUGH 8A	125.4	08 22	G	2	112	114	0.018	19	95	114	0.200	15	99	114	0.152
SLOUGH 8A	125.4	08 29	E	1	128	129	0.008	18	111	129	0.162	17	112	129	0.152
SLOUGH 8A	125.4	09 05	G	4	157	161	0.025	16	145	161	0.110	14	147	161	0.095
SLOUGH 8A	125.4	09 12	G	6	140	146	0.043	11	135	146	0.081	8	138	146	0.058
SLOUGH 8A	125.4	09 20	E	2	110	112	0.018	6	106	112	0.057	4	108	112	0.037
SLOUGH 8A	125.4	09 27	E	2	48	50	0.042	4	46	50	0.087	3	47	50	0.064
SLOUGH 8A	125.4	10 03	G	1	18	19	0.056	1	18	19	0.056	0	19	19	0.0

Appendix Table 3-6 (Continued).

Sockeye salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SLOUGH B	126.3	08 29	G	0	2	2	0.0	0	2	2	0.0	1	1	2	1.000
SLOUGH B	126.3	09 05	G	0	5	5	0.0	0	5	5	0.0	4	1	5	4.000
SLOUGH B	126.3	09 12	G	0	1	1	0.0	0	1	1	0.0	1	0	1	---
SLOUGH B	126.3	09 20	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 11	135.3	08 15	G	2	7	9	0.286	3	6	9	0.500	0	9	9	0.0
SLOUGH 11	135.3	08 22	G	4	66	70	0.061	15	55	70	0.273	9	61	70	0.148
SLOUGH 11	135.3	08 29	G	4	285	289	0.014	56	233	289	0.240	32	257	289	0.125
SLOUGH 11	135.3	09 05	E	0	498	498	0.0	80	418	498	0.191	59	439	498	0.134
SLOUGH 11	135.3	09 12	G	5	664	669	0.008	98	571	669	0.172	72	597	669	0.121
SLOUGH 11	135.3	09 19	G	13	659	672	0.020	85	587	672	0.145	54	618	672	0.087
SLOUGH 11	135.3	09 26	G	2	382	384	0.005	41	343	384	0.120	18	366	384	0.049
SLOUGH 11	135.3	10 03	G	2	145	147	0.014	12	135	147	0.089	8	139	147	0.058
SLOUGH 19	139.7	08 16	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 21	141.1	08 24	E	1	10	11	0.100	2	9	11	0.222	0	11	11	0.0
SLOUGH 21	141.1	08 30	E	1	27	28	0.037	5	23	28	0.217	2	26	28	0.077
SLOUGH 21	141.1	09 06	E	1	27	28	0.037	6	22	28	0.273	5	23	28	0.217
SLOUGH 21	141.1	09 13	G	1	46	47	0.022	5	42	47	0.119	2	45	47	0.044
SLOUGH 21	141.1	09 20	G	1	52	53	0.019	9	44	53	0.205	1	52	53	0.019
SLOUGH 21	141.1	09 28	G	0	20	20	0.0	4	16	20	0.250	0	20	20	0.0
SLOUGH 21	141.1	10 04	G	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0

--- DENOTES 1/0

Appendix Table 3-7. Pink salmon spawning ground surveys of selected streams and resultant tagged to untagged ratios, 1985.

Pink salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
TALACHULITNA RIVER	28.0	07 22	EG	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
TALACHULITNA RIVER	28.0	08 27	PF	1	27	28	0.037	0	28	28	0.0	0	28	28	0.0
YENTNA RIVER LAKE CREEK	28.0	08 26	F	1	11	12	0.091	0	12	12	0.0	0	12	12	0.0
DESHKA RIVER MOOSE CREEK	40.6	07 30	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
WILLOW CREEK	49.1	07 28	G	0	34	34	0.0	0	34	34	0.0	0	34	34	0.0
CASWELL CREEK	64.0	08 08	F	0	16	16	0.0	0	16	16	0.0	0	16	16	0.0
SHEEP CREEK	66.1	08 08	F	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
GOOSE CREEK	72.0	07 17	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
GOOSE CREEK	72.0	07 28	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
GOOSE CREEK	72.0	07 28	P	0	2	2	0.0	1	1	2	1.000	0	2	2	0.0
GOOSE CREEK	72.0	08 08	G	0	30	30	0.0	1	29	30	0.034	0	30	30	0.0
GOOSE CREEK	72.0	08 16	F	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
GOOSE CREEK	72.0	08 24	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
MONTANA CREEK	77.0	07 17	E	2	8	10	0.250	0	10	10	0.0	0	10	10	0.0
MONTANA CREEK	77.0	07 28	GE	1	29	30	0.034	4	26	30	0.154	0	30	30	0.0
MONTANA CREEK	77.0	08 24	P	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SUNSHINE CREEK	85.1	07 16	G	0	17	17	0.0	5	12	17	0.417	0	17	17	0.0
SUNSHINE CREEK	85.1	07 27	GE	2	41	43	0.049	3	40	43	0.075	0	43	43	0.0
SUNSHINE CREEK	85.1	08 07	E	1	73	74	0.014	12	62	74	0.194	0	74	74	0.0
SUNSHINE CREEK	85.1	08 16	F	0	9	9	0.0	4	5	9	0.800	0	9	9	0.0
SUNSHINE CREEK	85.1	08 16	FP	0	69	69	0.0	19	50	69	0.380	0	69	69	0.0

--- DENOTES 1/0

Appendix Table 3-7 (Continued).

Pink salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
BIRCH CREEK	89.2	07 28	E	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
BIRCH CREEK	89.2	08 07	G	0	117	117	0.0	21	96	117	0.219	0	117	117	0.0
BIRCH CREEK	89.2	08 15	G	3	561	564	0.005	134	430	564	0.317	0	564	564	0.0
BIRCH CREEK	89.2	08 23	E	2	500	502	0.004	83	419	502	0.198	0	502	502	0.0
BIRCH CREEK	89.2	09 02	E	0	17	17	0.0	0	17	17	0.0	0	17	17	0.0
TRAPPER CREEK	91.5	08 07	GF	0	31	31	0.0	6	25	31	0.240	0	31	31	0.0
TRAPPER CREEK	91.5	08 15	F	0	1	1	0.0	1	0	1	---	0	1	1	0.0
CACHE CREEK	95.5	08 07	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
TALKEETNA RIVER FISH CREEK	97.8	08 15	G	2	291	293	0.007	69	224	293	0.308	1	292	293	0.003
TALKEETNA RIVER FISH CREEK	97.8	08 22	G	4	157	161	0.025	21	140	161	0.150	0	161	161	0.0
CHASE CREEK	106.9	07 21	E	2	2	4	1.000	0	4	4	0.0	0	4	4	0.0
CHASE CREEK	106.9	08 13	F	0	1	1	0.0	1	0	1	---	0	1	1	0.0
CHASE CREEK	106.9	08 20	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
GASH CREEK	111.6	08 18	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
GASH CREEK	111.6	08 25	E	0	2	2	0.0	1	1	2	1.000	0	2	2	0.0
LANE CREEK	113.6	08 02	E	0	6	6	0.0	1	5	6	0.200	1	5	6	0.200
LANE CREEK	113.6	08 11	E	0	97	97	0.0	19	78	97	0.244	12	85	97	0.141
LANE CREEK	113.6	08 18	G	1	124	125	0.008	22	103	125	0.214	9	116	125	0.078
LANE CREEK	113.6	08 25	E	0	67	67	0.0	7	60	67	0.117	6	61	67	0.098
LANE CREEK	113.6	09 02	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
MAGGOT CREEK	113.6	08 18	G	0	4	4	0.0	0	4	4	0.0	3	1	4	3.000
CLYDE CREEK	113.8	08 18	E	0	7	7	0.0	0	7	7	0.0	2	5	7	0.400
CLYDE CREEK	113.8	08 25	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0

--- DENOTES 1/0

Appendix Table 3-7 (Continued).

Pink salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
LOWER MCKENZIE CREEK	116.2	08 18	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
UPPER MCKENZIE CREEK	116.7	08 18	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
UPPER MCKENZIE CREEK	116.7	08 25	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
LITTLE PORTAGE CREEK	117.7	08 11	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
LITTLE PORTAGE CREEK	117.7	08 18	G	0	6	6	0.0	0	6	6	0.0	3	3	6	1.00
FROMUNDA CREEK	119.3	08 25	E	0	3	3	0.0	0	3	3	0.0	1	2	3	0.500
FIFTH OF JULY CREEK	123.7	08 02	E	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
FIFTH OF JULY CREEK	123.7	08 09	E	0	21	21	0.0	7	14	21	0.500	5	16	21	0.313
FIFTH OF JULY CREEK	123.7	08 18	G	0	35	35	0.0	4	31	35	0.129	10	25	35	0.400
FIFTH OF JULY CREEK	123.7	08 25	E	0	13	13	0.0	1	12	13	0.083	3	10	13	0.300
SKULL CREEK	124.7	08 22	E	0	3	3	0.0	2	1	3	2.000	1	2	3	0.500
SHERMAN CREEK	130.8	08 09	G	0	8	8	0.0	2	6	8	0.333	1	7	8	0.143
SHERMAN CREEK	130.8	08 17	G	0	10	10	0.0	2	10	12	0.200	1	11	12	0.091
SHERMAN CREEK	130.8	08 22	G	0	3	3	0.0	1	2	3	0.500	0	3	3	0.0
SHERMAN CREEK	130.8	08 29	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
FOURTH OF JULY CREEK	131.0	08 02	G	0	12	12	0.0	2	10	12	0.200	1	11	12	0.091
FOURTH OF JULY CREEK	131.0	08 09	G	1	174	175	0.006	40	135	175	0.296	23	152	175	0.151
FOURTH OF JULY CREEK	131.0	08 17	G	0	92	92	0.0	11	81	92	0.136	12	80	92	0.150
FOURTH OF JULY CREEK	131.0	08 22	F	3	74	77	0.041	13	64	77	0.203	13	64	77	0.203
FOURTH OF JULY CREEK	131.0	08 29	G	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
GOLD CREEK	136.7	08 19	G	0	2	2	0.0	0	2	2	0.0	1	1	2	1.000
GOLD CREEK	136.7	08 26	G	0	1	1	0.0	0	1	1	0.0	1	0	1	---

--- DENOTES 1/0

Appendix Table 3-7 (Continued).

Pink salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
INDIAN RIVER	138.6	07 26	E	0	12	12	0.0	0	12	12	0.0	0	12	12	0.0
INDIAN RIVER	138.6	08 01	E	0	46	46	0.0	7	39	46	0.179	11	35	46	0.314
INDIAN RIVER	138.6	08 08	E	1	644	645	0.002	93	552	645	0.168	89	556	645	0.160
INDIAN RIVER	138.6	08 24	G	0	339	339	0.0	3	336	339	0.009	7	332	339	0.021
INDIAN RIVER	138.6	08 30	G	0	7	7	0.0	0	7	7	0.0	0	7	7	0.0
PORTAGE CREEK	148.9	08 01	E	0	1	1	0.0	1	0	1	---	0	1	1	0.0
PORTAGE CREEK	148.9	08 08	E	0	98	98	0.0	11	87	98	0.126	18	80	98	0.225
PORTAGE CREEK	148.9	08 24	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0

--- DENOTES 1/0

Appendix Table 3-8. Pink salmon spawning ground surveys of selected sloughs and resultant tagged to untagged ratios, 1985.

Pink salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SHEEP CREEK SLOUGH	66.1	07 17	G	0	10	10	0.0	0	10	10	0.0	0	10	10	0.0
SHEEP CREEK SLOUGH	66.1	08 08	FG	0	62	62	0.0	0	62	62	0.0	4	58	62	0.069
BIRCH CREEK SLOUGH	88.4	07 16	G	0	41	41	0.0	2	39	41	0.051	8	33	41	0.242
BIRCH CREEK SLOUGH	88.4	07 28	FG	0	748	748	0.0	7	741	748	0.009	87	661	748	0.132
BIRCH CREEK SLOUGH	88.4	08 07	E	0	2833	2833	0.0	17	2816	2833	0.006	486	2347	2833	0.207
BIRCH CREEK SLOUGH	88.4	08 15	F	0	457	457	0.0	5	452	457	0.011	94	363	457	0.259
BIRCH CREEK SLOUGH	88.4	08 23	FG	0	110	110	0.0	2	108	110	0.019	17	93	110	0.183
BIRCH CREEK SLOUGH	88.4	09 02	E	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
SLOUGH 9	128.3	08 29	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 20	140.0	08 30	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0

Appendix Table 3-9. Chum salmon spawning ground surveys of selected streams and resultant tagged to untagged ratios, 1985.

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) un-tagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) un-tagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
TALACHULITNA RIVER	28.0	07 22	EG	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
TALACHULITNA RIVER	28.0	08 27	PF	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
YENTNA RIVER LAKE CREEK	28.0	08 26	F	2	48	50	0.042	0	50	50	0.0	0	50	50	0.0	0	50	50	0.0
DESHKA RIVER MOOSE CREEK	40.6	07 30	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
WILLOW CREEK	49.1	07 28	G	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0
CASWELL CREEK	64.0	09 11	FG	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
SHEEP CREEK	66.1	08 08	F	0	1	1	0.0	1	1	0	0.0	0	1	1	0.0	0	1	1	0.0
SHEEP CREEK	66.1	08 24	PF	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
GOOSE CREEK	72.0	07 17	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
GOOSE CREEK	72.0	07 28	P	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
GOOSE CREEK	72.0	08 08	G	0	59	59	0.0	8	51	59	0.157	0	59	59	0.0	0	59	59	0.0
GOOSE CREEK	72.0	08 16	F	0	6	6	0.0	1	5	6	0.200	0	6	6	0.0	0	6	6	0.0
GOOSE CREEK	72.0	08 24	G	0	4	4	0.0	1	3	4	0.333	0	4	4	0.0	0	4	4	0.0
GOOSE CREEK	72.0	09 03	G	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
GOOSE CREEK	72.0	09 11	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
MONTANA CREEK	77.0	07 28	GE	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
MONTANA CREEK	77.0	09 03	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
MONTANA CREEK	77.0	09 11	G	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
MONTANA CREEK	77.0	09 18	F	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SUNSHINE CREEK	85.1	08 16	FP	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
SUNSHINE CREEK	85.1	09 10	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SUNSHINE CREEK	85.1	09 17	F	0	3	3	0.0	1	2	3	0.500	0	3	3	0.0	0	3	3	0.0
SUNSHINE CREEK	85.1	09 25	F	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0

Sunshine (O) denotes those fish tagged with orange tags prior to 21 July.
Sunshine (B) denotes those fish tagged with blue tags after 21 July.

Appendix Table 3-9 (Continued).

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) un-tagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) un-tagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
BIRCH CREEK	89.2	09 10	E	0	8	8	0.0	0	8	8	0.0	0	8	8	0.0	0	8	8	0.0
BIRCH CREEK	89.2	09 17	F	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
CACHE CREEK	95.5	08 07	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
CACHE CREEK	95.5	09 02	FG	4	41	45	0.098	3	42	45	0.071	1	44	45	0.023	0	45	45	0.0
CACHE CREEK	95.5	09 10	G	0	40	40	0.0	2	38	40	0.053	2	38	40	0.053	0	40	40	0.0
CACHE CREEK	95.5	09 17	P	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
CACHE CREEK	95.5	09 25	F	1	6	7	0.167	0	7	7	0.0	0	7	7	0.0	0	7	7	0.0
CACHE CREEK	95.5	10 02	G	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
BYERS CREEK	97.8	08 14	G	2	6	8	0.333	2	6	8	0.333	0	8	8	0.0	0	8	8	0.0
TALKEETNA RIVER FISH CREEK	97.8	08 15	G	0	62	62	0.0	18	44	62	0.409	0	62	62	0.0	0	62	62	0.0
TALKEETNA RIVER FISH CREEK	97.8	08 22	G	0	33	33	0.0	3	30	33	0.100	0	33	33	0.0	0	33	33	0.0
TOKOSITNA RIVER UNNAMED CREEK	97.8	08 22	F	0	8	8	0.0	0	8	8	0.0	0	8	8	0.0	0	8	8	0.0
SLASH CREEK	111.2	09 16	G	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
LANE CREEK	113.6	08 11	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	1	0	1	---
LITTLE PORTAGE CREEK	117.7	08 25	G	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0	1	3	4	0.333
LITTLE PORTAGE CREEK	117.7	09 02	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
FIFTH OF JULY CREEK	123.7	09 05	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
SKULL CREEK	124.7	08 16	G	0	2	2	0.0	2	0	2	1.0	0	2	2	0.0	0	2	2	0.0
FOURTH OF JULY CREEK	131.0	08 09	G	0	43	43	0.0	6	37	43	0.162	0	43	43	0.0	2	41	43	0.049
FOURTH OF JULY CREEK	131.0	08 17	G	1	139	140	0.007	28	112	140	0.250	0	140	140	0.0	10	130	140	0.077
FOURTH OF JULY CREEK	131.0	08 22	G	0	48	48	0.0	2	46	48	0.043	0	48	48	0.0	9	39	48	0.231
FOURTH OF JULY CREEK	131.0	08 29	G	0	23	23	0.0	2	21	23	0.095	0	23	23	0.0	0	23	23	0.0

Sunshine (O) denotes those fish tagged with orange tags prior to 21 July.
Sunshine (B) denotes those fish tagged with blue tags after 21 July.
--- DENOTES I/O

Appendix Table 3-9 (Continued).

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn untagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) untagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) untagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry untagged	Curry total	Curry tag/untag ratio
INDIAN RIVER	138.6	08 01	E	0	17	17	0.0	2	15	17	0.133	0	17	17	0.0	1	16	17	0.063
INDIAN RIVER	138.6	08 08	E	0	65	65	0.0	6	59	65	0.102	0	65	65	0.0	8	57	65	0.140
INDIAN RIVER	138.6	08 08	P	0	36	36	0.0	0	36	36	0.0	0	36	36	0.0	0	36	36	0.0
INDIAN RIVER	138.6	08 24	G	0	425	425	0.0	31	394	425	0.079	0	425	425	0.0	27	398	425	0.068
INDIAN RIVER	138.6	08 30	G	0	331	331	0.0	16	315	331	0.051	4	327	331	0.012	9	322	331	0.028
INDIAN RIVER	138.6	09 06	G	0	139	139	0.0	7	132	139	0.053	4	135	139	0.030	9	130	139	0.069
INDIAN RIVER	138.6	09 13	G	0	54	54	0.0	1	53	54	0.019	0	54	54	0.0	2	52	54	0.038
INDIAN RIVER	138.6	09 20	F	0	12	12	0.0	0	12	12	0.0	0	12	12	0.0	0	12	12	0.0
INDIAN RIVER	138.6	09 27	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
PORTAGE CREEK	148.9	08 08	E	0	14	14	0.0	3	11	14	0.273	0	14	14	0.0	2	12	14	0.167
PORTAGE CREEK	148.9	08 30	P	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
PORTAGE CREEK	148.9	09 06	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0

Sunshine (O) denotes those fish tagged with orange tags prior to 21 July.
Sunshine (B) denotes those fish tagged with blue tags after 21 July.

Appendix Table 3-10. Chum salmon spawning ground surveys of selected sloughs and resultant tagged to untagged ratios, 1985.

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) un-tagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) un-tagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SHEEP CREEK SLOUGH	66.1	08 08	FG	1	473	474	0.002	27	447	474	0.057	0	474	474	0.0	0	474	474	0.0
SHEEP CREEK SLOUGH	66.1	09 03	PF	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
SHEEP CREEK SLOUGH	66.1	09 11	G	0	9	9	0.0	0	9	9	0.0	0	9	9	0.0	0	9	9	0.0
BIRCH CREEK SLOUGH	88.4	07 16	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
BIRCH CREEK SLOUGH	88.4	07 28	FG	0	10	10	0.0	0	10	10	0.0	0	10	10	0.0	0	10	10	0.0
BIRCH CREEK SLOUGH	88.4	08 07	E	2	142	144	0.014	42	102	144	0.412	0	144	144	0.0	0	144	144	0.0
BIRCH CREEK SLOUGH	88.4	08 15	F	0	25	25	0.0	4	21	25	0.190	0	25	25	0.0	0	25	25	0.0
BIRCH CREEK SLOUGH	88.4	08 23	FG	2	138	140	0.014	16	124	140	0.129	7	133	140	0.053	0	140	140	0.0
BIRCH CREEK SLOUGH	88.4	09 02	E	11	349	360	0.032	4	356	360	0.011	15	345	360	0.043	0	360	360	0.0
BIRCH CREEK SLOUGH	88.4	09 10	E	6	151	157	0.040	0	157	157	0.0	7	150	157	0.047	0	157	157	0.0
BIRCH CREEK SLOUGH	88.4	09 17	PF	0	69	69	0.0	2	67	69	0.030	6	63	69	0.095	1	68	69	0.015
BIRCH CREEK SLOUGH	88.4	09 25	G	0	57	57	0.0	0	57	57	0.0	1	56	57	0.018	0	57	57	0.0
BIRCH CREEK SLOUGH	88.4	10 03	FG	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0
PERDIDULA SLOUGH	97.1	08 23	FG	2	73	75	0.027	9	66	75	0.136	3	72	75	0.042	0	75	75	0.0
PERDIDULA SLOUGH	97.1	09 02	FG	9	317	326	0.028	18	308	326	0.058	8	318	326	0.025	0	326	326	0.0
PERDIDULA SLOUGH	97.1	09 10	F	13	541	554	0.024	7	547	554	0.013	17	537	554	0.032	0	554	554	0.0
PERDIDULA SLOUGH	97.1	09 25	FG	3	496	499	0.006	0	499	499	0.0	3	496	499	0.006	1	498	499	0.002
PERDIDULA SLOUGH	97.1	10 03	G	0	237	237	0.0	0	237	237	0.0	0	237	237	0.0	0	237	237	0.0
SLOUGH 1	99.6	09 17	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
SLOUGH 2	100.2	09 24	G	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0
SLOUGH 2	100.2	10 01	G	0	15	15	0.0	0	15	15	0.0	0	15	15	0.0	0	15	15	0.0
SLOUGH 3B	101.4	09 24	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 3A	101.9	09 24	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0

Sunshine (O) denotes fish marked with orange tags prior to 21 July.
Sunshine (B) denotes fish marked with blue tags after 21 July.

Appendix Table 3-10 (Continued).

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) un-tagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) un-tagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SLOUGH 8	113.7	08 18	G	0	24	24	0.0	4	20	24	0.200	0	24	24	0.0	1	23	24	0.043
SLOUGH 8	113.7	08 25	E	1	46	47	0.022	4	43	47	0.093	0	47	47	0.0	4	43	47	0.093
SLOUGH 8	113.7	09 02	E	1	46	47	0.022	3	44	47	0.068	4	43	47	0.093	4	43	47	0.093
SLOUGH 8	113.7	09 09	G	0	26	26	0.0	0	26	26	0.0	0	26	26	0.0	0	26	26	0.0
SLOUGH 8	113.7	09 23	E	0	26	26	0.0	0	26	26	0.0	0	26	26	0.0	0	26	26	0.0
SLOUGH 8	113.7	09 30	E	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0	0	5	5	0.0
SLOUGH 8D	121.8	09 16	G	0	1	1	0.0	0	1	1	0.0	1	0	1	---	0	1	1	0.0
SLOUGH 8C	121.9	08 25	E	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
SLOUGH 8C	121.9	09 16	G	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
SLOUGH 8C	121.9	09 23	G	0	47	47	0.0	0	47	47	0.0	0	47	47	0.0	0	47	47	0.0
SLOUGH 8C	121.9	09 30	E	0	27	27	0.0	0	27	27	0.0	0	27	27	0.0	0	27	27	0.0
SLOUGH 8B	122.2	08 25	E	0	177	177	0.0	14	163	177	0.086	0	177	177	0.0	19	158	177	0.120
SLOUGH 8B	122.2	09 02	G	0	151	151	0.0	6	145	151	0.041	0	151	151	0.0	13	138	151	0.094
SLOUGH 8B	122.2	09 09	E	1	69	70	0.014	0	70	70	0.0	2	68	70	0.029	4	66	70	0.061
SLOUGH 8B	122.2	09 23	G	0	111	111	0.0	0	111	111	0.0	1	110	111	0.009	2	109	111	0.018
SLOUGH 8B	122.2	09 30	E	0	50	50	0.0	0	50	50	0.0	0	50	50	0.0	1	49	50	0.020
MOOSE SLOUGH	123.5	09 02	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
MOOSE SLOUGH	123.5	09 09	G	1	21	22	0.048	0	22	22	0.0	0	22	22	0.0	0	22	22	0.0
SLOUGH A PRIME	124.6	08 16	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 8A	125.4	08 09	E	0	41	41	0.0	11	30	41	0.367	0	41	41	0.0	7	34	41	0.206
SLOUGH 8A	125.4	08 16	G	0	68	68	0.0	9	59	68	0.153	0	68	68	0.0	6	62	68	0.097
SLOUGH 8A	125.4	08 22	G	0	292	292	0.0	29	263	292	0.110	0	292	292	0.0	25	267	292	0.094
SLOUGH 8A	125.4	08 29	E	0	221	221	0.0	10	211	221	0.047	1	220	221	0.005	15	206	221	0.073
SLOUGH 8A	125.4	09 05	G	0	174	174	0.0	4	170	174	0.024	2	172	174	0.012	0	174	174	0.0
SLOUGH 8A	125.4	09 12	G	1	94	95	0.011	0	95	95	0.0	3	92	95	0.033	2	93	95	0.022
SLOUGH 8A	125.4	09 20	E	1	108	109	0.009	0	109	109	0.0	0	109	109	0.0	2	107	109	0.019
SLOUGH 8A	125.4	09 27	E	0	26	26	0.0	0	26	26	0.0	0	26	26	0.0	0	26	26	0.0

Sunshine (O) denotes fish marked with orange tags prior to 21 July.
Sunshine (B) denotes fish marked with blue tags after 21 July.

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Appendix Table 3-10 (Continued).

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) un-tagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) un-tagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SLOUGH 8	126.3	08 29	G	0	25	25	0.0	3	22	25	0.136	0	25	25	0.0	1	24	25	0.042
SLOUGH 8	126.3	09 05	G	0	54	54	0.0	0	54	54	0.0	0	54	54	0.0	1	53	54	0.019
SLOUGH 8	126.3	09 12	G	2	70	72	0.029	1	71	72	0.014	0	72	72	0.0	1	71	72	0.014
SLOUGH 8	126.3	09 20	E	0	47	47	0.0	0	47	47	0.0	0	47	47	0.0	0	47	47	0.0
SLOUGH 9	128.3	08 29	G	0	61	61	0.0	4	57	61	0.070	0	61	61	0.0	8	53	61	0.151
SLOUGH 9	128.3	09 05	G	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	2	4	6	0.500
SLOUGH 9	128.3	09 19	G	0	18	18	0.0	0	18	18	0.0	0	18	18	0.0	0	18	18	0.0
SLOUGH 9	128.3	09 27	E	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
SLOUGH 9A	133.8	09 05	P	0	11	11	0.0	0	11	11	0.0	0	11	11	0.0	0	11	11	0.0
SLOUGH 9A	133.8	09 26	G	0	118	118	0.0	0	118	118	0.0	0	118	118	0.0	0	118	118	0.0
SLOUGH 9A	133.8	10 03	G	0	47	47	0.0	0	47	47	0.0	0	47	47	0.0	0	47	47	0.0
SLOUGH 11	135.3	08 15	G	0	52	52	0.0	9	43	52	0.209	0	52	52	0.0	4	48	52	0.083
SLOUGH 11	135.3	08 22	G	0	336	336	0.0	28	308	336	0.091	0	336	336	0.0	18	318	336	0.057
SLOUGH 11	135.3	08 29	G	0	485	485	0.0	29	456	485	0.064	3	482	485	0.006	33	452	485	0.073
SLOUGH 11	135.3	09 05	E	0	270	270	0.0	10	260	270	0.038	5	265	270	0.019	7	263	270	0.027
SLOUGH 11	135.3	09 12	G	1	145	146	0.007	1	145	146	0.007	1	145	146	0.007	4	142	146	0.028
SLOUGH 11	135.3	09 19	G	1	114	115	0.009	0	115	115	0.0	0	115	115	0.0	2	113	115	0.018
SLOUGH 11	135.3	09 26	G	0	56	56	0.0	0	56	56	0.0	0	56	56	0.0	1	55	56	0.018
SLOUGH 11	135.3	10 03	G	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
SLOUGH 16	137.3	08 16	F	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
SLOUGH 16	137.3	08 24	G	0	8	8	0.0	2	6	8	0.333	0	8	8	0.0	0	8	8	0.0
SLOUGH 16	137.3	08 30	E	0	4	4	0.0	1	3	4	0.333	0	4	4	0.0	0	4	4	0.0
SLOUGH 20	140.0	08 08	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 20	140.0	08 16	G	0	13	13	0.0	1	12	13	0.083	0	13	13	0.0	2	11	13	0.182
SLOUGH 20	140.0	08 24	E	0	54	54	0.0	5	49	54	0.102	0	54	54	0.0	1	53	54	0.019
SLOUGH 20	140.0	08 30	E	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
SLOUGH 20	140.0	09 13	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 20	140.0	09 20	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0

Sunshine (O) denotes fish marked with orange tags prior to 21 July.
Sunshine (B) denotes fish marked with blue tags after 21 July.

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Appendix Table 3-10 (Continued).

Chum salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine (O) tagged	Sunshine (O) un-tagged	Sunshine (O) total	Sunshine (O) tag/untag ratio	Sunshine (B) tagged	Sunshine (B) un-tagged	Sunshine (B) total	Sunshine (B) tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SLOUGH 21	141.1	08 08	E	0	2	2	0.0	1	1	2	1.000	0	2	2	0.0	1	1	2	1.000
SLOUGH 21	141.1	08 06	G	0	42	42	0.0	1	41	42	0.024	0	42	42	0.0	8	34	42	0.235
SLOUGH 21	141.1	08 24	E	0	258	258	0.0	19	239	258	0.079	0	258	258	0.0	21	237	258	0.089
SLOUGH 21	141.1	08 30	E	0	151	151	0.0	8	143	151	0.056	1	150	151	0.007	5	146	151	0.034
SLOUGH 21	141.1	09 06	E	1	259	260	0.004	8	252	260	0.032	1	259	260	0.004	11	249	260	0.044
SLOUGH 21	141.1	09 13	G	0	131	131	0.0	1	130	131	0.008	3	128	131	0.023	5	126	131	0.040
SLOUGH 21	141.1	09 20	G	0	36	36	0.0	0	36	36	0.0	0	36	36	0.0	0	36	36	0.0
SLOUGH 21	141.1	09 28	G	0	22	22	0.0	0	22	22	0.0	0	22	22	0.0	0	22	22	0.0
SLOUGH 21	141.1	10 04	G	0	38	38	0.0	0	38	38	0.0	0	38	38	0.0	0	38	38	0.0
SLOUGH 21A	141.1	08 16	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0	1	0	1	---
SLOUGH 22	144.5	08 24	G	0	20	20	0.0	1	19	20	0.053	0	20	20	0.0	0	20	20	0.0
SLOUGH 22	144.5	08 30	G	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0

Sunshine (O) denotes fish marked with orange tags prior to 21 July.
Sunshine (B) denotes fish marked with blue tags after 21 July.

--- DENOTES 1/0

Appendix Table 3-11. Coho salmon spawning ground surveys of selected streams and resultant tagged to untagged ratios, 1985.

Coho salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SHELL CREEK	28.0	08 27	G	3	198	201	0.015	0	201	201	0.0	0	201	201	0.0
TALACHULITNA RIVER	28.0	08 27	PF	0	7	7	0.0	0	7	7	0.0	0	7	7	0.0
NO NAME CREEK	31.7	08 26	FP	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
WHITSOL CREEK	35.2	08 09	F	2	22	24	0.091	0	24	24	0.0	0	24	24	0.0
WHITSOL CREEK	35.2	08 18	FG	7	300	307	0.023	0	307	307	0.0	0	307	307	0.0
WHITSOL CREEK	35.2	08 27	F	8	277	285	0.029	0	285	285	0.0	0	285	285	0.0
WHITSOL CREEK	35.2	09 04	FP	1	16	17	0.063	0	17	17	0.0	0	17	17	0.0
DESHKA RIVER MOOSE CREEK	40.6	07 30	G	1	34	35	0.029	0	35	35	0.0	0	35	35	0.0
CASWELL CREEK	64.0	08 08	F	0	67	67	0.0	0	67	67	0.0	0	67	67	0.0
CASWELL CREEK	64.0	08 16	FG	1	51	52	0.020	0	52	52	0.0	0	52	52	0.0
CASWELL CREEK	64.0	08 24	F	4	233	237	0.017	3	234	237	0.013	0	237	237	0.0
CASWELL CREEK	64.0	09 03	FG	10	228	238	0.044	7	231	238	0.030	0	238	238	0.0
CASWELL CREEK	64.0	09 11	FG	3	119	122	0.025	9	113	122	0.068	0	122	122	0.0
GOOSE CREEK	72.0	08 08	G	0	4	4	0.0	0	4	4	0.0	0	4	4	0.0
GOOSE CREEK	72.0	08 16	F	0	10	10	0.0	2	8	10	0.250	0	10	10	0.0
GOOSE CREEK	72.0	08 24	G	0	3	3	0.0	1	2	3	0.500	0	3	3	0.0
GOOSE CREEK	72.0	09 03	G	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
MONTANA CREEK	77.0	07 17	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
MONTANA CREEK	77.0	09 03	G	1	6	7	0.167	0	7	7	0.0	0	7	7	0.0
MONTANA CREEK	77.0	09 11	G	0	13	13	0.0	0	13	13	0.0	0	13	13	0.0
MONTANA CREEK	77.0	09 18	F	0	11	11	0.0	1	10	11	0.100	0	11	11	0.0

Appendix Table 3-11 (Continued).

Coho salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
RABIDEUX CREEK	83.1	09 03	PF	0	32	32	0.0	6	26	32	0.231	0	32	32	0.0
RABIDEUX CREEK	83.1	09 11	F	1	25	26	0.040	4	22	26	0.182	0	26	26	0.0
RABIDEUX CREEK	83.1	09 11	PF	1	16	17	0.063	1	16	17	0.063	0	17	17	0.0
ANSWER CREEK	84.1	09 09	G	0	27	27	0.0	4	23	27	0.174	0	27	27	0.0
ANSWER CREEK	84.1	09 24	F	0	8	8	0.0	1	7	8	0.143	0	8	8	0.0
ANSWER CREEK	84.1	10 02	G	0	9	9	0.0	1	8	9	0.125	0	9	9	0.0
QUESTION CREEK	84.1	09 24	G	0	75	75	0.0	4	71	75	0.056	0	75	75	0.0
QUESTION CREEK	84.1	10 02	GE	0	43	43	0.0	3	40	43	0.075	0	43	43	0.0
SUNSHINE CREEK	85.1	08 07	E	0	7	7	0.0	0	7	7	0.0	0	7	7	0.0
SUNSHINE CREEK	85.1	08 16	F	0	2	2	0.0	1	1	2	1.000	0	2	2	0.0
SUNSHINE CREEK	85.1	08 16	FP	0	9	9	0.0	4	5	9	0.800	0	9	9	0.0
SUNSHINE CREEK	85.1	09 02	FG	1	63	64	0.016	22	42	64	0.524	0	64	64	0.0
SUNSHINE CREEK	85.1	09 10	G	4	35	39	0.114	8	31	39	0.258	0	39	39	0.0
SUNSHINE CREEK	85.1	09 17	F	0	4	4	0.0	4	0	4	---	0	4	4	0.0
BIRCH CREEK	89.2	08 15	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
BIRCH CREEK	89.2	09 10	E	0	9	9	0.0	1	8	9	0.125	0	9	9	0.0
BIRCH CREEK	89.2	09 17	F	0	13	13	0.0	3	10	13	0.300	0	13	13	0.0
BIRCH CREEK	89.2	09 25	G	0	14	14	0.0	3	11	14	0.273	0	14	14	0.0
BIRCH CREEK	89.2	10 03	G	0	6	6	0.0	0	6	6	0.0	0	6	6	0.0
TRAPPER CREEK	91.5	08 07	FG	0	294	294	0.0	39	255	294	0.153	0	294	294	0.0
TRAPPER CREEK	91.5	08 15	F	0	9	9	0.0	2	7	9	0.286	0	9	9	0.0
CACHE CREEK	95.5	09 02	FG	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
CACHE CREEK	95.5	09 25	F	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
CACHE CREEK	95.5	10 02	G	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
BYERS CREEK	97.8	08 14	G	1	2	3	0.500	0	3	3	0.0	0	3	3	0.0
TALKEETNA RIVER FISH CREEK	97.8	08 15	G	0	13	13	0.0	3	10	13	0.300	0	13	13	0.0
TALKEETNA RIVER FISH CREEK	97.8	08 22	G	0	55	55	0.0	13	42	55	0.310	0	55	55	0.0

Appendix Table 3-11 (Continued).

Coho salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
WHISKERS CREEK	101.4	08 27	6	6	129	135	0.047	24	111	135	0.216	0	135	135	0.0
WHISKERS CREEK	101.4	09 03	6	0	108	108	0.0	21	87	108	0.241	0	108	108	0.0
WHISKERS CREEK	101.4	09 10	P	0	65	65	0.0	14	51	65	0.275	0	65	65	0.0
WHISKERS CREEK	101.4	09 17	P	0	10	10	0.0	2	8	10	0.250	0	10	10	0.0
CHASE CREEK	106.9	08 27	E	0	13	13	0.0	1	12	13	0.083	0	13	13	0.0
CHASE CREEK	106.9	09 03	E	0	102	102	0.0	25	77	102	0.325	1	101	102	0.010
CHASE CREEK	106.9	09 10	6	3	215	218	0.014	41	177	218	0.232	3	215	218	0.014
CHASE CREEK	106.9	09 17	F	1	83	84	0.012	15	69	84	0.217	2	82	84	0.024
CHASE CREEK	106.9	09 24	F	0	30	30	0.0	5	25	30	0.200	1	29	30	0.034
CHASE CREEK	106.9	10 01	6	0	28	28	0.0	0	28	28	0.0	0	28	28	0.0
SLASH CREEK	111.2	09 23	6	0	8	8	0.0	0	8	8	0.0	0	8	8	0.0
SLASH CREEK	111.2	09 30	6	0	5	5	0.0	1	4	5	0.250	0	5	5	0.0
GASH CREEK	111.6	09 16	6	0	46	46	0.0	6	40	46	0.150	0	46	46	0.0
GASH CREEK	111.6	09 16	6	1	23	24	0.043	2	22	24	0.091	0	24	24	0.0
GASH CREEK	111.6	09 23	6	0	13	13	0.0	2	11	13	0.182	0	13	13	0.0
GASH CREEK	111.6	09 30	6	0	14	14	0.0	0	14	14	0.0	0	14	14	0.0
LANE CREEK	113.6	09 23	6	1	0	1	---	0	1	1	0.0	0	1	1	0.0
LANE CREEK	113.6	09 30	6	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
LOWER MCKENZIE CREEK	116.2	09 09	6	0	11	11	0.0	0	11	11	0.0	0	11	11	0.0
LOWER MCKENZIE CREEK	116.2	09 16	E	0	24	24	0.0	4	20	24	0.200	1	23	24	0.043
LOWER MCKENZIE CREEK	116.2	09 23	6	0	24	24	0.0	2	22	24	0.091	2	22	24	0.091
LOWER MCKENZIE CREEK	116.2	09 30	6	0	41	41	0.0	8	33	41	0.242	1	40	41	0.025
LITTLE PORTAGE CREEK	117.7	09 23	6	0	2	2	0.0	0	2	2	0.0	0	2	2	0.0
LITTLE PORTAGE CREEK	117.7	09 30	E	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0

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Appendix Table 3-11 (Continued).

Coho salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
INDIAN RIVER	138.6	08 24	6	0	28	28	0.0	2	26	28	0.077	5	23	28	0.217
INDIAN RIVER	138.6	08 30	6	0	56	56	0.0	5	51	56	0.098	8	48	56	0.167
INDIAN RIVER	138.6	09 06	6	0	57	57	0.0	4	53	57	0.075	9	48	57	0.188
INDIAN RIVER	138.6	09 13	6	0	35	35	0.0	3	32	35	0.094	1	34	35	0.029
INDIAN RIVER	138.6	09 20	F	0	38	38	0.0	1	37	38	0.027	3	35	38	0.086
INDIAN RIVER	138.6	09 27	6	0	32	32	0.0	2	30	32	0.067	3	29	32	0.103
INDIAN RIVER	138.6	10 04	6	0	14	14	0.0	0	14	14	0.0	0	14	14	0.0
PORTAGE CREEK	148.9	08 30	P	0	7	7	0.0	2	5	7	0.400	1	6	7	0.167

Appendix Table 3-12. Coho salmon spawning ground surveys of selected sloughs and resultant tagged to untagged ratios, 1985.

Coho salmon tagged to untagged ratios, 1985

Spawning Site	river mile	date	survey conditions	Flathorn tagged	Flathorn un-tagged	Flathorn total	Flathorn tag/untag ratio	Sunshine tagged	Sunshine un-tagged	Sunshine total	Sunshine tag/untag ratio	Curry tagged	Curry un-tagged	Curry total	Curry tag/untag ratio
SHEEP CREEK SLOUGH	66.1	08 24	FP	1	12	13	0.083	0	13	13	0.0	0	13	13	0.0
WHITEFISH SLOUGH	79.4	08 24	PF	0	13	13	0.0	4	9	13	0.444	0	13	13	0.0
BIRCH CREEK SLOUGH	88.4	08 07	E	0	55	55	0.0	8	47	55	0.170	0	55	55	0.0
BIRCH CREEK SLOUGH	88.4	08 23	FG	0	261	261	0.0	67	194	261	0.345	1	260	261	0.004
BIRCH CREEK SLOUGH	88.4	09 02	E	1	287	288	0.003	55	233	288	0.447	0	288	288	0.0
BIRCH CREEK SLOUGH	88.4	09 10	E	2	150	152	0.013	35	117	152	0.299	0	152	152	0.0
BIRCH CREEK SLOUGH	88.4	09 25	G	0	9	9	0.0	1	8	9	0.125	0	9	9	0.0
BIRCH CREEK SLOUGH	88.4	10 03	FG	0	3	3	0.0	0	3	3	0.0	0	3	3	0.0
PERDIDULA SLOUGH	97.1	08 23	FG	4	367	371	0.011	76	295	371	0.258	0	371	371	0.0
PERDIDULA SLOUGH	97.1	09 02	FG	4	256	260	0.016	40	220	260	0.182	0	260	260	0.0
PERDIDULA SLOUGH	97.1	09 10	F	2	194	196	0.010	22	174	196	0.126	0	196	196	0.0
PERDIDULA SLOUGH	97.1	09 25	FG	0	8	8	0.0	2	6	8	0.333	1	7	8	0.143
PERDIDULA SLOUGH	97.1	10 03	G	0	15	15	0.0	4	11	15	0.364	1	14	15	0.071
SLOUGH BD	121.8	09 23	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH BB	122.2	09 23	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 8A	125.4	08 22	G	0	1	1	0.0	0	1	1	0.0	1	0	1	---
SLOUGH 8A	125.4	09 20	E	0	9	9	0.0	0	9	9	0.0	2	7	9	0.286
SLOUGH 8A	125.4	09 27	E	0	3	3	0.0	0	3	3	0.0	1	2	3	0.500
SLOUGH 8A	125.4	10 03	G	0	9	9	0.0	0	9	9	0.0	1	8	9	0.125
SLOUGH 9	128.3	09 19	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0
SLOUGH 9A	133.8	09 26	G	0	1	1	0.0	0	1	1	0.0	0	1	1	0.0

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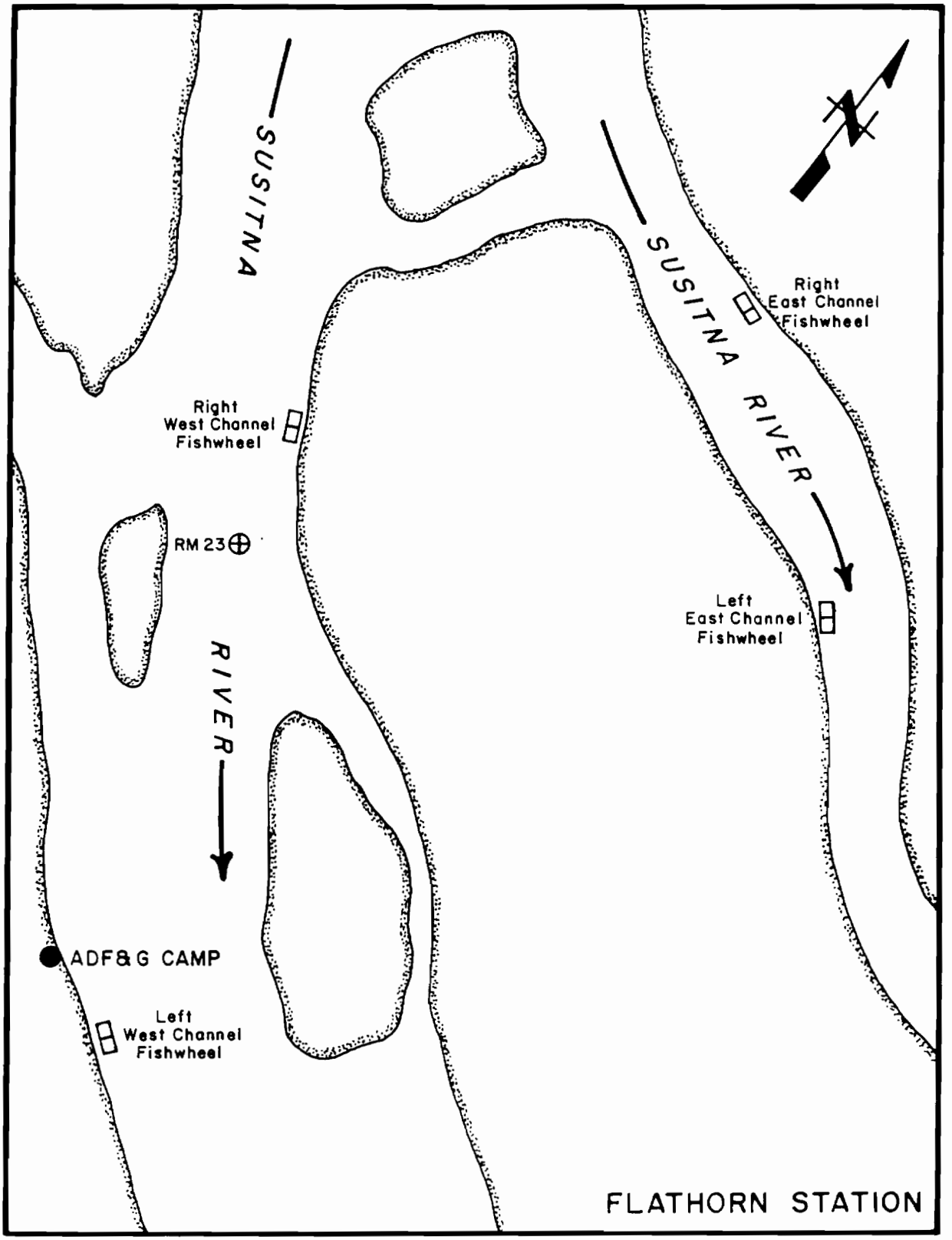
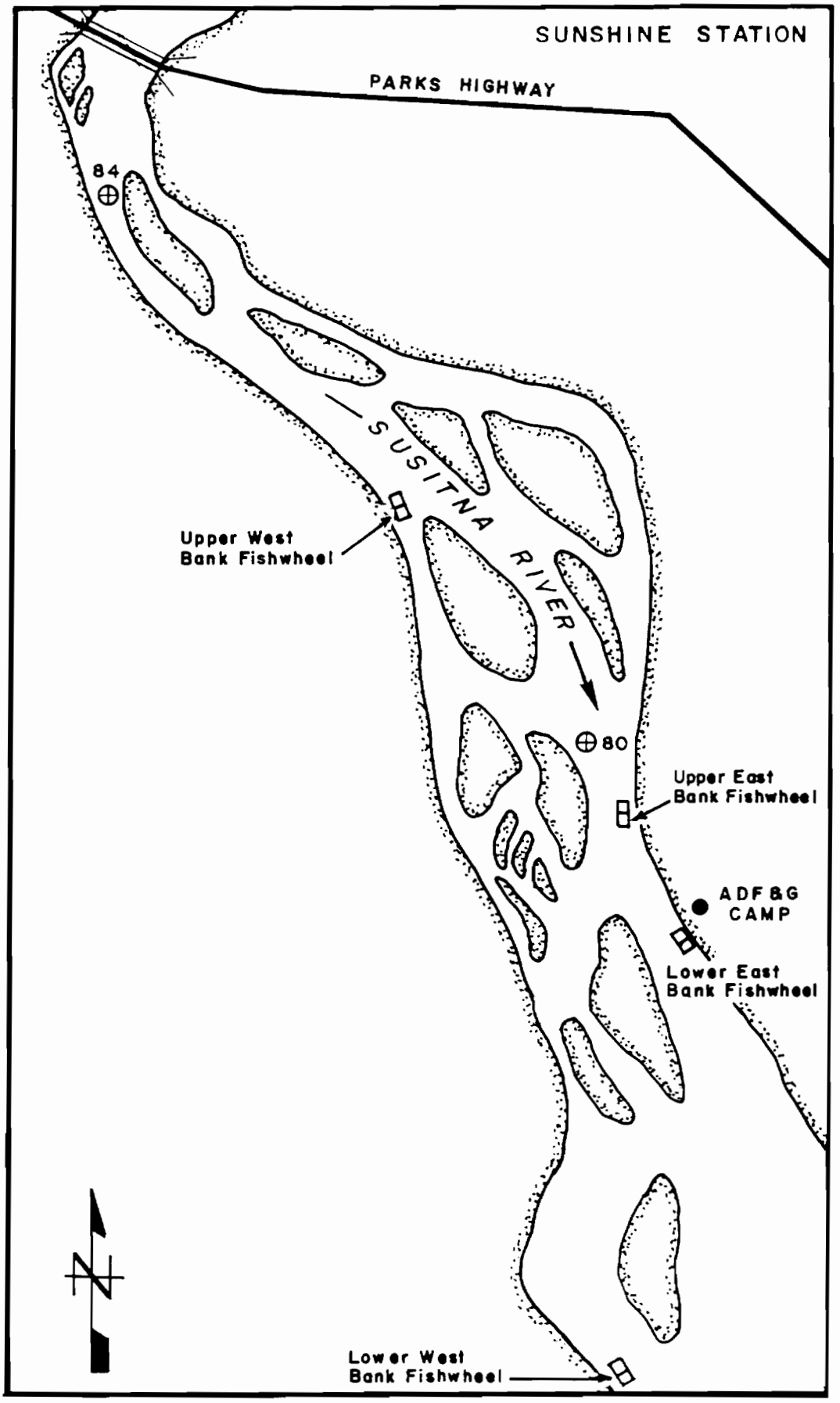
APPENDIX 4

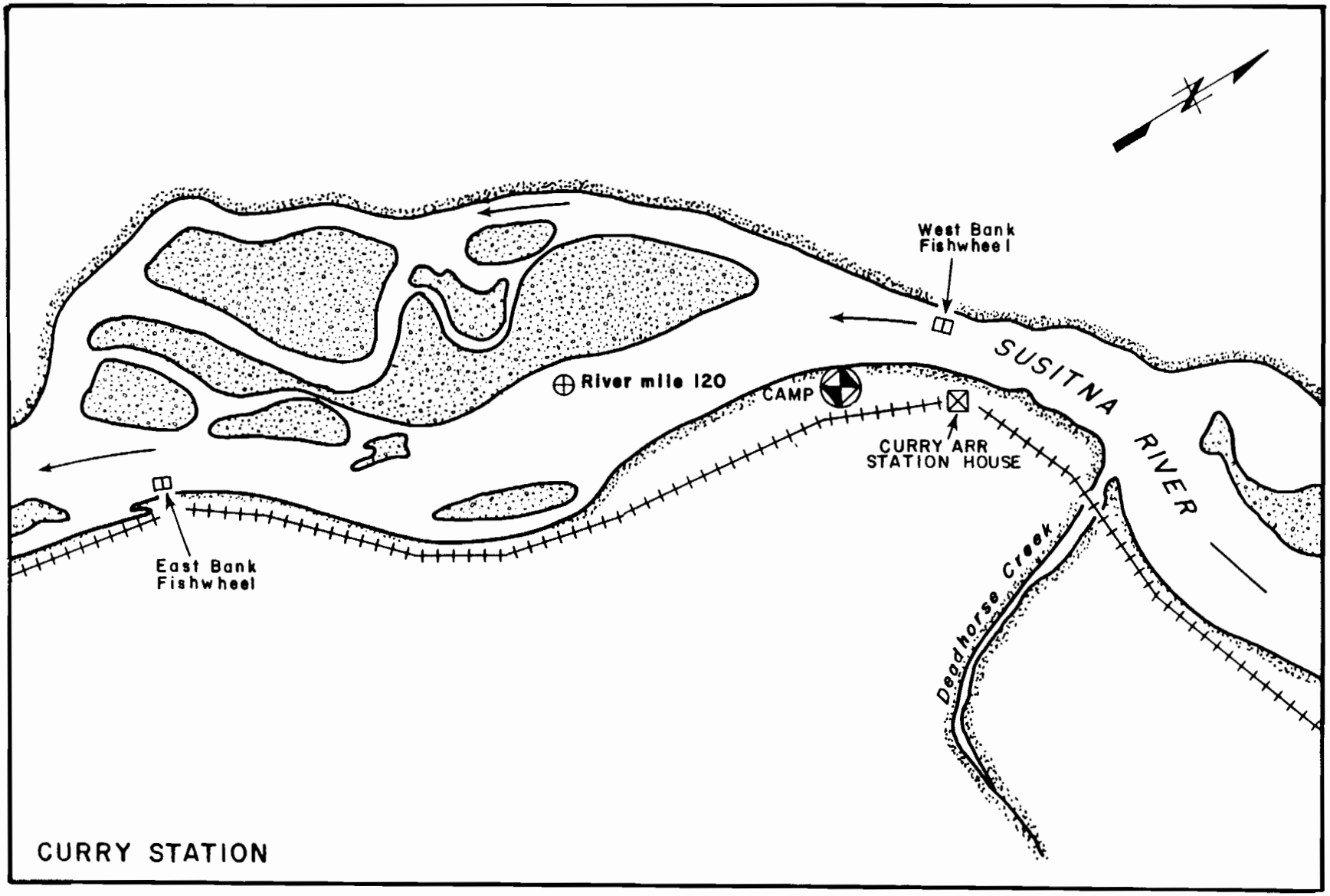
Station Locations and Middle River Survey Areas



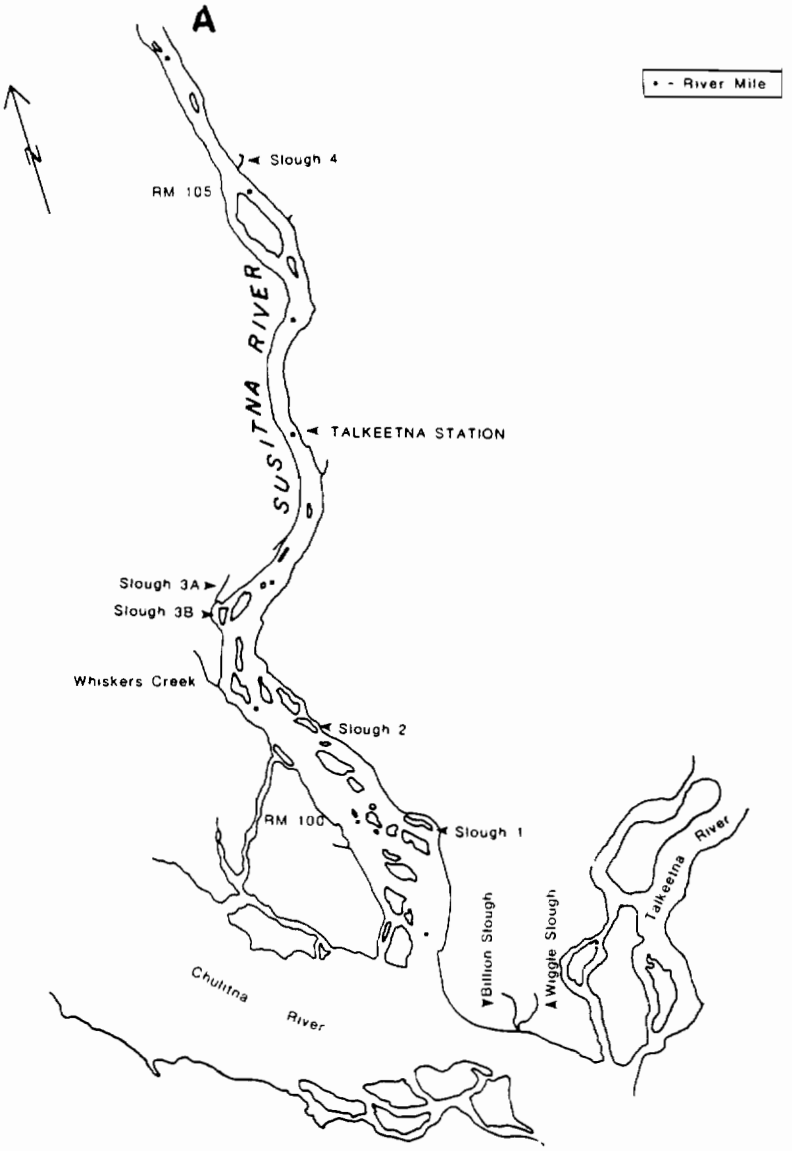
Appendix Figure 4-1. Flathorn Station with fishwheel sites defined, 1985.



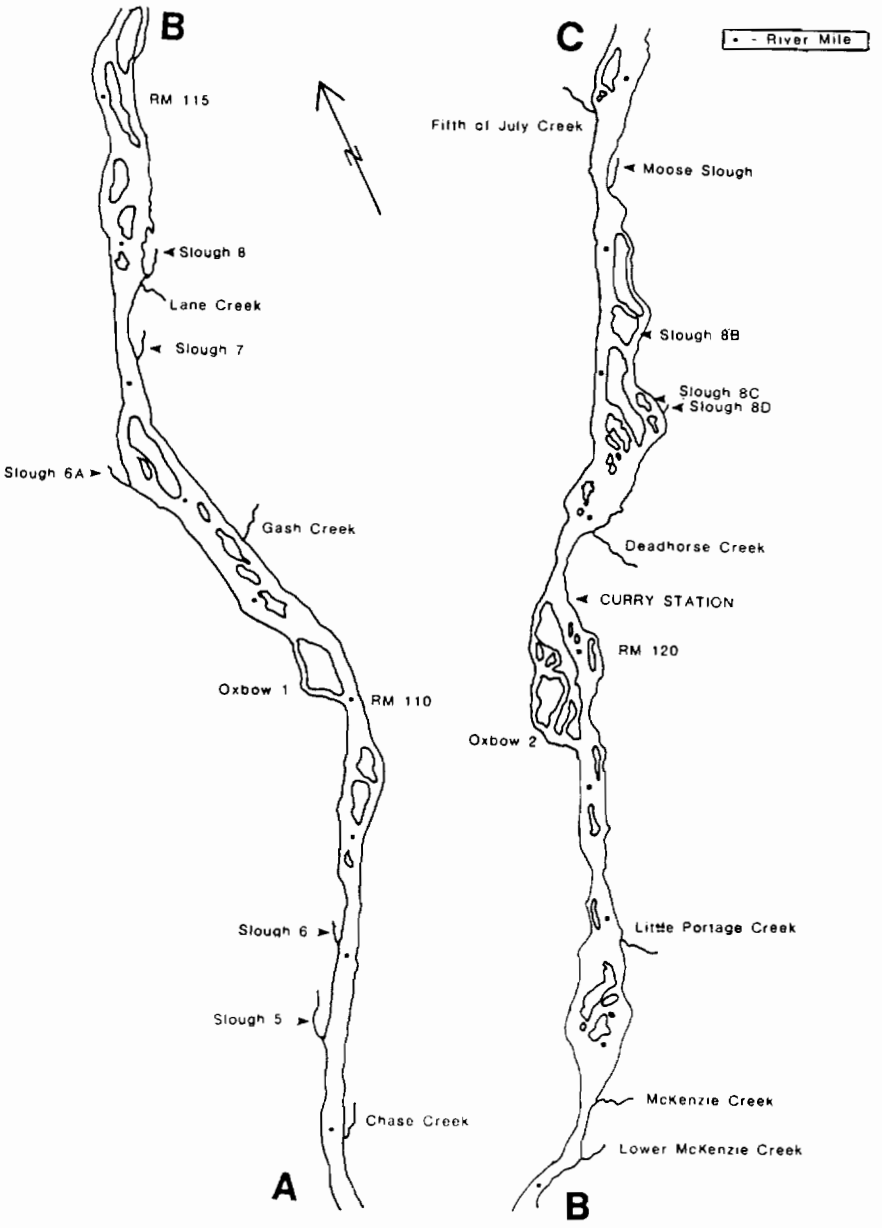
Appendix Figure 4-2. Sunshine Station with fishwheel sites defined, 1985.



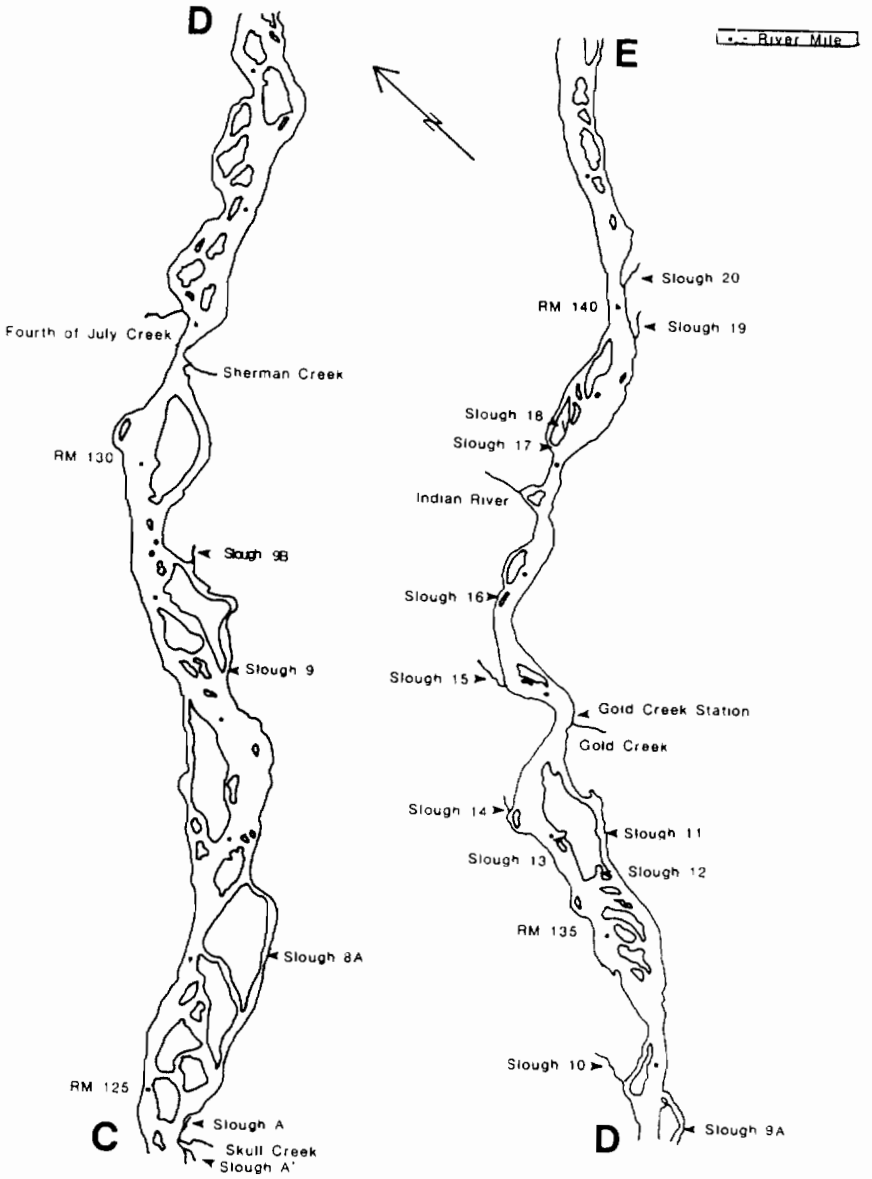
Appendix Figure 4-3. Curry Station with fishwheel sites defined, 1985.



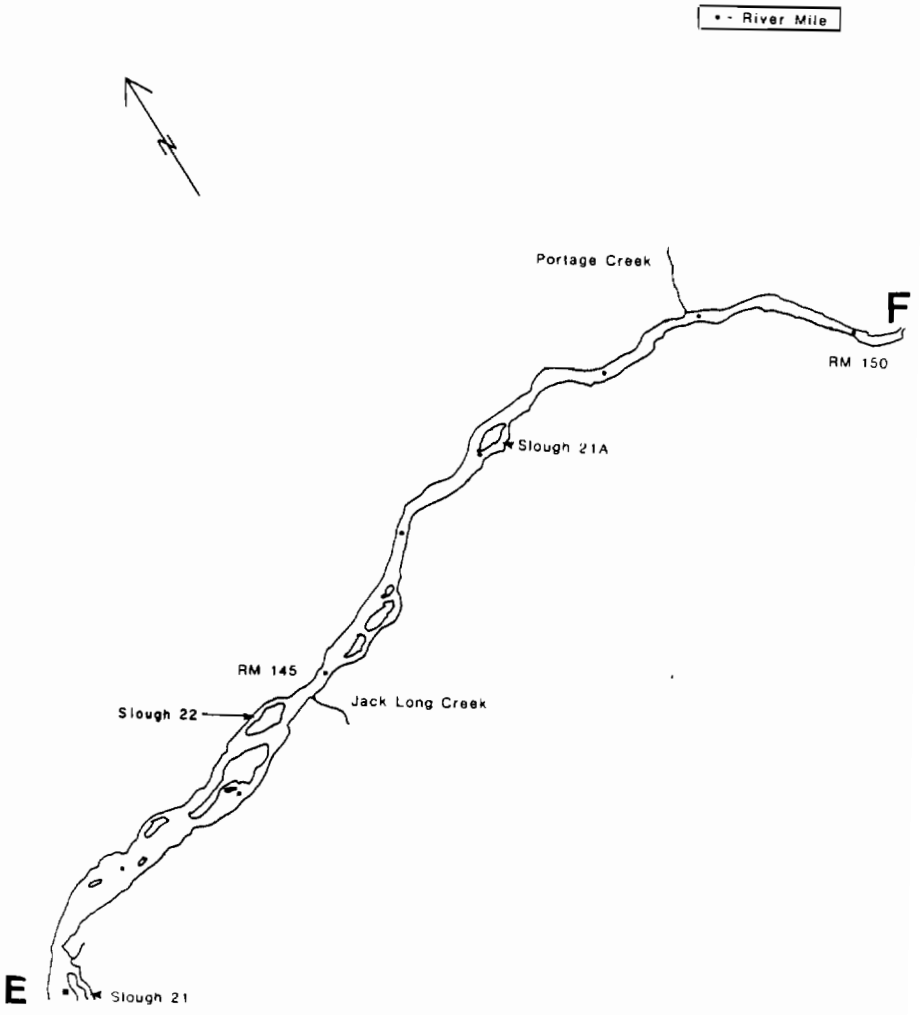
Appendix Figure 4-4. Susitna River slough, stream and mainstem spawning locations from the confluence of the Talkeetna and Chulitna rivers to RM 150.0, 1985.



Appendix Figure 4-4 (Continued).



Appendix Figure 4-4 (Continued).



Appendix Figure 4-4 (Continued).

APPENDIX 5

Migrational Timing Based on Cumulative Fishwheel Catch Weighted by CPUE

Appendix Table 5-1 Migrational timing of salmon, by species at main channel sampling locations of Flathorn, Sunshine and Curry stations based on cumulative percent of fishwheel catch, 1985.

Station	Species	Cumulative Percent of Total Fishwheel Catches				
		5%	25%	50%	75%	95%
Flathorn Station (eastbank)	Chinook	6/06	6/11	6/15	6/20	6/28
	Sockeye (1st run)	5/31	6/05	6/09	6/11	6/19
	Sockeye (2nd run)	7/17	7/25	7/29	8/06	8/16
	Pink	7/15	7/27	8/04	8/10	8/14
	Chum	7/28	8/11	8/15	8/17	8/20
	Coho	7/23	7/27	7/31	8/10	8/20
Flathorn Station (westbank)	Chinook	6/05	6/10	6/15	6/20	6/27
	Sockeye (1st run)	5/30	6/03	6/07	6/10	6/17
	Sockeye (2nd run)	7/21	7/24	7/27	7/29	8/10
	Pink	7/14	7/25	7/30	8/06	8/15
	Chum	7/24	7/29	8/14	8/16	8/22
	Coho	7/23	7/25	7/28	8/02	8/15
Flathorn Station (combined banks)	Chinook	6/06	6/10	6/10	6/20	6/27
	Sockeye (1st run)	5/30	6/04	6/08	6/11	6/18
	Sockeye (2nd run)	7/18	7/25	7/28	8/02	8/13
	Pink	7/14	7/26	8/01	8/09	8/15
	Chum	7/27	8/11	8/14	8/17	8/20
	Coho	7/22	7/26	7/30	8/05	8/19
Sunshine Station	Chinook	6/15	6/21	6/27	7/01	7/12
	Sockeye (1st run)	6/09	6/11	6/13	6/16	6/23
	Sockeye (2nd run)	7/26	7/28	7/30	8/02	8/14
	Pink	7/23	7/31	8/02	8/04	8/14
	Chum	7/29	8/02	8/04	8/15	8/26
	Coho	8/01	8/06	8/14	8/19	8/25
Curry Station	Chinook	6/28	7/05	7/09	7/15	7/25
	Sockeye	7/30	8/03	8/07	8/16	8/22
	Pink	7/28	8/03	8/05	8/08	8/13
	Chum	8/02	8/05	8/07	8/15	8/28
	Coho	8/05	7/09	8/18	8/22	9/04