VOLUME 27 AFS-41-13

STATE OF ALASKA

Bill Sheffield, Governor

Annual Performance Report for

A STUDY OF CHINOOK SALMON IN SOUTHEAST ALASKA

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and
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ALASKA DEPARTMENT OF FISH AND GAME
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Volume 27 Study No. AFS-41

RESEARCH PROJECT SEGMENT

State: Alaska Name: Sport Fish Investigations of Alaska

Project: F-10-1

Study: AFS-41 Study Title: A STUDY OF CHINOOK SALMON IN SOUTHEAST ALASKA

Job: AFS-41-13 Job Title: Status of Important Native Chinook Salmon Stocks in Southeast Alaska

Cooperators: Paul D. Kissner and Dennis J. Hubartt

Period Covered: 1 July 1985 to 30 June 1986

ABSTRACT

The 1985 escapement of chinook salmon, *Oncorhynchus tshawytscha* (Walbaum), into the eleven index systems monitored annually in southeast Alaska averaged 88% of the escapement goal in index systems from the Stikine River south but averaged only 49.8% of the goal in index systems north of the Stikine River to Yakutat. In the transboundary rivers, chinook salmon escapements during 1985 increased over 1984 levels in the Taku (+72%) and Stikine (+23%) Rivers but decreased in the Alsek River (-14%). Escapements to the four Behm Canal index systems (Unuk, Chickamin, Keta, and Blossom Rivers) continued the pattern of good returns experienced since 1982.

It appears quite possible that the 1980 and 1981 broods will return at less-than-average survival levels, but because of the 20 June summer troll opening in 1986, which is the latest ever, escapements should be near the recent 5-year average.

Coded-wire-tag returns from chinook salmon tagged as juveniles indicate that Taku River and upriver Stikine River chinook salmon rear offshore and are only available to southeast Alaska fisheries during the spring of their final year of life as they migrate towards the spawning grounds, while Chickamin and Unuk River chinook salmon are available to Southeast fisheries throughout their marine-life history.

In the spring of 1985, 7,474 age-1 chinook salmon smolt were tagged in the Unuk River, 4,113 in the Chickamin River, and 48 in the Alsek River

to determine their migration patterns, areas and timing of harvest, exploitation rates, and other general life-history information. An additional 643 sockeye salmon smolts, *Oncorhynchus nerka* (Walbaum), and 19,279 coho smolts, *Oncorhynchus kisutch* (Walbaum), were captured incidentally, adipose clipped, and micro-wire tagged.

KEYWORDS

Chinook, *Oncorhynchus tshawytscha* (Walbaum), escapement, juveniles, coded-wire tagging, migration, status, log salvage, Taku, Stikine, Alsek, Unuk, Chickamin, Situk, Chilkat, southeast Alaska.

BACKGROUND

The chinook salmon research project commenced in 1971 to determine the status of southeast Alaska's wild chinook salmon stocks. Major emphasis has been placed on monitoring population dynamics (i.e., terminal gill-net harvests, escapement enumeration, coded-wire tagging, and fishery and spawning ground tag recoveries) in major and medium producing chinook salmon systems.

By the mid-1970s, it was apparent that chinook salmon populations were generally depressed throughout Southeast and, during subsequent years, terminal gill-net fisheries had been either severely restricted or eliminated on the Taku, Stikine, and Alsek Rivers. Additional sport and commercial trolling restrictions have been made to protect mature chinook salmon during their spring spawning migration. These restrictive regulations have aided the rebuilding process, and in general, escapement levels have shown dramatic improvement. Eleven chinook salmon systems are surveyed annually to determine escapement trends; i.e., index systems (Figure 1).

A list of common names, scientific names, and abbreviations of all species discussed in this report is presented in Table 1.

RECOMMENDATIONS

Management

1. The restrictive troll and gill-net regulations designed to protect mature southeast Alaska chinook salmon returning to their rivers of origin should be continued. Southeast Alaska chinook salmon stocks are in the process of rebuilding, but continued restrictions are necessary.

2. Drift gill-net fisheries throughout Southeast should be monitored to determine the harvest of immature and mature chinook salmon taken incidentally to the target species. Night closures should be made in areas where high incidental catches of immature chinook salmon occur. Because of the early gill-net opening in 1986 (June

Figure 1. Chinook Salmon Systems in Southeastern Alaska.

MINOR PRODUCERS

Less than 1,500

33 Martin
30 Big Goat
29 Rudyard
28 Walker
26 Klahine
24 Grant
23 Herman
22 Anan
21 Eagle
18 Tom
17 Aaron
15 Muddy
14 Farragut
13 Chuck
12 King Salmon*
9 Doane
8 East
6 Akwe
5 Italio
4 Dangerous
2 Lost
1 Ankau

MAJOR PRODUCERS

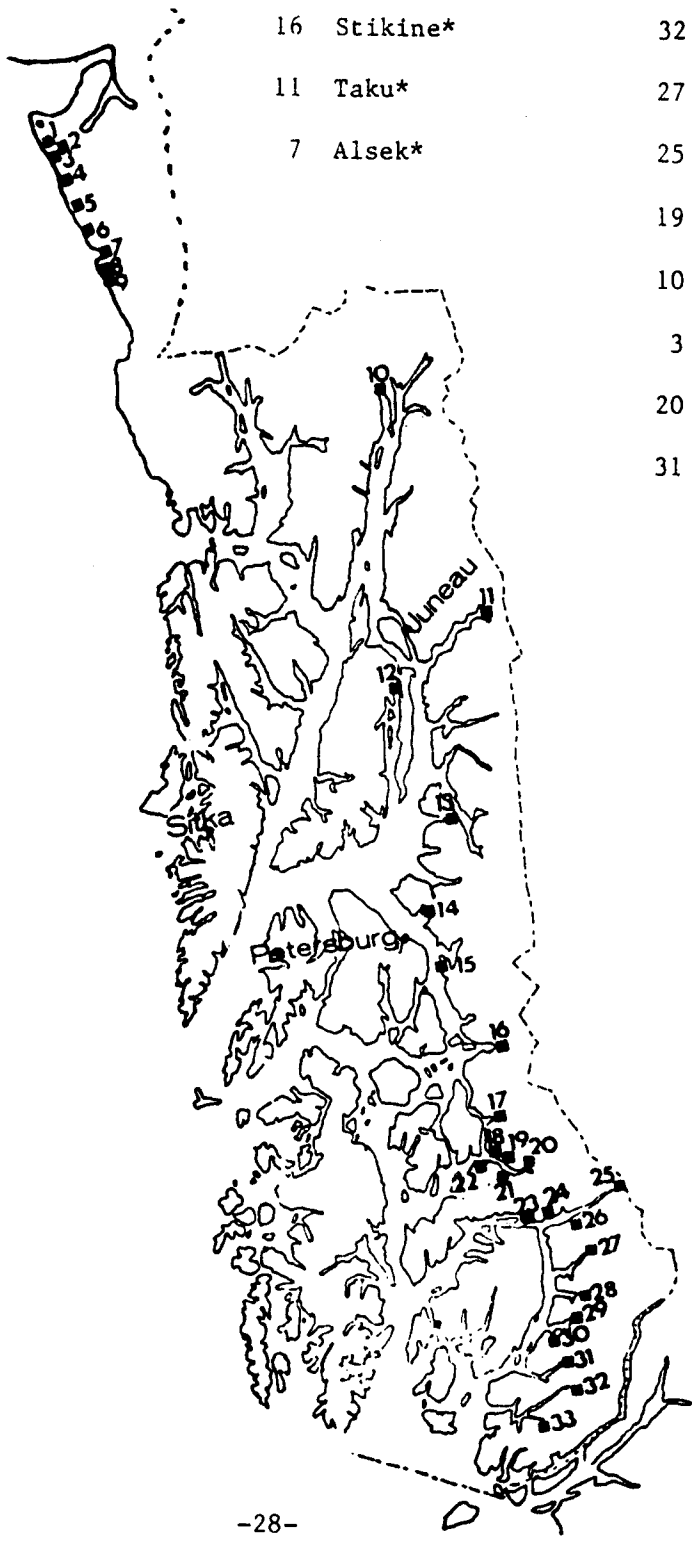
10,000 or more in run

16 Stikine*
11 Taku*
7 Alsek*

MEDIUM PRODUCERS

1,500-10,000

32 Keta*
27 Chickamin*
25 Unuk*
19 Harding
10 Chilkat*
3 Situk*
20 Bradfield
31 Wilson-Blossom*



* Index Systems

Table 1. List of Common Names, Scientific Names, and Abbreviations

COMMON NAME	SCIENTIFIC NAME AND AUTHOR	ABBREVIATION
Chinook salmon	*Oncorhynchus tshawytscha* (Walbaum)	KS
Coho salmon	*Oncorhynchus kisutch* (Walbaum)	SS
Sockeye salmon	*Oncorhynchus nerka* (Walbaum)	RS
Dolly Varden char	*Salvelinus malma* (Walbaum)	DV
Starry Flounder	*Platichthys stellatus* (Pallas)	SF
Sculpin	Cottus sp.	S
Eulachon	*Thaleichthys pacificus* (Richardson)	E
Round Whitefish	*Prosopium cylindraceum* (Pallas)	RW

15), additional area closures should occur near the mouths of the Taku, Stikine, and Chilkat Rivers.

3. Operations designed to remove large organic debris should not be permitted in Southeast's chinook salmon producing rivers. Chinook salmon populations are in the process of rebuilding, and it is essential to maximize their rearing habitat in order to maximize chinook production.

Research

1. Sampling the commercial and sport harvests of chinook salmon and the spawning grounds should continue in order to recover coded-wire tags. Recovery of chinook salmon tagged in the Taku, Stikine, Alsek, Unuk, Chickamin, and Situk Rivers will permit determination of their marine migration patterns, areas and timing of harvest at various life history stages, and rates of harvest.

2. Sampling for age, length, and sex-ratio data of spawning chinook salmon in the major and medium producing rivers should be conducted to determine the quality of the various escapements and to forecast future returns.

3. Determine the current status of chinook salmon in the major and medium chinook producing systems in Southeast by monitoring their escapements by aerial, ground, and/or weir enumeration. This is necessary to determine if the various closures designed to aid depressed Southeast chinook salmon are effective.

4. Continue to determine the percentage of the total escapement of 3- and 4-ocean age chinook salmon observed during the peak low level helicopter and/or ground surveys by comparison with known escapements through various weirs.

OBJECTIVES

1. Determine the catch and escapement of Taku River chinook salmon.

2. Determine the catch and escapement of Stikine River chinook salmon.

3. Determine the escapement of Alsek River chinook salmon.

4. Determine the catch and escapement of Chickamin River chinook salmon and inject juvenile chinook salmon with coded micro-wire tags to determine their areas of harvest, exploitation rates, stock contribution to various fisheries, migration routes, and run timing.

5. Determine the catch and escapement of Unuk River chinook salmon and inject juvenile chinook salmon with coded

micro-wire tags to determine their areas of harvest, exploitation rates, stock contribution to various fisheries, migration routes, and run timing.

6. Determine the catch and escapement of Situk River chinook salmon and inject juvenile chinook salmon with coded micro-wire tags to determine their areas of harvest, exploitation rates, stock contribution to various fisheries, migration routes, and run timing.

7. Determine the chinook escapement in six other systems in southeast Alaska.

TECHNIQUES USED

Escapement surveys were conducted on foot or from a Bell 206 or Hughes 500D helicopter during peak spawning. The helicopter flew 6 to 15 meters above the river bed at 8 to 16 kilometers per hour. The observer's door was removed, and the helicopter hovered sideways; observations were made from the open space.

Wherever possible, the sun was kept behind the helicopter, and the observer wore polaroid sunglasses to eliminate severe reflection. Only 3- and 4-ocean chinook salmon (> 660 mm in total length) were enumerated during aerial and foot surveys. Additional surveys were conducted if conditions were not rated excellent or good.

Only dead or near-dead fish were sampled during foot surveys on the spawning grounds to collect age, length, and sex data and to recover coded-wire tagged chinook. Chinook salmon of all sizes and ages were sampled.

Chinook salmon were measured from mid-eye to fork of tail and scales were collected for age determination. Scales were taken from the preferred area at the posterior edge of the dorsal fin, two rows above the lateral line. Because of the high occurrence of regeneration in chinook salmon scales, several additional scales were removed from the preferred area on the other side of the fish and placed in numbered coin envelopes.

From August 2 to August 26, a tripod weir was operated by the Canadian Department of Fisheries and Oceans on the Nakina River, approximately 137 meters above its junction with the Silver Salmon River. Chinook salmon spawning above the weir were enumerated after they could no longer maintain station in the river and floated against the weir face. The structure was cleaned of carcasses at 8:00 a.m. and 7:00 p.m. daily. All species were enumerated, and all chinook salmon were measured from mid-eye to fork of tail in mm and the sex and flesh color determined. In addition, 50 scale samples were collected for both sexes for each 25-mm length increment. The percentage age composition by sex by 25-mm length increment of the scale samples was used to apportion the age of the remainder of the samples, where only a length measurement was secured. Chinook salmon were also examined for missing adipose fins,

which indicated the presence of a coded-wire tag. Surveys of the upper river were conducted daily to enumerate and sample spawned-out chinook salmon that had not floated downstream to the weir. The survey area extended approximately 2.4 kilometers above the Nakina weir.

The length-frequency, age, and sex data from the 3- and 4-ocean adults sampled at the weir were used to apportion the age and sex of the large chinook salmon observed during the peak helicopter survey of the Nakina River index area. The total number of 1- and 2-ocean jacks spawning with the 3- and 4-ocean chinook salmon adults observed during the peak helicopter survey were derived by utilizing the ratio of 1- and 2-ocean jacks per large-spawner data collected at the carcass weir.

Gee minnow traps, baited with clusters of salmon roe, were used to capture juvenile salmonids in the Unuk and Chickamin Rivers. Fifty to 100 traps were checked, the juveniles removed, and the traps rebaited and reset on a daily basis. Salmon roe was disinfected prior to use by immersion in diluted betadyne at a ratio of 1 part betadyne per 90 parts water for 15 minutes.

Various length small-mesh seines and minnow traps baited with salmon roe were utilized to capture juvenile salmonids from the "Basin" downriver to the narrow outlet of the Alsek River. Small-mesh seines from approximately 10 to 30 meters in length, 2.5 meters in depth, and with 9.4-mm-square mesh were utilized to capture chinook salmon in back eddies, sloughs, and other slack-water areas. Several 9.4 mm mesh seines, approximately 67 meters and 91 meters in length and 3 meters in depth, were utilized to block off several small bays in the intertidal area near the outlet of Dry Bay. Because of strong currents near the mouth at most tidal stages, there were only a few areas where the large seines could be utilized.

Juvenile chinook salmon tagged in the rivers were transported from various capture sites to the tagging locations in live-boxes and, after tagging, were usually released above or below the trapping areas to reduce the number of recaptures.

Chinook salmon smolt and rearing juveniles were anesthetized with tricaine methanesulfonate (MS-222), marked by removal of the adipose fin, and micro-wire tagged with a Northwest Marine Technology, Inc. (NMT) tag injector. The tagging unit was modified to function under remote conditions by conversion to a 24-volt battery system.

The micro-wire tags were made of type 302 stainless steel wire and were 0.25 mm in diameter and 1.0 mm in length. A code, based on the binary system, was etched into the surface of each wire to identify the agency tagging and the specific treatment of the individual.

The micro-wire tags must be implanted in the cartilaginous wedge of the fish's snout to obtain maximum retention. Thus several fish were sampled daily to ensure proper tag placement. The fish's skull was bisected by a vertical incision through the dorsal median plane to the oral cavity. The tag was then readily observed in the snout. If the tag was improperly placed, adjustments in the depth of the head mold

were made, and several more fish were checked to ensure proper placement of the tag.

The micro-wire tags were magnetized by dropping the tagged fish head first through a ring magnet into a bucket of water. The fish were then passed through a NMT field sampling detector to check for the presence of a magnetized tag.

All juvenile salmonids recaptured without an adipose fin during tagging projects were sampled to determine the percentage that had retained a coded-wire tag. The total number of chinook salmon tagged was then adjusted to account for this in-river tag-loss percentage.

Chinook and coho salmon smolt and rearing juveniles were sampled for age and growth determination. Fish were measured from the tip of the snout to the fork of the tail (to the nearest millimeter), and several scales were taken from the preferred area and mounted between glass slides.

Adult scales were examined under a binocular microscope, and the first complete scale was cleansed in detergent and mounted on a numbered gum card. The scales were pressed in cellulose acetate and analyzed on a 3-M Consultant 114 microfiche reader.

FINDINGS

Taku River Studies

Introduction:

The Taku River (Figure 2), which discharges its flow into the Pacific Ocean approximately 48 kilometers east of Juneau, Alaska, originates in the high-plateau country of northwestern British Columbia and drains an area of approximately 16,576 square kilometers. The drainage above the abandoned community of Tulsequah, British Columbia, remains in pristine condition as mining, logging, or other land-use activities have never been permitted. The area is among the most remote in British Columbia, with no highway access and no year-around residents.

Two major clear-water tributaries, the Nakina and Nahlin Rivers, contribute less than 25% of the total discharge, with most of the remainder originating from ice fields on the eastern slope of the Coast Range.

Drift Gill Net Fishery:

Concern for the large incidental harvest of immature chinook salmon during the 1973 sockeye salmon fishery, which occurs after mid-June, led to the annual monitoring of the Taku drift gill-net fishery. Chinook salmon landed are categorized as large or small spawners and large or small feeders (Table 2).

Escapement:

The observed escapement of 3- and 4- ocean chinook salmon into index tributaries of the Taku River was the third largest observed since 1958.

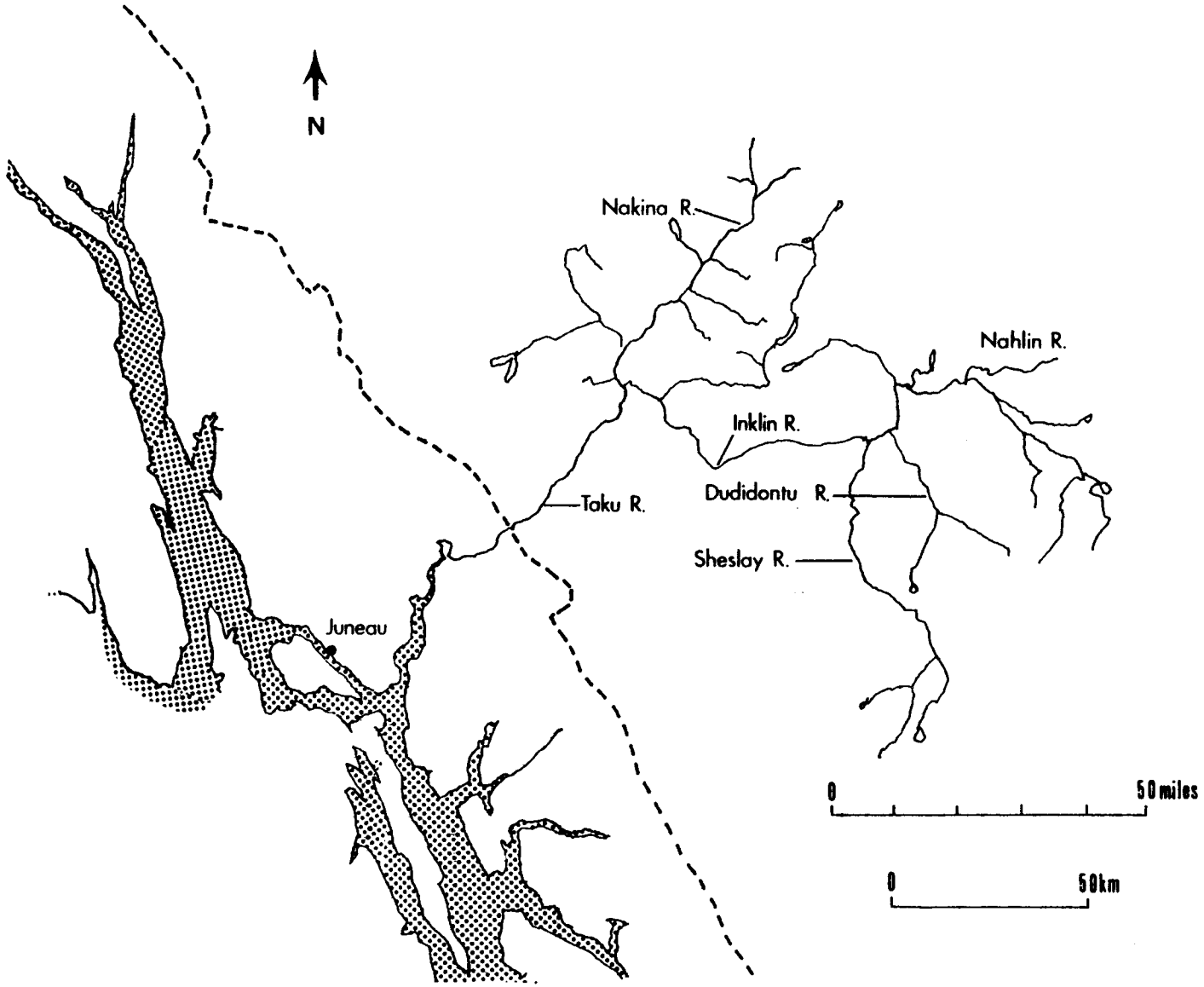


Figure 2. Taku River Drainage

Table 2. Catch of Large Chinook Spawners (LS), Small Spawners (SS), Large Feeders (LF), and Small Feeders (SF), in Percent by Statistical Week and Year in the Taku Inlet Drift Gill Net Fishery.

	Week 25					Week 26					Week 27					Week 28				
YEAR	LS	SS	LF	SF	N	LS	SS	LF	SF	N	LS	SS	LF	SF	N	LS	SS	LF	SF	N
1979	72.9%		27.1%		299															
1980	45.0%	16.0%	39.0%		?	51.0%	14.0%	35.0%		?	47.0%	15.0%	37.0%		?					
1981	44.2%	10.8%	3.3%	41.7%	120	34.7%	14.7%	4.0%	46.7%	75	32.7%	6.1%	6.1%	55.1%	98					
1982	24.4%	22.8%	4.1%	48.8%	123	21.7%	11.5%	4.1%	62.7%	217	12.6%	2.9%	0.6%	83.9%	174					
1983	22.2%	42.9%	1.6%	33.3%	72	10.2%	45.8%	3.4%	40.7%	59										
1984	10.2%	16.8%	6.9%	66.1%	304	12.6%	21.3%	15.5%	50.7%	207	15.9%	20.6%	6.3%	57.1%	63	11.5%	15.4%	7.7%	65.4%	26
1985	26.7%	3.3%	0.0%	70.0%	503(P)	24.1%	6.9%	3.4%	65.5%	404(P)										

P - Preliminary

Table 3. Peak Observed Escapement Counts of Chinook Salmon in the Taku River Tributaries.

Year	Nakina	Kowatua	Tatsamenie	Dudidontu	Tseta	Nahlin	Total
1951	5,000	...	...	400	100	1,000	6,500
1952	9,000	...	...	...	...	...	9,000
1953	7,500	...	...	...	...	...	7,500
1954	6,000	...	...	...	...	...	6,000
1955	3,000	...	...	...	...	...	3,000
1956	1,380	...	...	...	...	...	1,380
1957	1,500*	...	...	...	...	...	1,500
1958	2,500*	...	...	4,500	...	2,500	9,500
1959	4,000*	...	...	...	...	...	4,000
1960	Poor	...	...	...	...	...	Poor
1961	Poor	...	...	...	...	...	Poor
1962	...	...	...	25	81	216	322
1963	...	...	...	...	...	...	...
1964	...	...	...	...	...	...	...
1965	3,050	200 G	50 G	100	18	37	3,455
1966	...	14 G	150 G	267	150	300	881
1967	...	250 G	...	600	350	300	1,500
1968	...	1,100 E	800 E	640	230	450	3,220
1969	...	3,300 E	800 E	...	...	...	4,100
1970	...	1,200 E	530 E	10	25	26	1,791
1971	...	1,400 E	320 E	165	...	473	2,358
1972	1,000	130 G	170 G	103	80	280	1,763
1973	2,000	100 G	200 G	200	...	300	2,800
1974	1,800	235 G	120 G	20	4	900	3,079
1975	1,800	...	...	15	...	274	2,089
1976	3,000	341 G	620 E	40	...	725	4,726
1977	3,850	580 G	573 E	18	...	650	5,671
1978	1,620	490 G	550 E	...	21	624	3,305
1979	2,110	430 G	750 E	9	...	857	4,156
1980	4,500	450 G	905 E	158	...	1,531	7,544
1981	5,110	560 G	839 E	74	258	2,945	9,786
1982	2,533	289 E	387 E	130	228	1,246	4,813
1983	968	171 E	236 E	117	179	391	2,062
1984	1,887	279 E	616 E	...	176[a]	951[b]	3,909
1985	2,647	699 E	848 E	476	303	2,236	7,209

a = surveyed only upper 2 miles - partial survey
b = surveyed only above beaver dam valley - total enumerated = 521 - adjustment made for total area, using spawner distribution data collected in past years as follows: above dams = 54.8%, in dams = 23.2%, and below dams to Telegraph Trail = 22.0%.
G = water glacial
E = water clear
* = Counts of total river not conducted - comparison made from carcass weir enumeration

Escapements to index tributaries in the Inklin River drainage were much better than to the Nakina River (Table 3). As expected, the escapement of age-6 chinook salmon (1979 brood) was strong and the return of age-5 chinook salmon (1980 brood) average.

Based on length-frequency and age data collected at the Nakina weir by the Alaska Department of Fisheries from 1956 until 1959 by the Alaska Department of Fish and Game (ADF&G) from 1973 through 1983, and by the Canadian Department of Fisheries and Oceans in 1984 and 1985, the 1986 return of age-6 chinook salmon (1980 brood) should be average and the return of age-5 chinook salmon (1981 brood) very weak (Tables 4-10).

The daily die-off of spawned-out chinook salmon at the Nakina weir is presented in Tables 11 and 12.

The late opening of the commercial troll fishery (June 20) will permit the Taku River spawning return to migrate to the terminal area with very low fishery exploitation in southeast Alaska.

Coded Wire Tag Recovery:

Coded-wire tagging was conducted on Taku River chinook salmon from 1977 through 1983 (1975 through 1981 broods). A total of 35,765 chinook salmon smolts and 162,513 young-of-the-year were marked by removal of the adipose fin and coded-wire tagged (Table 13). A total of 12 Taku River chinook salmon that were coded-wire tagged as juveniles were recovered in various sport and commercial fisheries during 1985, and 47 tags were recovered on the spawning grounds (Table 14). To date, 90 coded-wire tagged Taku River chinook salmon have been recovered in various southeast Alaska commercial and sport fisheries, and 247 coded-wire tags have been recovered on the spawning grounds (Table 15).

Sport and commercial coded-wire tag recoveries have shown that Taku River chinook salmon are only available to southeast Alaska fisheries during the spring of their final year of life as they migrate back through the waters of southeast Alaska to return to their spawning grounds. Of all coded-wire tag recoveries in various sport and commercial troll fisheries, 87.9% occurred in commercial fishing districts 111, 113, 114, or 116. These districts are the approaches to Icy Strait, Icy Strait, and the Juneau area. Spring troll closures of these areas during 1981 through 1985 have kept the exploitation rate at low levels.

Small numbers of returning Taku River chinook salmon appear to migrate by Cape Ommaney, north through Frederick Sound, and north through Stephens Passage to the Taku River.

The first recovery of a Taku River chinook salmon (age-6) in the northern British Columbia troll fishery occurred in 1985. In addition, one recovery of an age-6 chinook salmon has occurred in commercial fishing district 104, which is off the west coast of Prince of Wales Island. There have been no coded-wire tag recoveries of Taku River chinook salmon from other age classes in this area; thus, it is probable that these maturing fish had migrated far offshore and, after approaching the outside coast, were migrating north towards the Taku River.

Table 4. Number of male and female chinook salmon sampled at the Nakina carcass weir by age class and by year.

Year	MALE						FEMALE			
	Age 1.1	Age 1.2	Age 1.3	Age 1.4	Age 1.5	Total	Age 1.3	Age 1.4	Age 1.5	Total
1956	958	1,118	242	35	0	2,353	270	154	0	424
1957	789	1,245	270	39	0	2,343	244	159	0	403
1958	1,716	2,106	513	88	0	4,423	413	231	0	644
1959	950	1,090	615	224	0	2,879	665	526	0	1,191
1973	446	772	283	203	7	1,711	167	447	0	614
1974	845	636	260	99	3	1,843	163	257	0	420
1975*	297	445	94	50	1	887	14	55	0	69
1976**	85	419	226	77	4	811	151	234	0	385
1977	1,269	306	327	330	7	2,239	182	950	11	1,143
1978	2,192	930	140	74	8	3,344	41	159	7	207
1979	675	1,352	375	59	2	2,463	185	82	4	271
1980	486	542	388	172	0	1,588	258	396	0	654
1981	178	401	365	322	0	1,266	198	862	6	1,066
1982	856	248	263	274	8	1,649	90	537	15	642
1983	752	1,134	126	163	2	2,177	50	225	1	276
1984	226	438	357	31	0	1,052	133	89	5	227
1985(P)	706	356	377	265	0	1,704	254	641	0	895

* = Partial barrier to migration at Village Falls.
** = Partial weir at Grizzly Bar.
P = Preliminary.

Table 5. Number of male and female chinook salmon enumerated in the Nakina River by age class and by year.

Year	MALE						FEMALE			
	Age 1.1	Age 1.2	Age 1.3	Age 1.4	Age 1.5	Total	Age 1.3	Age 1.4	Age 1.5	Total
1956	1,886	2,201	476	69	0	4,632	532	303	0	835
1957	1,662	2,623	569	82	0	4,936	514	335	0	849
1958	3,446	4,229	1,030	177	0	8,882	829	464	0	1,293
1959	1,872	2,148	1,212	441	0	5,673	1,310	1,037	0	2,347
1973	806	1,395	511	367	13	3,092	302	807	0	1,109
1974	1,945	1,464	599	228	7	4,243	375	591	0	966
1975*	2,498	3,743	790	420	9	7,460	118	463	0	581
1976**	368	1,816	980	334	17	3,515	654	1,014	0	1,668
1977	2,704	652	696	703	15	4,770	388	2,024	23	2,435
1978	8,277	3,512	528	279	30	12,626	155	601	27	783
1979	2,014	4,035	1,119	176	6	7,350	552	245	12	809
1980	1,801	2,009	1,438	637	0	5,885	957	1,468	0	2,425
1981	519	1,169	1,064	939	0	3,691	577	2,512	18	3,107
1982	1,823	528	560	584	17	3,512	192	1,144	32	1,368
1983	1,284	1,936	215	278	4	3,717	85	384	2	471
1984	693	1,344	1,096	94	0	3,227	408	274	15	697
1985(P)	1,216	613	649	458	0	2,936	437	1,103	0	1,540

* = Partial barrier to migration at Village Falls.
** = Partial weir at Grizzly Bar.
P = Preliminary.

Table 6. Number of male and female chinook salmon enumerated in the Nakina River by age class and by brood year.

Brood Year	MALE						FEMALE			
	Age 1.1	Age 1.2	Age 1.3	Age 1.4	Age 1.5	Total	Age 1.3	Age 1.4	Age 1.5	Total
1951	...	...	476	82	0	...	532	335	0	867
1952	...	2,201	569	177	0	...	514	464	0	978
1953	1,886	2,623	1,030	441	...	5,980	829	1,037	...	1,866
1954	1,662	4,229	1,212	...	...	...	1,310	...	...	...
1968	...	...	511	228	9	...	302	591	0	893
1969	...	1,395	599	420	17	...	375	463	0	838
1970	806	1,464	790	334	15	3,409	118	1,014	23	1,155
1971	1,945	3,743	980	703	30	7,401	654	2,024	27	2,705
1972	2,498	1,816	696	279	6	5,295	388	601	12	1,001
1973	368	652	528	176	0	1,724	155	245	0	400
1974	2,704	3,512	1,119	637	0	7,972	552	1,468	18	2,038
1975	8,277	4,035	1,438	939	17	14,706	957	2,512	32	3,501
1976	2,014	2,009	1,064	584	4	5,675	577	1,144	2	1,723
1977	1,801	1,169	560	278	0	3,808	192	384	15	591
1978	519	528	215	94	...	1,356	85	274	...	359
1979	1,823	1,936	1,096	458*	...	...	408	1,103*	...	...
1980	1,284	1,344	649*	...	...	...	437*	...	...	...
1981	693	613*	...	...	...	...	...	...	...	...
1982	1,216*	...	...	...	...	...	...	...	...	...

* = Preliminary.

Table 7. Length Frequency versus Percentage Age Composition by Year of Female Chinook Salmon Sampled at the Nakina Weir.

	1984		1983		1982		1981		1980	
Length (MEFT)	1.3	1.4	1.3	1.4	1.3	1.4	1.3	1.4	1.3	1.4
650-674	100.0%						100.0%			
675-699	100.0%		100.0%		50.0%	50.0%	100.0%		100.0%	
700-724	90.0%	10.0%	75.0%	25.0%	83.3%	16.7%	95.7%	4.3%	100.0%	
725-749	93.3%	6.7%	100.0%		77.8%	22.2%	82.8%	17.2%	94.1%	5.9%
750-774	85.7%	14.3%	63.6%	36.4%	78.6%	21.4%	69.2%	30.8%	95.5%	4.5%
775-799	81.3%	18.7%	29.4%	70.6%	54.5%	45.5%	40.5%	59.5%	67.9%	32.1%
800-824	51.7%	48.3%	29.2%	70.8%	13.9%	86.1%	23.7%	73.7%	32.1%	67.9%
825-849	50.0%	50.0%	5.4%	94.6%	11.4%	88.6%	10.9%	89.1%	10.3%	89.7%
850-874	14.6%	85.4%	5.9%	94.1%	2.5%	97.5%		100.0%	2.9%	97.1%
875-899	15.4%	84.6%	5.6%	94.4%				100.0%		100.0%
900-924	40.0%	60.0%		100.0%				100.0%	12.0%	88.0%
925-949		100.0%		100.0%				100.0%		100.0%
950-974		100.0%		100.0%						
	n = 190		n = 177		n = 306		n = 390		n = 238	

Table 8. Length Frequency versus Percentage Age Composition by Year of Male Chinook Salmon Sampled at the Nakina Weir.

	1984				1983				1982				1981				1980			
Length(MEFT)	1.1	1.2	1.3	1.4	1.1	1.2	1.3	1.4	1.1	1.2	1.3	1.4	1.1	1.2	1.3	1.4	1.1	1.2	1.3	1.4
250-274	100.0				100.0				100.0				100.0				100.0			
275-299	100.0				100.0				100.0				100.0				100.0			
300-324	100.0				100.0				100.0				100.0				100.0			
325-349	100.0				97.9	2.1			100.0				100.0				100.0			
350-374	100.0				100.0				97.4	2.3			90.0	10.0			97.5	2.5		
375-399	92.6	7.4			80.0	20.0			94.7	5.3			45.5	54.5			85.0	15.0		
400-424	54.5	45.5			21.6	78.4			40.0	60.0			14.3	85.7			42.9	57.1		
425-449		100.0			2.6	94.9	2.5		7.1	92.9				100.0			30.0	70.0		
450-474	8.6	91.4				100.0				100.0				100.0			4.5	95.5		
475-499		97.1	2.9			97.6	2.4			100.0			7.9	92.1			6.3	93.8		
500-524		100.0				100.0				100.0				97.4	2.6		9.1	90.9		
525-549		93.3	6.7			95.5	4.5			100.0				90.3	9.7			100.0		
550-574		89.4	10.6			100.0				96.6	3.4			88.2	11.8			81.6	18.4	
575-599		82.6	17.4			90.7	9.3			85.0	15.0			85.3	14.7			83.8	16.2	
600-624		76.1	23.9			89.7	7.7	2.6		40.0	60.0			87.1	12.9			72.0	28.0	
625-649		50.0	50.0			77.8	22.2			46.7	53.3			37.0	63.0			54.2	45.8	
650-674		30.6	69.4			14.3	85.7			34.8	60.9	4.3		26.5	61.8	11.8		23.1	76.9	
675-699		8.6	91.4			15.4	84.6			9.1	81.8	9.1		8.6	85.7	5.7		2.9	97.1	
700-724		2.9	91.4	5.7			100.0			4.2	91.7	4.2			97.7	2.3			95.7	4.3
725-749			100.0				88.9	11.1			88.5	11.5			97.8	2.2			88.5	11.5
750-774			97.2	2.8			71.4	28.6			82.6	17.4			92.5	7.5			100.0	0.0
775-799			92.3	7.7			73.3	26.7			75.0	25.0			87.1	12.9			100.0	0.0
800-824			95.2	4.8			20.0	80.0			69.2	30.8			58.3	41.7			88.2	11.8
825-849			92.3	7.7			27.3	72.7			40.0	60.0			43.5	56.5			57.1	42.9
850-874			71.4	28.6			13.3	86.7			42.1	57.9			25.0	75.0			33.3	66.7
875-899			25.0	75.0				100.0			17.2	82.8			10.0	90.0				100.0
900-924			60.0	40.0				100.0			7.7	92.3			0.0	100.0				100.0
925-up				100.0				100.0				100.0				100.0				
	n=807				n = 768				n = 739				n = 966				n = 663			

Table 9. Length Frequency of Female Chinook Sampled at the Nakina Carcass Weir.

Mid-Eye to Fork (mm)	1956	1957	1958	1959	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
575	7	3	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
600	3	5	2	6	0	0	0	2	0	0	0	0	0	0	0	0	0
625	6	3	9	10	0	2	0	2	0	0	0	1	0	0	0	2	0
650	16	20	13	17	2	2	0	4	2	0	2	1	3	0	0	2	0
675	29	17	38	42	3	1	3	9	4	1	5	14	6	3	1	5	5
700	44	28	66	93	10	22	8	21	13	6	12	27	27	7	5	11	22
725	46	49	55	142	17	21	3	25	38	1	34	47	33	16	7	35	59
750	69	56	76	192	43	53	12	60	66	8	39	69	69	26	19	33	108
775	66	52	67	197	59	52	4	51	112	13	44	82	86	46	25	18	137
800	87	125	87	238	112	90	16	71	175	28	51	99	153	68	37	33	146
825	28	29	36	156	108	64	11	56	203	26	34	77	186	96	62	27	160
850	15	13	21	71	150	70	7	51	219	36	19	98	201	107	46	27	132
875	4	2	5	18	77	28	4	22	171	41	17	75	150	124	32	16	69
900	3	1	2	5	22	11	0	6	96	33	8	49	109	76	31	10	33
925	0	0	0	1	6	4	1	3	34	11	5	9	28	44	5	3	18
950	1	0	1	0	3	0	0	0	8	2	1	6	12	21	6	2	7
975	0	0	0	0	2	0	0	1	2	1	0	0	3	8	0	3	1
TOTAL	424	403	478	1,191	614	420	69	385	1,143	207	271	654	1,066	642	276	227	897

Table 10. Length Frequency of Male Chinook Sampled at the Nakina Carcass Weir.

Mid-Eye to Fork (mm)	1956	1957	1958	1959*	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	3	1	3	3	1	0	1	0	0	0	0	0	0	0	0	0	0
250	34	26	46	20	7	10	1	3	2	1	1	6	1	7	2	1	11
275	141	96	162	132	24	100	31	7	54	36	24	35	14	64	37	4	51
300	235	168	289	328	114	274	73	27	290	462	134	102	52	270	163	34	235
325	362	305	301	275	108	254	80	16	432	853	267	175	51	330	288	82	241
350	82	66	262	120	97	143	52	10	343	616	180	107	42	161	201	66	139
375	57	64	192	41	68	41	32	12	142	239	65	39	32	22	66	30	37
400	83	144	202	61	71	56	63	15	46	86	48	18	23	15	53	14	13
425	129	131	215	98	99	68	81	28	44	36	94	25	35	19	119	15	11
450	330	365	207	111	120	110	76	32	50	63	188	47	39	27	167	40	19
475	146	141	271	132	94	107	72	57	35	100	204	64	45	41	180	40	27
500	140	165	262	170	100	94	57	57	41	150	288	99	62	27	210	68	43
525	103	113	202	148	91	68	46	71	32	162	208	88	40	22	156	61	45
550	138	136	145	182	93	55	28	69	28	147	168	86	42	40	109	63	58
575	46	60	86	99	78	44	31	52	21	97	97	80	54	29	77	70	48
600	36	30	70	100	49	49	18	39	15	102	81	60	41	23	64	66	50
625	56	77	68	71	38	31	14	35	24	33	34	52	38	27	23	52	38
650	22	30	89	90	39	36	14	34	22	18	36	59	44	29	16	63	53
675	17	26	69	86	27	25	9	28	33	14	36	49	40	18	16	43	60
700	44	43	67	87	35	42	9	34	48	8	40	48	55	39	16	50	72
725	21	16	35	68	34	37	10	32	52	9	58	48	57	44	17	43	77
750	24	18	29	66	37	45	9	22	67	10	53	49	59	29	16	41	81
775	46	56	29	62	28	21	12	26	62	4	37	30	39	39	21	30	55
800	19	27	27	58	27	23	12	16	50	5	34	43	46	39	16	24	48
825	19	24	22	81	28	21	8	21	26	10	22	20	29	40	15	14	35
850	11	8	29	66	35	16	13	13	48	13	22	27	39	35	20	10	25
875	7	7	12	68	39	21	5	14	42	10	8	25	47	39	18	6	37
900	1	0	9	37	49	17	13	11	57	11	7	27	57	46	25	8	32
925	0	0	3	14	35	16	7	12	46	20	14	25	49	40	23	3	23
950	0	0	2	4	24	8	7	11	46	9	7	28	49	39	16	5	23
975 - up	0	0	0	1	22	11	3	6	41	20	8	27	45	49	27	6	15
TOTAL	2,353	2,343	3,405	2,879	1,711	1,843	887	810	2,239	3,344	2,463	1,588	1,266	1,649	2,177	1,052	1,702

* No data collected between 1960 and 1972.

Table 11. Timing of Die-off of Male Chinook Salmon at the Nakina Weir.

DATE		1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
July	27	...	...	...	...	...	7	...	...	...	...	...	...	...
	28	...	...	...	...	4	2	...	3	...	1	0	...	...
	29	...	...	...	...	7	5	...	0	4	3	2	...	...
	30	...	...	...	...	8	7	1	1	5	4	4	0	...
	31	...	...	...	...	17	3	6	3	6	8	3	6	...
Aug.	1	...	...	...	...	14	15	9	4	4	14	3	6	...
	2	...	...	...	...	28	20	3	7	11	15	7	0	2
	3	4	...	1	...	38	32	9	7	11	21	3	5	5
	4	8	...	1	...	56	59	9	11	18	36	18	5	16
	5	15	...	1	...	94	54	14	23	43	36	28	18	0
	6	41	27	2	...	134	85	17	35	61	49	41	32	23
	7	55	18	8	...	155	100	33	59	80	79	70	53	38
	8	86	28	6	63	213	152	46	69	85	99	96	69	47
	9	95	29	13	78	147	142	55	90	93	95	118	85	66
	10	116	66	16	146	194	243	74	119	98	107	135	53	83
	11	94	101	20	114	204	208	109	139	121	102	171	65	99
	12	133	89	35	152	187	274	109	145	91	101	178	88	93
	13	141	159	27	84	188	233	130	139	104	114	177	93	143
	14	133	177	64	27	116	227	212	106	82	96	191	96	141
	15	138	183	63	34	126	246	195	123	71	124	163	71	146
	16	92	206	60	46	89	222	212	89	64	132	177	63	180
	17	116	202	87	36	78	212	197	125	64	106	130	94	137
	18	83	168	81	24	38	214	207	75	49	78	120	52	97
	19	123	147	73	29	44	138	219	87	45	93	123	40	84
	20	72	123	69	19	24	108	186	51	21	54	95	40	70
	21	100	65	62	10	20	94	146	43	24	46	73	46	63
	22	46	54	60	19	8	84	131	26	10	30	67	27	61
	23	22	...	57	4	9	107	109	9	...	18	26	15	43
	24	...	...	58	...	...	51	28	...	...	8	...	12	65
TOTAL		1,713	1,842	864	885	2,240	3,344	2,466	1,588	1,265	1,669	2,219	1,134	1,702

Table 12. Timing of Die-off of Female Chinook Salmon at the Nakina Carcass Weir.

DATE	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
July 27	...	...	...	...	...	2	...	...	...	...	...	...	...
28	...	...	...	...	3	1	...	...	...	1	0	...	...
29	...	...	...	...	4	0	...	...	1	0	0	...	...
30	...	...	...	...	3	2	2	1	1	1	0	1	...
31	...	...	...	...	2	1	2	3	9	2	1	1	...
Aug. 1	...	...	...	...	8	1	0	1	5	3	1	1	...
2	...	...	...	...	12	5	0	1	2	8	0	0	1
3	5	...	...	...	13	7	0	4	16	8	1	5	5
4	5	...	...	...	35	9	5	8	18	14	3	8	21
5	3	...	...	...	40	11	4	8	25	19	1	5	2
6	5	1	...	...	53	11	2	14	34	24	11	11	15
7	10	2	1	...	69	12	6	27	43	38	12	12	27
8	17	8	1	28	141	16	3	30	78	45	19	22	28
9	17	8	1	29	113	17	10	40	63	59	21	22	27
10	37	6	1	41	126	26	10	30	80	41	10	15	28
11	37	13	3	46	135	17	9	63	104	48	17	7	78
12	36	16	8	43	57	27	18	64	91	51	21	9	68
13	42	26	2	36	89	17	20	63	114	50	33	18	81
14	44	21	5	14	53	5	26	68	99	46	30	21	79
15	54	52	1	39	70	6	15	63	90	37	18	21	69
16	30	38	7	29	39	4	22	34	74	44	20	20	102
17	49	70	8	23	35	3	25	56	35	46	30	20	69
18	31	33	5	20	18	3	25	21	29	13	8	7	46
19	57	64	5	14	12	2	10	36	17	28	18	9	49
20	33	28	8	19	2	0	19	12	20	20	11	8	43
21	54	20	3	5	9	1	13	3	13	11	4	8	28
22	36	14	3	15	2	0	14	4	5	6	3	8	19
23	15	...	3	2	1	1	12	0	...	5	3	4	5
24	...	...	4	...	...	0	2	...	...	0	...	2	9
TOTAL	617	420	69	403	1,144	207	274	654	1,066	668	296	265	897

Table 13. A Summary of Coded Wire Tag Releases of Taku River Chinook Salmon, 1977 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
040508		4,616**	1975	79.7	Mainstem Taku, Tagged April-May, 1977 at Taku Lodge	87.2
040509		3,972**	1975	79.7	Mainstem Taku, Tagged May, 1977 at Taku Lodge	87.2
040510		46**	1975	79.7	Mainstem Taku, Tagged May, 1977 at Taku Lodge	87.2
041655	10,227*		1979	68.7	Glacial Nakina River, Tagged at Inklin Jct., Oct. 1980	95.7
041656	3,925*		1979	68.4	Taku River, Tagged at Inklin Jct., Oct. 1980	95.7
041657	1,434*		1979	68.7	Glacial Nakina River, Tagged at Inklin Jct., Nov. 1980	95.7
041658	4,609*		1978	64.8	Mainstem Taku, Tagged at Tulsequah, Sept. 1979	82.4
041659	878*		1978	68.2	Glacial Nakina River, Tagged at Inklin Jct., Oct. 1979	82.4
041660	3,973*		1978	64.8	Mainstem Taku & Glacial Nakina Tagged at Inklin Jct. & Tulsequah, Oct. 1979	82.4

Table 13 (cont'd). A Summary of Coded Wire Tag Releases of Taku River Chinook Salmon, 1977 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
041661		1,573	1978	84.3	Taku Inlet Tagged at Juneau, May 1980	...
041662		2,337*	1977	66.2	Mainstem Taku, Tagged at Tulsequah, April 1979	91.7
041663	3,366*		1979	68.4	Glacial Nakina River Tagged at Inklin Jct., Sept. 1980	95.7
041708	5,092		1976	68.5	Nahlin River, Tagged Sept. 1977	...
041709	3,402		1976	68.5	Nahlin River, Tagged Sept. 1977	...
041710	4,358		1976	62.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1977	...
041711	4,468		1976	62.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1977	...
041712	4,796		1976	62.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1977	...
041713	6,134		1976	62.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1977	...
041714	2,123		1976	62.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1977	...

Table 13 (cont'd). A Summary of Coded Wire Tag Releases of Taku River Chinook Salmon, 1977 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
041721		4,778	1976	70.3	Mainstem Taku, Tagged at Tulsequah, April 1978	...
041722		3,717	1976	70.3	Mainstem Taku, Tagged at Tulsequah, May 1978	...
041723		666	1976	70.3	Mainstem Taku, Tagged at Tulsequah, May 1978	...
041724		389	1976	70.3	Mainstem Taku, Tagged at Canyon Island, May 1978	...
041728	28,897*		1977	63.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1978	92.1
041730	7,129*		1977	63.9	Mainstem Taku, Tagged at Tulsequah, Oct. 1978	92.1
041920		3,397*	1979	83.8	Taku Inlet Seining May & June 1981	96.2
041959	7,318*		1978	68.2	Glacial Nakina River, Tagged at Inklin Jct., Oct. 1979	82.4
041960	10,135*		1979	68.7	Glacial Nakina River, Tagged at Inklin Jct., Sept. 1980	95.7

Table 13 (cont'd). A Summary of Coded Wire Tag Releases of Taku River Chinook Salmon, 1977 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
041961	9,554*		1979	68.7	Glacial Nakina River, Tagged at Inklin Jct., Sept. 1980	95.7
042001		1,553*	1979	73.5	Tulsequah, May 1981	95.1
042003		4,011*	1979	67.7	Tulsequah, March through May 1981	95.1
042056		4,710	1981	87.9	Taku Inlet, May and June, 1983	...
042115	5,016*		1980	63.2	Glacial Nakina River, Sept. 1981	95.5
042116	9,545*		1980	59.8	Mainstem Taku, Sept. & Oct. 1981	95.5
042117	10,091*		1980	59.8	Mainstem Taku, Oct. 1981	95.5
042118	5,978*		1980	59.8	Mainstem Taku, Oct. & Nov. 1981	95.5
042120	10,065*		1980	63.2	Glacial Nakina River, Sept. 1981	95.5
TOTAL	162,513	35,765				

* Corrected for juvenile inriver tag loss
** Tag loss corrected for based on adult returns

Table 14. A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
4-5-8	8-10-78	1.1	M	360 mm (MF)	Nakina-escapement	R	
	8-13-78	1.1	M	330 mm (MF)	Nakina-escapement	R	
	8-15-78	2.1	M	410 mm (MF)	Nakina-escapement	R	
	8-18-78	1.1	M	295 mm (MF)	Nakina-escapement	R	
	8-23-78	1.1	M	355 mm (MF)	Nakina-escapement	R	
	5-17-79	1.2	...	683 mm (FL)	Comm. Troll 513	R	
	7-12-79	1.2	...	659 mm (FL)	Comm. Gillnet 111	R	
	8-13-79	1.2	M	575 mm (MF)	Nakina-escapement	R	
	8-16-79	1.2	M	480 mm (MF)	Nakina-escapement	R	
	8-18-79	1.2	M	545 mm (MF)	Nakina-escapement	R	
	8-18-79	1.2	M	420 mm (MF)	Nakina-escapement	R	
	5-20-80	1.3	...	175 mm (-)	Comm. Troll 113, 114, 116	S	
	5-21-80	1.3	...	175 mm (-)	Comm. Troll 113, 114, 116	S	
	5-30-80	1.3	...	885 mm (FL)	Comm. Troll 113	R	4.10
	6-10-80	1.3	...	780 mm (FL)	Comm. Troll 113, 114, 116	R	3.52
	6-18-80	1.3	...	170 mm (-)	Comm. Troll 113, 114, 116	S	
	6-20-80	1.3	...	850 mm (FL)	Comm. Gillnet 111	R	2.06
	6-26-80	1.3	...	853 mm (FL)	Comm. Gillnet 111	R	2.55
	8-15-80	1.3	M	755 mm (MF)	Nakina-escapement	R	
	8-14-80	1.3	F	760 mm (MF)	Nakina-escapement	R	
	8-15-80	1.3	M	735 mm (MF)	Nakina-escapement	R	
	8-16-80	1.3	...	660 mm (MF)	Nakina-escapement	R	
	6-13-81	1.4	...	996 mm (FL)	Comm. Troll 109-50	R	
	5-20-81	1.4	...	900 mm (FL)	Comm. Troll 113 Deer Harbor	R	
	5-10-81	1.4	...	997 mm (FL)	Sport Fish 111, Breadline		
	8-03-81	1.4	...	...	Nahlin-escapement	R	
	8-18-81	1.4	F	790 mm (MF)	Nakina-escapement	R	
	8-14-81	1.4	F	865 mm (MF)	Nakina-escapement	R	
	8-19-81	1.4	F	855 mm (MF)	Nakina-escapement	R	
4-5-9	7-27-78	1.1	M	330 mm (MF)	Nakina-escapement	R	
	8-04-78	1.1	M	310 mm (MF)	Nakina-escapement	R	
	8-15-78	1.1	M	335 mm (MF)	Nakina-escapement	R	
	8-16-78	1.1	M	310 mm (MF)	Nakina-escapement	R	
	8-20-78	1.1	M	330 mm (MF)	Nakina-escapement	R	
	7-05-79	1.2	M	595 mm (FL)	Comm. Gillnet 111	R	
	7-05-79	1.2	M	579 mm (FL)	Comm. Gillnet 111	R	
	7-12-79	1.2	M	650 mm (FL)	Comm. Gillnet 111	R	
	8-12-79	1.2	M	535 mm (MF)	Nakina-escapement	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	08/15/79	1.2	M	515 mm (MF)	Nakina-escapement	R	
	08/16/79	1.2	M	570 mm (MF)	Nakina-escapement	R	
	08/18/79	1.2	M	420 mm (MF)	Nakina-escapement	R	
	05/20/80	1.3	M	853 mm (FL)	Comm. Troll 113,114,116	R	
	05/20/80	1.3	...	765 mm (FL)	Comm. Troll 114	S	
	05/21/80	1.3	...	175 mm (-)	Comm. Troll 113,114,116	S	
	06/18/80	1.3	...	790 mm (FL)	Comm. Gillnet 111	R	2.06
	06/19/80	1.3	...	730 mm (FL)	Comm. Gillnet 111	R	2.06
	05/10/81	1.4	...	914 mm (FL)	Sport Fish 111 Pt. Stephens		
	05/21/81	1.4	...	915 mm (FL)	Comm. Troll Deer Harbor Scow	R	
	08/03/81	1.4	...		Nahlin-escapement	R	
	08/13/81	1.4	F	870 mm (MF)	Nakina-escapement	R	
	08/07/81	1.4	F	890 mm (MF)	Nakina-escapement	R	
	08/08/81	1.4	F	860 mm (MF)	Nakina-escapement	R	
	08/12/81	1.4	M	780 mm (MF)	Nakina-escapement	R	
	08/11/81	1.4	F	815 mm (MF)	Nakina-escapement	R	
	08/11/81	1.4	M	895 mm (MF)	Nakina-escapement	R	
	08/05/81	1.4	F	850 mm (MF)	Nakina-escapement	R	
4-16-55	07/28/82	1.1	...	410 mm (FL)	Comm. Seine 112	R	
	08/03/82	1.1	...	390 mm (FL)	Comm. Seine Unknown	R	
	08/10/82	1.1	M	330 mm (MF)	Nakina-escapement	R	
	08/10/82	1.1	M	295 mm (MF)	Nakina-escapement	R	
	08/11/82	1.1	M	290 mm (MF)	Nakina-escapement	R	
	08/12/82	1.1	M	335 mm (MF)	Nakina-escapement	R	
	08/11/83	1.2	M	485 mm (MF)	Nakina-escapement	R	
	08/14/83	1.2	M	500 mm (MF)	Nakina-escapement	R	
	08/14/83	1.2	M	550 mm (MF)	Nakina-escapement	R	
	08/15/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	08/16/83	1.2	M	490 mm (MF)	Nakina-escapement	R	
	08/17/83	1.2	M	445 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	520 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	510 mm (MF)	Nakina-escapement	R	
	08/19/83	1.2	M	400 mm (MF)	Nakina-escapement	R	
	08/21/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	08/22/83	1.2	M	355 mm (MF)	Nakina-escapement	R	
	08/11/83	1.2	M	625 mm (MF)	Little Tahltan - escapement	R	
	05/20/84	1.3	M	740 mm (FL)	Test Troll 112	R	
	06/14/84	1.3	...	790 mm (FL)	Comm. Troll 114	R	
	06/15/84	1.3	...	750 mm (FL)	Comm. Troll - landed Ex I.	S	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	06/27/84	1.3	...	790 mm (FL)	Comm. Gillnet 111-32	R	
	07/31/84	1.3	M	650 mm (MF)	Nakina-escapement	R	
	08/10/84	1.3	M	695 mm (MF)	Nakina-escapement	R	
	08/10/84	1.3	F	665 mm (MF)	Nakina-escapement	R	
	08/11/84	1.3	M	600 mm (MF)	Nakina-escapement	R	
	08/12/84	1.3	M	735 mm (MF)	Nakina-escapement	R	
	08/16/84	1.3	M	610 mm (MF)	Nakina-escapement	R	
	07/??/84	1.3	...	...	Sport Grizzly Bar	S	
	08/11/85	1.4	F	795 mm (MF)	Nakina-escapement	R	
	08/12/85	1.4	M	740 mm (MF)	Nakina-escapement	R	
	08/12/85	1.4	F	830 mm (MF)	Nakina-escapement	R	
	08/13/85	1.4	F	730 mm (MF)	Nakina-escapement	R	
	08/15/85	1.4	F	830 mm (MF)	Nakina-escapement	R	
	08/16/85	1.4	M	940 mm (MF)	Nakina-escapement	R	
	08/16/85	1.4	F	865 mm (MF)	Nakina-escapement	R	
	08/16/85	1.4	M	999 mm (MF)	Nakina-escapement	R	
	08/18/85	1.4	F	820 mm (MF)	Nakina-escapement	R	
	08/18/85	1.4	M	905 mm (MF)	Nakina-escapement	R	
	08/19/85	1.4	F	870 mm (MF)	Nakina-escapement	R	
4-16-56	08/15/82	1.1	M	305 mm (MF)	Nakina-escapement	R	
	09/04/83	1.2	M	535 mm (MF)	Tatsamenie-escapement	R	
	06/19/84	1.3	...	625 mm (FL)	Comm. Gillnet 111	R	
4-16-57	08/04/83	1.2	M	585 mm (MF)	Nakina-escapement	R	
	08/10/83	1.2	M	495 mm (MF)	Nakina-escapement	R	
	08/13/83	1.2	M	555 mm (MF)	Nakina-escapement	R	
	08/13/83	1.2	M	490 mm (MF)	Nakina-escapement	R	
	08/16/83	1.2	M	455 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	04/12/84	1.3	...	760 mm (FL)	Comm. Troll 116	R	
	08/11/84	1.3	M	700 mm (MF)	Nakina-escapement	R	
	08/17/84	1.3	M	605 mm (MF)	Nakina-escapement	R	
	07/??/84	1.3	...	...	Sport Grizzly Bar	S	
	08/07/85	1.4	M	880 mm (MF)	Nakina-escapement	R	
	08/15/85	1.4	F	865 mm (MF)	Nakina-escapement	R	
4-16-58	08/07/82	1.2	M	500 mm (MF)	Nakina-escapement	R	
	08/20/82	1.2	M	455 mm (MF)	Nakina-escapement	R	
	08/12/83	1.3	M	625 mm (MF)	Nakina-escapement	R	
	08/13/83	1.3	F	750 mm (MF)	Nakina-escapement	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
4-16-60	07/29/83	1.3	...	171 mm (-)	Comm. Troll Landed Petersburg	S	
4-16-61	07/05/83	1.3	...	850 mm (FL)	Comm. Gillnet 111-32	R	
	08/09/83	1.3	...	610 mm (MF)	Nakina-escapement	R	
	08/09/83	1.3	...	580 mm (MF)	Nakina-escapement	R	
	05/01/84	1.4	...	...	Comm. Troll 183-10	S	
4-16-62	08/12/80	1.1	M	345 mm (MF)	Nakina-escapement	R	
	08/12/80	1.1	M	350 mm (MF)	Nakina-escapement	R	
	08/15/81	1.2	M	520 mm (MF)	Nakina-escapement	R	
	08/16/81	1.2	M	485 mm (MF)	Nakina-escapement	R	
	05/27/82	1.3	...	890 mm (FL)	Comm. Troll n/out	R	1.63
	08/14/82	1.3	M	775 mm (MF)	Nakina-escapement	R	
	06/02/83	1.4	...	1,005 mm (FL)	Comm. Troll 113, 114,116,154,157, 181,189	R	
	06/05/83	1.4	...	917 mm (FL)	Comm. Troll 113-91	R	
4-16-63	08/13/83	1.2	M	485 mm (MF)	Nakina-escapement	R	
	07/14/84	1.3	...	705 mm (FL)	Comm. Troll 114	R	
	08/07/84	1.3	M	655 mm (MF)	Nakina-escapement	R	
	08/14/84	1.3	M	780 mm (MF)	Nakina-escapement	R	
	08/08/85	1.4	F	785 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	F	765 mm (MF)	Nakina-escapement	R	
4-17-8	05/28/82	1.4	...	858 mm (FL)	Comm. Troll Unknown - landed Pelican	R	
	07/29/82	1.4	F	820 mm (MF)	Nahlin-escapement	R	
	08/04/82	1.4	F	925 mm (MF)	Nahlin-escapement	R	
4-17-9	09/04/80	1.2	...	156 mm (-)	Landed, Sitka	S	
	08/03/81	1.3	...	...	Nahlin-escapement	R	
	07/29/82	1.4	F	810 mm (MF)	Nahlin-escapement	R	
	08/04/82	1.4	F	880 mm (MF)	Nahlin-escapement	R	
4-17-10	05/16/80	1.2	...	610 mm (TL)	Sport Fish 111 Breadline		
	06/08/82	1.4		1,000 mm (FL)	Comm. Troll 104	R	1.95
	08/16/82	1.4	F	865 mm (MF)	Nakina-escapement	R	
4-17-11	05/28/81	1.3	...	996 mm (FL)	Comm. Troll 508 Elfin Cove Scow	R	
	08/08/81	1.3	M	700 mm (MF)	Nakina-escapement	R	
4-17-13	06/05/81	1.3	...	875 mm (FL)	Comm. Troll 513 Elfin Cove Scow	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	05/09/82	1.4	...	965 mm (TL)	Sport Fish 111	S	
	05/27/82	1.4	...	812 mm (FL)	Comm. Troll 113-91	R	3.48
4-17-21	08/11/79	1.1	M	310 mm (MF)	Nakina-escapement	R	
	08/13/79	1.1	M	310 mm (MF)	Nakina-escapement	R	
	08/20/79	1.1	M	310 mm (MF)	Nakina-escapement	R	
	08/15/80	1.2	M	520 mm (MF)	Nakina-escapement	R	
	05/21/81	1.3	...	880 mm (FL)	Comm. Troll 505 Deer Harbor Scow	R	
	05/27/81	1.3	...	835 mm (FL)	Comm. Troll 113, Lisianski to Surge	R	
	06/03/81	1.3	...	860 mm (FL)	Comm. Troll 116, Icy Point	R	
	07/29/81	1.3	M	760 mm (MF)	Nakina-escapement	R	
	05/31/82	1.4	...	979 mm (FL)	Comm. Troll Unknown - Landed in Hoonah	R	
	08/08/82	1.4	F	825 mm (MF)	Nakina-escapement	R	
	08/09/82	1.4	M	890 mm (MF)	Nakina-escapement	R	
	08/12/84	1.4	M	920 mm (MF)	Nakina-escapement	R	
	08/19/82	1.4	F	835 mm (MF)	Nakina-escapement	R	
	08/14/83	2.4	M	975 mm (MF)	Nakina-escapement	R	
4-17-22	08/12/80	1.2	M	565 mm (MF)	Nakina-escapement	R	
	04/14/81	1.3	...	864 mm (TL)	Comm. Troll 114, Homeshore	S	
	06/04/81	1.3	...	748 mm (FL)	Comm. Troll 505 Deer Harbor Scow	R	
	05/02/81	1.3	...	813 mm (FL)	Sport Fish 111 Breadline		
	05/24/82	1.4	...	1,003 mm (FL)	Comm. Troll 110	R	3.84
	06/14/82	1.4	...	950 mm (FL)	Comm. Gillnet 111	R	2.07
	06/23/82	1.4	...	950 mm (FL)	Comm. Gillnet 111	R	1.36
	08/10/82	1.4	F	930 mm (MF)	Nakina-escapement	R	
4-17-23	06/27/82	1.4	...	1,020 mm (FL)	Comm. Troll 113	R	2.27
4-17-28	08/14/80	1.1	M	360 mm (MF)	Nakina-escapement	R	
	08/15/80	1.1	M	350 mm (MF)	Nakina-escapement	R	
	08/13/81	1.2	M	590 mm (MF)	Nakina-escapement	R	
	07/17/81	1.2	M	550 mm (MF)	Nakina-escapement	R	
	08/17/81	1.2	M	440 mm (MF)	Nakina-escapement	R	
	08/18/81	1.2	M	605 mm (MF)	Nakina-escapement	R	
	06/15/82	1.3	...	699 mm (FL)	Sport Fish 111	S	
	08/11/82	1.3	M	775 mm (MF)	Nakina-escapement	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
4-17-30	08/10/80	1.1	M	355 mm (MF)	Nakina-escapement	R	
	06/27/81	1.2	...	...	Comm. Troll - Landed in Sitka	S	
	07/12/82	1.3	...	718 mm (FL)	Comm. Troll - Landed Excursion	R	0
4-19-20	08/03/82	1.1	...	344 mm (FL)	Comm. Seine 109	R	2.44
	09/05/82	1.1	F	387 mm (FL)	Sport Fish 111	S	
	08/07/82	1.1	M	285 mm (MF)	Nakina-escapement	R	
	08/17/82	1.1	M	370 mm (MF)	Nakina-escapement	R	
	06/22/83	1.2	M	600 mm (MF)	Canyon Island	R	
	08/11/83	1.2	M	520 mm (MF)	Nakina-escapement	R	
	08/12/83	1.2	M	475 mm (MF)	Nakina-escapement	R	
	08/15/83	1.2	M	480 mm (MF)	Nakina-escapement	R	
	08/16/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	08/16/83	1.2	M	500 mm (MF)	Nakina-escapement	R	
	08/17/83	1.2	M	500 mm (MF)	Nakina-escapement	R	
	08/17/83	1.2	M	480 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	500 mm (MF)	Nakina-escapement	R	
	08/19/83	1.2	M	465 mm (MF)	Nakina-escapement	R	
	03/31/84	1.3	...	800 mm (FL)	Comm. Troll 114	R	
	04/15/84	1.3	...	750 mm (FL)	Comm. Troll 114-70	R	
	06/14/84	1.3	...	165 (-)	Landed Pelican	S	
	06/27/84	1.3	...	743 mm (FL)	Comm. Gillnet 111-32	R	
	06/27/84	1.3	...	835 mm (FL)	Comm. Gillnet 111-32	R	
	07/04/84	1.3	...	721 mm (FL)	Comm. Gillnet a 111-32	R	
	07/29/84	1.3	...	165 (-)	Landed Ex Inlet	S	
	08/12/84	1.3	M	650 mm (MF)	Nakina-escapement	R	
	08/19/85	1.4	M	815 mm (MF)	Nakina-escapement	R	
	08/15/85	1.4	F	875 mm (MF)	Nakina-escapement	R	
	08/13/85	1.4	F	845 mm (MF)	Nakina-escapement	R	
	08/07/85	1.4	F	845 mm (MF)	Nakina-escapement	R	
	08/11/85	1.4	F	860 mm (MF)	Nakina-escapement	R	
	08/12/85	1.4	F	855 mm (MF)	Nakina-escapement	R	
4-19-59	08/11/81	1.1	M	300 mm (MF)	Nakina-escapement	R	
	08/16/81	1.1	M	310 mm (MF)	Nakina-escapement	R	
	08/12/82	1.2	M	600 mm (MF)	Nakina-escapement	R	
	08/14/82	2.1	M	325 mm (MF)	Nakina-escapement	R	
	08/19/82	2.1	M	330 mm (MF)	Nakina-escapement	R	
	08/19/82	1.2	M	500 mm (MF)	Nakina-escapement	R	
	06/01/83	1.3	M	205 mm (-)	Comm. Troll - Landed in Pelican	S	
	08/14/84	1.4	M	865 mm (MF)	Nakina-escapement	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
4-19-60	08/13/82	1.1	M	300 mm (MF)	Nakina-escapement	R	
	08/14/82	1.1	M	355 mm (MF)	Nakina-escapement	R	
	08/15/82	1.1	M	345 mm (MF)	Nakina-escapement	R	
	08/16/82	1.1	M	320 mm (MF)	Nakina-escapement	R	
	08/07/83	1.2	M	600 mm (MF)	Nakina-escapement	R	
	08/08/83	1.2	M	470 mm (MF)	Nakina-escapement	R	
	08/12/83	1.2	M	470 mm (MF)	Nakina-escapement	R	
	08/14/83	1.2	M	475 mm (MF)	Nakina-escapement	R	
	08/16/83	1.2	M	445 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	585 mm (MF)	Nakina-escapement	R	
	08/18/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	08/19/83	1.2	M	530 mm (MF)	Nakina-escapement	R	
	08/10/84	1.3	M	660 mm (MF)	Nakina-escapement	R	
	08/12/84	1.3	M	800 mm (MF)	Nakina-escapement	R	
	05/19/85	1.4	...	965 mm (TL)	Sport Fish 112	S	
	08/11/85	1.4	M	880 mm (MF)	Nakina-escapement	R	
	08/12/85	1.4	F	810 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	F	815 mm (MF)	Nakina-escapement	R	
	08/15/85	1.4	M	850 mm (MF)	Nakina-escapement	R	
	08/15/85	1.4	F	800 mm (MF)	Nakina-escapement	R	
	08/16/85	1.4	M	930 mm (MF)	Nakina-escapement	R	
	08/18/85	1.4	F	860 mm (MF)	Nakina-escapement	R	
	08/19/85	1.4	F	850 mm (MF)	Nakina-escapement	R	
	05/01/85	1.4	...	971 mm (?)	Northern B.C Troll	R	
4-19-61	08/13/82	1.1	M	345 mm (MF)	Nakina-escapement	R	
	08/23/82	1.1	M	330 mm (MF)	Nakina-escapement	R	
	08/23/82	1.1	M	315 mm (MF)	Nakina-escapement	R	
	07/06/83	1.2	M	552 mm (MF)	Nakina-sport	S	
	08/09/83	1.2	M	565 mm (MF)	Nakina-escapement	R	
	08/09/83	1.2	M	355 mm (MF)	Nakina-escapement	R	
	08/10/83	1.2	M	435 mm (MF)	Nakina-escapement	R	
	08/11/83	1.2	M	475 mm (MF)	Nakina-escapement	R	
	08/14/83	1.2	M	530 mm (MF)	Nakina-escapement	R	
	08/15/83	1.2	M	420 mm (MF)	Nakina-escapement	R	
	08/17/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	08/20/83	1.2	M	465 mm (MF)	Nakina-escapement	R	
	08/21/83	1.2	M	465 mm (MF)	Nakina-escapement	R	
	08/22/83	1.2	M	510 mm (MF)	Nakina-escapement	R	
	08/22/83	1.2	M	450 mm (MF)	Nakina-escapement	R	
	06/15/84	1.3	...	755 mm (FL)	Comm. Troll 114	R	
	06/27/84	1.3	...	795 mm (FL)	Comm. Troll 116	R	
	08/05/84	1.3	F	735 mm (MF)	Nakina-escapement	R	
	08/07/84	1.3	M	625 mm (MF)	Nakina-escapement	R	
	08/11/84	1.3	M	640 mm (MF)	Nakina-escapement	R	
	08/15/84	1.3	M	725 mm (MF)	Nakina-escapement	R	
	08/17/84	1.3	M	660 mm (MF)	Nakina-escapement	R	
	08/20/84	1.3	F	810 mm (MF)	Nakina-escapement	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	06/09/85	1.4	...	889 mm (FL)	Sport Fish 111-50	S	
	08/13/85	1.4	F	765 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	F	825 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	M	880 mm (MF)	Nakina-escapement	R	
	08/15/85	1.4	F	770 mm (MF)	Nakina-escapement	R	
	08/18/85	1.4	F	825 mm (MF)	Nakina-escapement	R	
4-20-01	06/06/82	1.1	M	331 mm (FL)	Sport Fish 111	S	
	08/19/82	1.1	M	290 mm (MF)	Nakina-escapement	R	
	08/19/82	1.1	M	355 mm (MF)	Nakina-escapement	R	
	08/13/83	1.2	M	490 mm (MF)	Nakina-escapement	R	
	08/21/83	1.2	M	440 mm (MF)	Nakina-escapement	R	
	08/22/83	1.2	M	420 mm (MF)	Nakina-escapement	R	
	09/01/83	1.2	M	510 mm (MF)	Tatsamenie-escapement	R	
	08/08/85	1.4	F	850 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	F	780 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	F	855 mm (MF)	Nakina-escapement	R	
4-20-03	08/01/82	1.1	M	340 mm (MF)	Nakina-escapement	R	
	08/02/82	1.1	...	393 mm (FL)	Comm. Seine 111	R	3.27
	08/15/82	1.1	M	335 mm (MF)	Nakina-escapement	R	
	08/16/82	1.1	M	310 mm (MF)	Nakina-escapement	R	
	08/16/82	1.1	M	320 mm (MF)	Nakina-escapement	R	
	08/17/82	1.1	M	345 mm (MF)	Nakina-escapement	R	
	08/21/82	1.1	M	350 mm (MF)	Nakina-escapement	R	
	08/21/82	1.1	M	410 mm (MF)	Nakina-escapement	R	
	08/08/83	1.2	M	470 mm (MF)	Nakina-escapement	R	
	08/11/83	1.2	M	460 mm (MF)	Nakina-escapement	R	
	08/11/83	1.2	M	420 mm (MF)	Nakina-escapement	R	
	08/15/83	1.2	M	555 mm (MF)	Nakina-escapement	R	
	08/19/83	1.2	M	435 mm (MF)	Nakina-escapement	R	
	08/28/83	1.2	M	525 mm (MF)	Tatsamenie-escapement	R	
	09/02/83	1.2	M	580 mm (MF)	Tatsamenie-escapement	R	
	04/13/84	1.3	...	710 mm (FL)	Comm. Troll 114-70	R	
	06/18/84	1.3	...	690 mm (FL)	Comm. Troll 114	R	
	06/18/84	1.3	...	880 mm (FL)	Landed Ex. Inlet	S	
	06/27/84	1.3	...	840 mm (FL)	Comm. Troll 113	R	
	08/15/84	1.3	M	730 mm (MF)	Nakina-escapement	R	
	08/21/84	1.3	M	540 mm (MF)	Nakina-escapement	R	
	03/24/85	1.4	...	820 mm (FL)	Comm. Troll 113	S	
	06/07/85	1.4	...	845 mm (FL)	Comm. Troll NE/SNTR	R	1.07
	06/07/85	1.4	...	930 mm (FL)	Comm. Troll 113-91	R	4.59
	06/12/85	1.4	...	987 mm (FL)	Comm. Troll 110-31	R	1.07

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	06/13/85	1.4	...	850 mm (FL)	Comm. Troll NW	R	
	08/07/85	1.4	F	820 mm (MF)	Nakina-escapement	R	
	08/11/85	1.4	F	780 mm (MF)	Nakina-escapement	R	
	08/14/85	1.4	F	815 mm (MF)	Nakina-escapement	R	
	08/05/85	1.4	F	750 mm (MF)	Nahlin-escapement	R	
4-20-56	08/19/85	1.2	M	465 mm (MF)	Nakina-escapement	R	
	08/19/85	1.2	M	580 mm (MF)	Nakina-escapement	R	
	08/19/85	1.2	M	575 mm (MF)	Nakina-escapement	R	
4-21-15	06/02/83	2.0	...	90 mm (FL)	Seine-Taku Inlet	R	
	08/14/84	1.2	M	540 mm (MF)	Nakina-escapement	R	
4-21-16	08/12/83	1.1	M	360 mm (MF)	Nakina-escapement	R	
	09/04/83	1.1	M	380 mm (MF)	Tatsamenie-escapement	R	
	08/13/84	1.2	M	490 mm (MF)	Nakina-escapement	R	
	08/15/84	1.2	M	580 mm (MF)	Nakina-escapement	R	
	04/20/85	1.3	...	740 mm (FL)	Sport Troll 111-50	R	
	06/18/85	1.3	...	838 mm (FL)	Sport Troll 112-63	S	
	08/07/85	1.3	M	700 mm (MF)	Nakina-escapement	R	
4-21-17	08/09/83	1.1	M	320 mm (MF)	Nakina-escapement	R	
	08/16/84	1.2	M	610 mm (MF)	Nakina-escapement	R	
4-21-18	05/25/85	1.3	...	760 mm (FL)	Sport Troll NE	R	
4-21-20	08/09/83	1.1	M	305 mm (MF)	Nakina-escapement	R	
	08/10/83	1.1	M	330 mm (MF)	Nakina-escapement	R	
	08/15/83	1.1	M	360 mm (MF)	Nakina-escapement	R	
	06/19/84	1.2	...	513 mm (FL)	Comm. Gillnet 111	R	
	08/13/84	1.2	M	570 mm (MF)	Nakina-escapement	R	
	06/03/85	1.3	...	915 mm (FL)	Sport Troll 111-50	S	
	08/15/85	1.3	M	730 mm (MF)	Nakina-escapement	R	
	08/19/85	1.3	F	770 mm (MF)	Nakina-escapement	R	
ADIPOSE CLIP PLUS NO CODED WIRE TAG							
	08/06/78	1.1	M	335 mm (MF)	4-5-8 or 4-5-9 Nakina-escapement	R	
	08/10/78	1.1	M	355 mm (MF)	4-5-8 or 4-5-9 Nakina-escapement	R	
	08/10/78	1.1	M	...	Head missing, 4-5-8 or 4-5-9 Nakina-escapement	R	
	08/12/78	1.1	M	...	Head missing, 4-5-8 or 4-5-9 Nakina-escapement	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	08/24/78	1.1	M	380 mm (MF)	4-5-8 or 4-5-9 Nakina-escapement, tag lost	R	
	08/06/79	1.2	M	...	Head missing, 4-5-8 or 4-5-9 Nakina-escapement	R	
	08/18/79	1.2	M	545 mm (MF)	4-5-8 or 4-5-9 Nakina-escapement	R	
	08/20/79	1.2	M	470 mm (MF)	4-5-8 or 4-5-9 Nakina-escapement	R	
	08/20/79	1.2	M	470 mm (MF)	Nakina escapement 4-5-8 or 4-5-9 tag lost	R	
	08/14/80	1.1	M	325 mm (MF)	Nakina-escapement	R	
	08/14/80	1.3	...	700 mm (MF)	Nakina-escapement Tag lost 4-5-8 or 4-5-9	R	
	08/12/80	...	...	560 mm (MF)	Nakina-escapement	R	
	08/14/80	...	...	600 mm (MF)	Nakina-escapement	R	
	08/19/81	...	...	760 mm (MF)	Nakina-escapement	R	
	08/07/81	...	...	740 mm (MF)	Nakina-escapement	R	
	08/15/81	...	...	740 mm (MF)	Nakina-escapement	R	
	08/11/81	...	...	520 mm (MF)	Nakina-escapement	R	
	08/11/81	...	...	680 mm (MF)	Nakina-escapement	R	
	08/07/81	1.4	...	900 mm (MF)	Head missing, Nakina-escapement 4-5-8 or 4-5-9	R	
	08/08/82	1.2	M	550 mm (MF)	Nakina-escapement	R	
	08/05/82	1.4	...	895 mm (MF)	Nakina-escapement	R	
	08/04/82	1.4	...	≅870 mm (MF)	Nahlin-escapement, head missing	R	
	07/29/82	1.4	F	875 mm (MF)	Nahlin-escapement	R	
	08/09/83	1.2	M	460 mm (MF)	Nakina-escapement	R	
	08/20/83	1.2	M	490 mm (MF)	Nakina-escapement	R	
	08/17/84	1.3	F	755 mm (MF)	Nakina-escapement	R	
	08/10/85	...	F	835 mm (MF)	Nakina-escapement tag lost	R	
	08/13/85	...	F	755 mm (MF)	Nakina-escapement no tag	R	
	08/16/85	...	F	850 mm (MF)	Nakina-escapement no tag	R	
	08/18/85	...	F	760 mm (MF)	Nakina-escapement no tag	R	

Table 14. (cont'd) A Summary of Coded Wire Tag Recovery of Taku River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Head Length (-) Fork Length (FL) Mideye-Fork (MF)	Recovery Type and Area	Random or Select	Expansion Factor
	08/19/85	...	F	725 mm (MF)	Nakina-escapement head missing	R	
	08/21/85	...	F	755 mm (MF)	Nakina-escapement head missing	R	

1/ Fork Length

2/ Mid-eye Fork

3/ Head Length

Table 15. Juvenile chinook salmon coded wire tagged in various tributaries of Taku River by code, brood year and fork length and unexpanded recoveries in various fisheries and on the spawning grounds, 1977-1985.

TAGGING						RECOVERY								
CODE	CHINOOK TAGGED	BROOD YEAR	DATES TAGGED	MEAN FORK LENGTH mm	RIVERS(s)	F10	F20	F30	F40	S10	S20	S30	S40	TOTAL
4-5-8	4,616*	1975	4/20-5/11/77	79.7	Taku	0	2	7	3	5	4	4	4	29
4-5-9	3,972*	1975	5/12-5/29/77	79.7	Taku	0	3	5	2	5	4	0	8	27
4-5-10	46*	1975	5/31/77	79.7	Taku	0	0	0	0	0	0	0	0	0
4-17-8	5,092	1976	9/11-9/18/77	68.5	Nahlin	...	...	...	1	...	...	...	2	3
4-17-9	3,402	1976	9/20-9/29/77	68.5	Nahlin	...	1	...	...	...	...	1	2	4
4-17-10	4,358	1976	10/12-10/14/77	62.8	Taku	...	1	...	1	...	...	...	1	3
4-17-11	4,468	1976	10/15-10/18/77	62.8	Taku	...	...	1	...	...	...	1	...	2
4-17-12	4,796	1976	10/19-10/27/77	62.8	Taku	...	...	...	...	...	...	...	...	0
4-17-13	6,134	1976	10/28-10/29/77	62.8	Taku	...	...	1	2	...	...	...	...	3
4-17-14	2,123	1976	10/30/77	62.8	Taku	...	...	...	...	...	...	...	...	...
4-17-21	4,778	1976	4/13-4/21/78	70.3	Taku	...	...	3	1	3	1	1	5	14
4-17-22	3,717	1976	4/23-5/07/78	70.3	Taku	...	...	3	3	...	1	...	1	8
4-17-23	666	1976	5/09-5/11/78	70.3	Taku	...	...	...	1	...	...	...	...	1
4-17-24	389	1976	5/12-5/16/78	70.3	Taku	...	...	...	...	...	...	...	...	0
4-16-62	2,337*	1977	4/04-4/11/79	66.2	Taku	...	...	1	2	2	2	1	...	8
4-17-28	28,897*	1977	9/23-11/03/78	63.9	Taku	...	...	1	...	2	4	1	...	8
4-17-30	7,129*	1977	9/23-11/03/78	63.9	Taku	...	1	1	...	1	...	...	...	3
4-16-58	4,609*	1978	9/21-10/01/79	64.8	Taku	...	...	...	...	...	2	2	...	4
4-16-59	878*	1978	10/06-10/07/79	68.2	Taku-Glacial Nakina	...	...	...	...	...	...	...	...	0
4-16-60	3,973*	1978	10/23-10/30/79	64.8	Taku	...	...	1	...	...	...	...	...	1
4-16-61	1,573	1978	5/27-6/12/80	84.3	Taku Inlet	...	...	1	1	...	...	2	...	4
4-19-59	7,318*	1978	10/10-10/23/79	68.2	Taku-Glacial Nakina	...	...	1	...	2	4	...	1	8
4-16-55	10,227*	1979	9/27-10/31/80	68.7	Glacial Nakina	2	...	4	..	4	13	8	11	42
4-16-56	3,925*	1979	10/01-11/08/80	68.4	Taku	...	...	1	...	1	1	...	...	3

Table 15. (continued) Juvenile chinook salmon coded wire tagged in various tributaries of Taku River by code, brood year, and fork length and unexpanded recoveries in various fisheries and on the spawning grounds, 1977-1985.

TAGGING						RECOVERY								
CODE	CHINOOK TAGGED	BROOD YEAR	DATES TAGGED	MEAN FORK LENGTH mm	RIVERS(s)	F10	F20	F30	F40	S10	S20	S30	S40	TOTAL
4-16-57	1,434*	1979	10/31-11/02/80	68.7	Glacial Nakina	...	...	1	...	...	6	4	2	13
4-16-63	3,366*	1979	11/09-11/12/80	68.4	Taku	...	...	1	...	...	1	2	2	6
4-19-20	3,397*	1979	5/28-6/11/81	83.8	Taku Inlet	2	...	7	...	2	10	1	6	28
4-19-60	10,135*	1979	9/06-9/13/80	68.7	Glacial Nakina	...	...	...	3	4	8	2	8	25
4-19-61	9,554*	1979	9/14-9/26/80	68.7	Glacial Nakina	...	...	2	1	3	12	6	5	29
4-20-1	1,553*	1979	5/04-5/14/81	73.5	Taku	1	...	...	...	2	4	...	3	10
4-20-3	4,011*	1979	3/22-5/04/81	67.7	Taku	1	...	4	5	7	7	2	4	30
4-21-15	5,016*	1980	9/23-9/26/81	63.2	Glacial Nakina	...	...	...	...	...	1	...	...	1
4-21-16	9,545*	1980	9/28-10/07/81	59.9	Taku	...	...	2	...	2	2	1	...	7
4-21-17	10,091*	1980	10/07-10/23/81	59.9	Taku	...	...	...	...	1	1	...	...	2
4-21-18	5,978*	1980	10/24-11/02/81	59.9	Taku	...	...	1	...	...	...	...	...	1
4-21-20	10,065*	1980	9/04-9/23/81	63.2	Glacial Nakina	...	1	1	...	3	1	2	...	8
4-20-56	4,710	1981	5/23-6/14/83	87.9	Taku Inlet	...	...	...	...	...	3	...	...	3
					Total	6	9	50	26	49	92	41	65	338

F10 = Fishery 1-ocean year
S10 = Spawning grounds 1-ocean year

* Corrected for juvenile inriver tag loss.

Stikine River Studies

Introduction:

The Stikine River (Figure 3), which is approximately 643 kilometers long and drains an area of about 50,246 square kilometers, discharges its flow into the Pacific Ocean 20 kilometers northeast of Wrangell, Alaska. This large transboundary river, with only the lower 64 kilometers in Alaska, has waterfalls, rock slides, and velocity blocks that prevent anadromous fish migration into well over 50% of the watershed.

The fourth salmon cannery in southeastern Alaska was constructed 13 kilometers above the mouth of the Stikine River in 1887, but it soon became evident that this large glacial system did not support sizable runs of salmon. Thus the cannery was moved to Wrangell Island in 1889.

Escapement:

The observed escapement of 3- and 4-ocean chinook salmon into the Little Tahltan River, the major clear-water index tributary of the Stikine River, was 22% below the recent 5-year average escapement and 76.1% of the escapement goal (Table 16).

The Canadian Department of Fisheries and Ocean operated a weir near the mouth of the Little Tahltan River from 4 July through 24 August 1985. A total of 3,146 adult and 316 jack chinook salmon were enumerated through the weir.

During low-level helicopter surveys to enumerate the spawning population, the number of chinook salmon that passed the weir was not known. On 2 August the average count of two biologists enumerating chinook salmon in the Little Tahltan River index area was 51.1% of the weir count of large chinook salmon for the same date. On 6 August a biologist counted chinook salmon in the same index area and observed 55.8% of the chinook salmon enumerated through the weir by that date. A comparison of this peak count to the total escapement of 3- and 4-ocean chinook through the Little Tahltan weir indicated that 50.8% of the known chinook escapement was observed in the Little Tahltan River index area during the peak survey. This is somewhat lower than the percentage of the total run enumerated from a low-flying helicopter, compared to a weir count on King Salmon River (Admiralty Island). During the past 3 years, 64.4% to 84.3% of the total chinook escapements into the King Salmon River were observed during the peak aerial surveys.

The observed chinook salmon escapements in other Stikine River tributaries monitored annually are presented in Tables 17-18. The minimal run of chinook salmon to the Stikine River is presented in Table 19.

Coded Wire Tag Recovery:

Coded-wire tagging has been conducted on Stikine River chinook salmon from 1978 through 1981 (1976-1980 broods). A total of 1,284 chinook

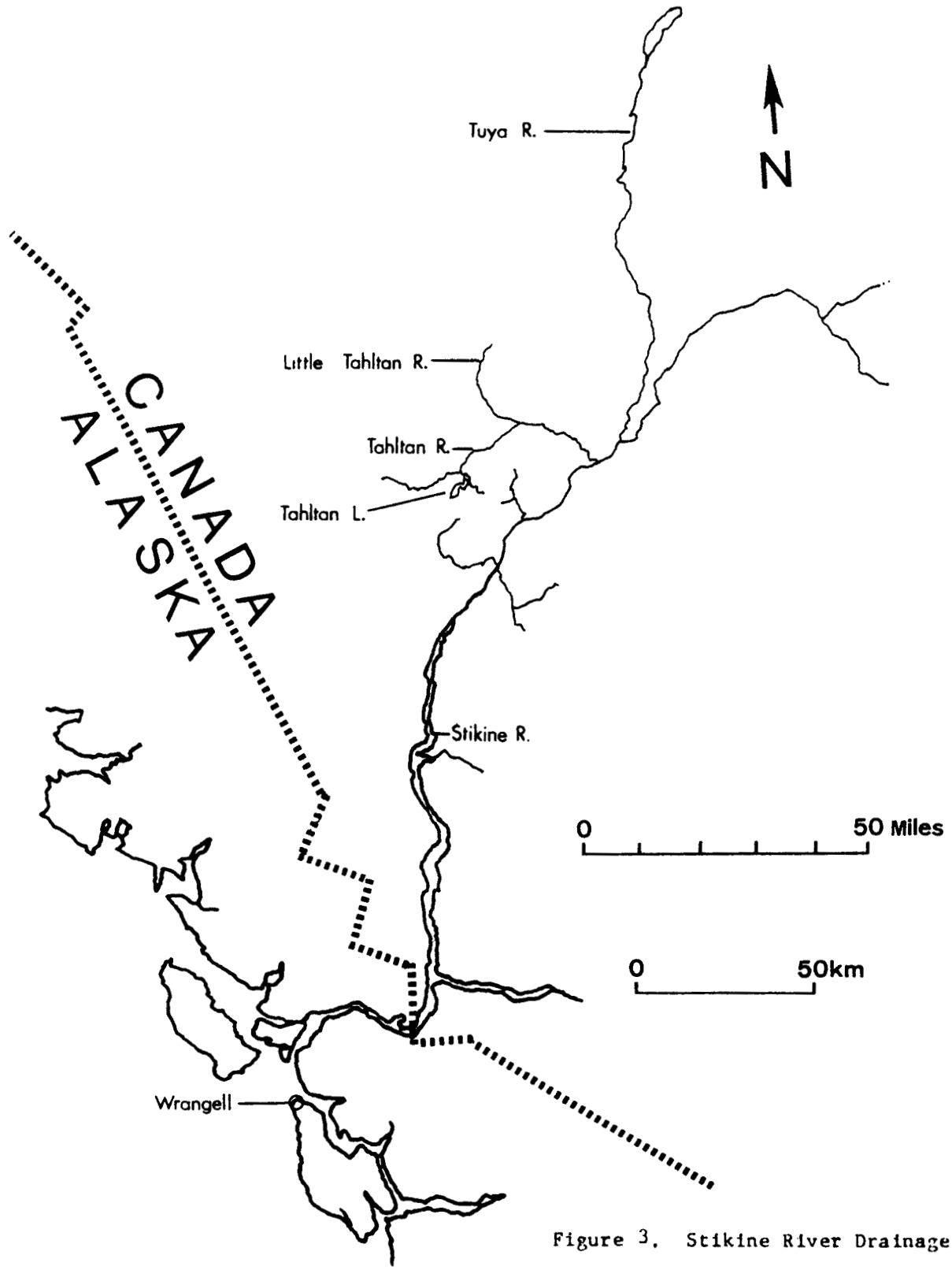


Figure 3. Stikine River Drainage

Table 16. Peak escapement counts of chinook salmon in the Tahltan and Little Tahltan Rivers, 1956-1985.

Year	Date	Chinook	Remarks
		LITTLE TAHLTAN RIVER	
1956	August 11	334 jacks 493 adults	Hyland Ranch to Tahltan River
1957	July 21	199	Too early - fish schooled
1958	August 06	790	3/4 mi below Hyland to 1 1/2 mi below Saloon
1959	August 07	198	Fish in poor condition - survey too late
1960	August 05	346	1/4 mi below Hyland Ranch to a mile or two below saloon
1967	...	800	Canadian survey
1975	August 13	700	Many spawned-out
1976	August 07	400	Conditions fair
1977	July 30	800	Peak spawning
1978	July 26	632	Mostly schooled
1979	July 28 - Aug. 01	1,166	Peak spawning
1980	July 29	2,137	Peak spawning
1981	July 28	3,334	Peak spawning
1982	August 05	2,830	Peak spawning
1983	August 05	594	Peak spawning
1984	July 31	1,294	30% Schooled
1985	August 06	1,598	Peak Spawning

Table 17. Peak escapement counts of chinook salmon in the Tahltan River, 1965-1985.

Year	Date	Chinook	Remarks
	MAINSTEM TAHLTAN RIVER		
1965	...	85	Air lifted over slide
1966	...	318	Air lifted over slide
1975	August 13	2,908	Clear
1976	August 20	120	Late
1977	July 30 & Aug. 18	0	Glacial
1978	August 08	756	Glacial
1979	August 10	2,118	Partly glacial
1980	July 29	960	Very glacial
1981	August 04	1,852	Partly glacial
1982	August 05	1,690	Partly glacial
1983	August 05	453	Partly glacial
1984		...	No Survey
1985	August 06	1,490	Partly glacial
	BEATTY CREEK		
1980	July 29	122	Peak spawning
1981	August 04	558	Peak spawning
1982	July 28	567	Partly schooled
1983	August 05	83	Peak spawning
1984	July 31	126	Conditions poor
1985	August 02	147	Peak Spawning

Table 18. Andrew Creek Chinook Escapement, 1976-1985.

Year	Large ♂ through weir	Large ♂ spawned for Crystal Lake	Jacks through weir	♀ through weir	♀ spawned for Crystal L.	Lg. KS below weir	Total Large KS [1]	Total Large KS [2]	Date weir removed
1976	151	29	50	200	35	53 [3]	468	404	8/23
1977	224	24	36	172	47 [4]	60 [3]	534	456	8/22
1978	165	5	75	178	7	45 [3]	400	388	8/09
1979 [5]	154	27	89	135	28	38	382	327	8/06
1980 [6]	80	39	272	160	42	41 [3]	362	281	8/13
1981	250	57	119	190	61	71 [3]	629	511	8/22
1982	224	109	124	300	166	111	910	635	8/21
1983	143	31	38	173	47	50 [3]	444	366	8/30
1984	124	0	200	191	0	40	355	355	8/25
1985								319 [7]	8/11

[1] estimated above weir, spawned for Crystal Lake or other Southeast chinook facilities or spawned below weir

[2] spawning in Andrew Creek (excludes Crystal Lake egg take)

[3] Actual number not recorded. Estimate made by comparison of large chinook through weir versus spawning below weir during years this information was collected.

[4] excludes 7 mortalities

[5] weir out July 22-24 - correction made via stream enumeration on 7/26.

[6] weir out for one day - August 1.

[7] foot survey

Table 19. Minimum Total Run of Chinook Salmon in the Stikine River Drainage.

Year	U.S. Gill Net Through Mid-June	Canadian Gill Net Comm & Food (Jack + Large)	Little Tahltan (Large)	Mainstem Tahltan (Large)	Beatty Creek (Large)	Andrew Creek (Large)	Total Run
1956	7,224	...	493	...	...	4,500	12,217
1957	5,703	...	199	...	...	3,000	8,902
1958	7,215	...	790	...	...	2,500	10,505
1959	8,410	...	198	...	...	150	8,758
1960	4,673	...	346	...	...	287	5,306
1961	5,222	...	...	...	...	103	5,325
1962	4,173	...	...	...	...	200	4,373
1963	203	...	...	...	...	402	605
1964	947	...	...	...	...	400	1,347
1965	1,683	...	...	85	...	...	1,768
1966	1,058	...	...	318	...	75	1,451
1967	3,466	...	800	...	...	30	4,296
1968	2,570	...	...	...	...	...	2,570
1969	1,965	...	...	...	...	...	1,965
1970	224	...	...	...	...	...	224
1971	2,078	...	...	...	...	350	2,428
1972	4,799	0	...	...	...	...	4,799
1973	5,649	200	...	...	...	61	5,910
1974	7,006	0	...	...	...	129	7,135
1975	1,534	1,024	700	2,908	...	260	6,426
1976	1,101	924	400	120	...	468	3,013
1977	274	100	800	0	...	534	1,708
1978	0	400	632	756	...	400	2,188
1979	0	1,625	1,166	2,118	...	382	5,291
1980	0	2,231	2,137	960	122	362	5,812
1981	0	1,558	3,334	1,852	558	629	7,931
1982	0	2,387	2,830	1,690	567	910	8,384
1983	0	2,063	594	453	83	444	3,637
1984	0	702	1,294	...	126	355	2,477
1985	0	2,380	1,598	1,490	147	319(F)	5,934

Table 20. A Summary of Coded Wire Tag Releases of Stikine River Chinook Salmon, 1978 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
041633		507	1976	73.9	Mainstem Stikine, Tagged at Mouth by Coho Research, May, 1978	...
041635			1976	...	Mainstem Stikine, (at least one juvenile chinook tagged with coho code)	...
041654	6,677		1978	64.4	Mainstem Stikine, near Porcupine Mouth, Oct. 1979	...
041716		357	1976	73.9	Mainstem Stikine,	...
041717		420	1976	73.9	near Iskut Mouth, May 1978	...
041720	5,223		1977	63.6	Little Tahltan,	...
041725	2,819		1977	63.6	Sept. 1978	...
041726	4,265*		1979	63.1	Mainstem Stikine, near Porcupine Mouth, Sept. 1980	96.5
041727	4,377*		1979	63.1	Same as above, Oct. 1980	96.5
041962	4,826*		1979	63.1	Same as above,	96.5
041963	8,555*		1979	63.1	Sept. 1980	96.5
042002	7,170*		1979	63.1	Same as above, Nov. 1980	96.5
111625**	17,487		1978	64.4	Same as above, Sept. & Oct. 1979	...
042111	8,038*		1980	57.8	Same as above, Sept. 1981	93.0
042112	9,377*		1980	57.8	Same as above, Sept. & Oct. 1981	93.0
042113	9,984*		1980	57.8	Same as above,	93.0
042114	9,463*		1980	57.8	Oct. 1981	93.0
042146	3,209*		1980	57.8	Same as above, Oct. & Nov. 1981	93.0
TOTAL	101,470	1,284				

* Corrected for juvenile inriver tag loss

** This code was used in place of codes 042004 and 042005

salmon smolts and 101,470 young-of-the-year were marked by removal of adipose fins and coded-wire tagged (Table 20).

Based on 30 fishery recoveries of coded-wire tagged Stikine River chinook salmon (Table 21), the major areas of harvest in southeast Alaska are commercial fishing districts 109, 110 (37% of the harvest) and 113 (33% of the harvest). Based on these coded-wire tag recoveries, it appears that the majority of the upriver Stikine chinook salmon rear offshore beyond southeast Alaska's fisheries and return by passing Cape Ommaney as they migrate towards the Stikine River at maturity. The farthest north recovery of a Stikine River coded-wire tagged chinook salmon occurred in 1984 in the Bering Sea.

Alsek River Studies

Introduction:

The Alsek River is a large, glacial river system with headwaters in the Yukon Territory. It flows south through British Columbia before flowing into the Gulf of Alaska, about 96 kilometers southeast of Yakutat. Lowell Glacier, which has at times completely blocked the mainstem Alsek River, has been the major barrier to anadromous fish migration to over 50% of the drainage. Kokanee salmon have been documented in areas above Lowell Glacier, thus suggesting that the area was open to anadromous salmonids in the past. The three major activities in the lower river are commercial fishing, which presently occurs from mid-June through early October, hunting during the spring and fall, and recreational float trips during July and August that usually originate in the Yukon Territory.

Drift Gill Net Fishery:

A commercial gill-net fishery for chinook salmon began about 1901 (Moser 1902) and catch records are available from 1908 to the present. The Alsek River gill-net fishery is conducted almost entirely in-river; thus, most of the chinook salmon caught are maturing Alsek fish.

The chinook salmon catch has been extremely variable in the last 77 years, ranging from 60 to 22,882 fish (Table 22). Part of the variability was caused by the lack of or the difficulty in transporting the fish to market and partly by regulatory changes.

The fishery was first regulated in 1924 when fishing was closed from 11 August through 31 August. This did not affect the gill-net fishery for chinook salmon, but the closure of the "Basin" in 1925 did have an impact on the catch. The amount of gear was first limited in 1926 when a maximum of 200 fathoms of gill-net could be fished; it was increased to 250 fathoms in 1927, and a 60-hours per week closure was imposed. Also in 1927, Dry Bay was closed to fishing before 15 May which permitted passage of part of the escapement before the fishery opened. The opening date was changed in 1950 from 15 May to 1 June to further increase stock protection.

Table 21. A Summary of Coded Wire Tag Recovery of Stikine River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Length	Recovery Area	Gear	Random or Select	Expansion Factor
4-16-33	5-24-82	1.4	...	925(FL)[1]	113	Troll	R	3.48
	7-28-82	1.4	...	....	Stikine River	Fishwheel	R	0
4-16-35	4-12-82	1.4	...	990(MF)[2]	114	Hand Troll	R	...
4-16-54	8-11-83	1.3	F	810(MF)	Little Tahltan	Gaff	R	...
	6-20-84	1.4	...	1,003(FL)	NE	Comm. Troll	R	...
4-17-17	6-04-82	1.4	...	255(-) [3]	113	Troll	S	0
	6-04-82	1.4	...	830(FL)	110	Troll	R	0.75
4-17-20	8-11-83	1.4	M	965(MF)	Little Tahltan	Gaff	S	...
	8-11-83	1.4	F	820(MF)	Little Tahltan	Gaff	R	...
4-17-25	6-07-83	1.4	...	930(FL)	113	Troll	R	1.42
4-17-26	4-02-84	1.3	...	750(FL)	113-97	Comm. Troll	R	...
	6-11-84	1.3	...	725(FL)	112	Comm. Troll	R	...
	2-08-84	1.3	F	680(FL)	Bering Sea	Trawl	R	...
	6-07-85	1.4	...	860(FL)	109	Comm. Troll	R	1.07
4-17-27	6-13-85	1.4	...	994(FL)	109-62	Comm. Troll	R	1.07
4-19-63	7-08-83	1.2	...	810(FL)	113	Troll	R	4.47
	7-18-83	1.2	...	688(FL)	109-10	Troll	R	1.79
	4-15-84	1.3	...	800(FL)	114-70	Comm. Troll	R	...
	6-20-84	1.3	...	715(FL)	NE	Comm. Troll	R	...
	8-16-84	1.3	F	750(MF)	Little Tahltan	Gaff	R	...
4-20-2	8-11-83	1.2	M	420(MF)	Little Tahltan	Gaff	R	...
	7-16-84	1.3	...	676(FL)	109-45	Comm. Troll	R	...
	8-09-84	1.3	F	785(MF)	Little Tahltan	Gaff	R	...
	7-02-85	1.4	...	772(FL)	106	Comm. Gillnet	R	2.24
4-21-11	7-25-85	1.3	...	770(FL)	112	Comm. Troll	S	
	6-25-85	1.3	...	675(FL)	108-40	Comm. Gillnet	S	
4-21-13	6-13-85	1.3	...	670(FL)	113	Comm. Troll	S	
4-21-14	6-13-85	1.3	...	745(FL)	110-16	Comm. Troll	R	1.07
	6-17-85	1.3	...	195(-)		Comm. Troll		
4-21-46	7-24-83	1.1	...	350(FL)	110-31	Seine	R	1.10

Table 21. (continued) A Summary of Coded Wire Tag Recovery of Stikine River Chinook Salmon, 1978 to Date.

Data Code	Date	Age	Sex	Length	Recovery Area	Gear	Random or Select	Expansion Factor
11-16-25	10-01-82	1.2	...	...	Landed Sitka	...	S	0
	3-21-83	1.3	...	820(FL)	109-10	Troll	R	1.56
	6-07-83	1.3	...	850(FL)	Cout	Troll	R	1.42
	6-08-84	1.4	...	945(FL)	113-91	Comm. Troll	R	...
	6-08-84	1.4	...	780(FL)	110-31	Comm. Troll	R	...
	7-07-83	1.3	...	770(FL)	113	Troll	R	4.47
	7-08-83	1.3	...	184(-)	Landed Sitka	?	S	0

1/ Fork Length
2/ Mid-eye Fork
3/ Head Length

Table 22. Set Net Catch of Chinook Salmon in the Alsek River, 1908-1985.

Year	Chinook	Year	Chinook	Year	Chinook	
1908	6,769	1937	Light catch-	1965	719	
1909	...		good escapement	1966	934	
1910	2,340	1938	5,863	1967	225	
1911	316	1939	6,318	1968	215	
1912	2,098	1940	1,775	1969	685	
1913	4,066	1941	3,858	1970	1,128	
1914	11,500	1942	No Fishing	1971	1,222	
1915	8,340	1943	No Fishing	1972	1,827	
1916	386	1944	2,173	1973	1,754	
1917	14,372	1945	10,662	1974	1,162	
1918	11,708	1946	8,579	1975	1,379	
1919	13,031	1947	6,391	1976	512	
1920	22,882	1948	8,363	1977	1,402	
1921	10,683	1949	No Cannery	1978	2,441	
1922	7,257	1950	No Cannery	1979	2,525	
1923	14,228	1951	184	1980	1,382	
1924	19,055	1952	2,165	1981	761	
1925	19,130	1953	1,534	1982	532	
1926	16,824	1954	1,833	1983	93	
1927	8,153	1955	2,881	1984	60	
1928	...	1956	4,382	1985	212	Preliminary
1929	...	1957	1,800			
1930	10,305	1958	896			
1931	...	1959	967			
1932	...	1960	525			
1933	12,427	1961	2,120			
1934	16,893	1962	2,278			
1935	6,869	1963	125			
1936	Poor Catch	1964	591			

Sources: 1908-1927 Rich and Ball, 1933.
1930-1950 Alaska Fish and Fur Seal Industries.
1951-1959 Simpson, 1960.
1960-1985 Commercial Fish statistical runs.

Table 23. Gill Net Harvest and Peak Escapement Counts of Chinook Salmon in the Alsek River 1962-1985.

Year	Village System	Mi. 112 Creek	Klukshu System	Blanchard System	Takhanne River	Goat Creek	U.S. Gill Net Harvest	Canadian Harvest
1962	...	...	86	...	...	...	2,278	
1963	...	...	...	...	...	...	125	
1964	...	...	20	1	...	...	591	
1965	...	...	100	100	250	...	719	
1966	...	...	1,000	100	200	...	934	
1967	...	...	1,500	200	275	...	225	
1968	...	...	1,700	425	225	...	215	
1969	...	72	700	250	250	...	685	
1970	100	...	500	100	100	...	1,128	
1971	50	60	300	...	...	...	1,222	
1972	...	32	1,100	...	250	...	1,827	
1973	...	...	...	...	49	...	1,754	
1974	14	183	62	52	132	...	1,162	
1975	17	...	58	81	177	...	1,379	
1976	...	...	1,244 weir	...	...	...	512	300
1977	...	...	3,144 weir	...	...	...	1,402	400
1978	...	...	2,976 weir	...	...	...	2,441	500
1979	...	...	4,403 weir	...	...	...	2,525	300
1980	...	...	2,637 weir	...	...	...	1,382	300
1981	0	...	2,113 weir	35	11	...	761	300
1982	...	...	2,369 weir	59	241	13	532	200
1983	...	...	2,537 weir	108	185	...	93	600
1984	...	...	1,672 weir	304	158	28	60	700
1985	...	...	1,425 weir	232	184	...	212	300
1986	...	...	...	556	358	142	...	...

Table 24. Summary of Daily Sampling on the Alsek River, 1985.

	Chinook		Coho		Sockeye		Dolly Varden	
Date	Catch	Cum.	Catch	Cum.	Catch	Cum.	Catch	Cum.
052485	0	0	0	0	1	1	4	4
052585	0	0	0	0	0	1	0	4
052685	0	0	0	0	1	2	0	4
052785	2	2	1	1	4	6	33	37
052885	0	2	0	1	2	8	41	78
053185	0	2	3	4	3	11	16	94
060385	0	2	8	12	3	14	2	96
060485	0	2	0	12	0	14	0	96
060585	0	2	5	17	0	14	15	111
060685	1	3	8	25	6	20	1	112
060785	0	3	0	25	2	22	0	112
060885	0	3	0	25	0	22	40	152
061185	0	3	13	38	16	38	5	157
061285	4	7	5	43	27	65	63	220
061585	0	7	7	50	0	65	5	225
061885	2	9	1	51	0	65	2	227
061985	0	9	3	54	1	66	8	235
062085	1	10	9	63	4	70	38	273
062185	2	12	3	66	0	70	38	311
062285	0	12	26	92	0	70	99	410
062385	0	12	8	100	41	111	11	421
062485	0	12	0	100	0	111	1	422
062585	0	12	1	101	4	115	35	457
062685	0	12	0	101	0	115	70	527
062785	1	13	21	122	16	131	111	638
070185	1	14	6	128	0	131	51	689
071085	18	32	17	145	96	227	16	705
071185	16	48	17	162	98	325	4	709
071285	27	75	23	185	162	487	9	718
071485	0	75	5	190	52	539	5	723
071585	0	75	2	192	1	540	0	723
071685	2	77	0	192	5	545	11	734
071785	1	78	8	200	18	563	2	736
071985	1	79	1	201	58	621	18	754
072085	0	79	1	202	34	655	19	773
072185	3	82	4	206	78	733	10	783
072285	4	86	18	224	181	914	9	792
072485	2	88	17	241	82	996	14	806
072585	0	88	10	251	70	1066	49	855
072685	3	91	19	270	52	1118	74	929
072785	0	91	3	273	56	1174	37	966
072885	0	91	2	275	28	1202	81	1047

To determine if the chinook salmon stock had rebuilt, experimental early openings (15 May) were conducted during 1961 and 1962. The catches during those 2 years were still low, and it was concluded that the Alsek River chinook salmon stock was still at a low level of abundance.

Chinook salmon catches have been very low during the past 3 years because of closures of the upper fishing area to protect late entering and milling chinook salmon. In December 1985 the Alaska Board of Fisheries gave managers the emergency-order authority to restrict "king gear" till the stock is rebuilt.

Escapement:

Limited escapement data have been collected on various tributaries of the Alsek River since 1962 (Table 23). Before 1976 escapement estimates were usually made utilizing fixed wing aircraft. Since that time, the Canadian Department of Fisheries and Oceans has operated a weir at the junction of the Kluckshu and Tatshenshini Rivers to enumerate chinook and sockeye salmon into the Kluckshu drainage. In addition, the ADF&G began enumerating chinook salmon in several index tributaries by helicopter in 1981.

Despite nearly complete protection of Alsek River maturing chinook salmon in the terminal area, the 1985 escapement through the Klukshu weir was the lowest since 1976. The escapement was only 55.5% of the 9-year average and 44.5% of the escapement goal.

Juvenile Chinook Studies:

To determine migration routes, areas and timing of exploitation, exploitation rates, and contributions to various fisheries, attempts were made to capture and coded wire tag Alsek River chinook salmon smolt in the lower river from May 24 through July 28, 1985.

A total of 91 chinook salmon smolts, 275 juvenile coho salmon, 1,202 juvenile sockeye salmon, 1,047 Dolly Varden char, *Salvelinus malma* (Walbaum), of various age classes (Table 24) and numerous starry flounder, *Platichthys stellatus* (Pallas), cottids, *Cottus* sp., eulachon, *Thaleichthys pacificus* (Richardson), and round whitefish, *Prosopium cylindraceum* (Pallas), were captured.

Since scales from Alsek River adult chinook salmon often display several circuli of plus-growth after the freshwater annulus, it was felt that juvenile chinook salmon would mill and feed in the lower river for a period of time before migrating out to sea. However, based on the 1985 study, it appears that chinook salmon smolts migrate out of the lower river very rapidly. With the amount of effort conducted seining, more juveniles should have been captured if juvenile chinook rearing densities were very high.

Another possibility was that the outmigration occurred before we conducted operations in the lower river. Because of deep snow and late breakup, we were unable to begin work until 22 May. Future efforts should focus on sampling the lower river from approximately 20 April to

1 June and the upper rivers (Klukshu and Tatshenshini) in late September and October.

During operations on the Alsek River, 48 chinook salmon smolts averaging 88.1 mm were adipose clipped, coded wire tagged, and released (Table 25). A total of 643 juvenile sockeye salmon averaging 71.9 mm (Table 26) and 105 juvenile coho salmon averaging 87.1 mm (Table 27) were incidentally captured and coded wire tagged.

Situk River Studies

Introduction:

The Situk River system, which is located about 16 kilometers east of Yakutat, includes Mountain and Situk Lakes. The system has a combined area of approximately 485 surface hectares and approximately 40 kilometers of river. The Situk River produces five species of Pacific salmon. It is classified as a medium-producing chinook salmon system; the annual total return is estimated to be from 1,500 to 10,000 adults.

Set Gill Net Fishery:

A set gill-net fishery is concentrated at the mouth of the Situk River along the Mainland and Blacksand Spit. Most of the chinook salmon harvested are maturing Situk River fish. The chinook salmon are taken incidentally to the much larger returns of sockeye salmon. The chinook salmon catch has varied between 164 and 2,499 fish. The recent 10-year average harvest is 672 chinook. A total of 472 chinook salmon were caught during the 1985 commercial fishing season.

A small but increasingly popular sport fishery for chinook salmon occurs in the Situk River. During 1985 an estimated 529 chinook salmon of all age classes were harvested.

Escapement:

A weir was operated in the lower Situk River at the upper limit of the intertidal area from 1928 until 1955 to enumerate all five species of Pacific salmon. Another weir, located below the 9-mile highway bridge, was operated during 1971 and from 1976 through 1985. Estimates of the minimal total return of chinook salmon (including sport and commercial harvest in the terminal area) have varied between 916 and 5,962 chinook salmon (Table 28). Chinook salmon escapement data by week through the Situk River weir are presented in Table 29.

Juvenile Chinook Studies:

Because of the continued depressed returns of Situk River chinook salmon, coded-wire tagging of smolt was conducted during 1984 in an attempt to determine the areas of exploitation and harvest rates of adult chinook in various fisheries (Table 30). A total of 11,297 juvenile chinook salmon were captured and tagged from 14 June through 6 July 1984 (Kissner 1985).

Table 25. Summary of Chinook Sampling and Tagging on the Alsek River, 1985.

Date	Cumulative Catch	Number Tagged	Recaptures Total	Tags Retained	Data Code	Mean Length	n
052485	0						
052585	0						
052685	0						
052785	2						
052885	2						
053185	2						
060385	2						
060485	2						
060585	2						
060685	3						
060785	3						
060885	3						
061185	3						
061285	7						
061585	7						
061885	9						
061985	9						
062085	10						
062185	12						
062285	12						
062385	12						
062485	12						
062585	12						
062685	12						
062785	13						
070185	14						
071085	32						
071185	48					83.6	16
071285	75					90.0	27
071485	75						
071585	75						
071685	77						
071785	78	33	0	0	042528		
071985	79						
072085	79	3	0	0	042528	92.0	3
072185	82						
072285	86	7	0	0	042528	88.3	7
072485	88	2	0	0	042528	101.0	2
072585	88						
072685	91	3	0	0	042528	92.0	3
072785	91						
072885	91						
Total	91	48	0	0		88.1	59

Table 26. Summary of sockeye sampling and tagging on the Alsek River, 1985.

Date	Cumulative Catch	Number Tagged	Recaptures		Data Code	Mean Length	n
			Total	Tags Retained			
052485	1						
052585	1						
052685	2						
052785	6						
052885	8						
053185	11						
060385	14						
060485	14						
060585	14						
060685	20						
060785	22						
060885	22						
061185	38						
061285	65						
061585	65						
061885	65						
061985	66						
062085	70						
062185	70						
062285	70						
062385	111						
062485	111						
062585	115						
062685	115						
062785	131						
070185	131						
071085	227						
071185	325					70.6	98
071285	487					70.3	161
071385	487	199	0	0	042526		
071485	539						
071585	540						
071685	545						
071785	563						
071985	621						
072085	655	101	0	0	042526	72.7	107
072185	733						
072285	914	157	0	0	042526	73.2	163
072485	996	76	0	0	042526	72.3	79
072585	1066	72	0	0	042526	73.9	70
072685	1118	38	1	1	042526	70.4	48
072785	1174						
072885	1202						
Total	1202	643	1	1		71.9	727

Table 27. Summary of coho sampling and tagging on the Alsek River, 1985.

Date	Cumulative Catch	Number Tagged	Recaptures Tags Total	Tags Retained	Code	Mean Length	n
052485	0						
052585	0						
052685	0						
052785	1						
052885	1						
053185	4						
060385	12						
060485	12						
060585	17						
060685	25						
060785	25						
060885	25						
061185	38						
061285	43						
061585	50						
061885	51						
061985	54						
062085	63						
062185	66						
062285	92						
062385	100						
062485	100						
062585	101						
062685	101						
062785	122						
070185	128						
071085	145						
071185	162					98.9	17
071285	185					105.1	21
071485	190						
071585	192						
071685	192						
071785	200	34	0	0	042523		
071985	201						
072085	202	8	0	0	042523	103.2	9
072185	206						
072285	224	21	0	0	042523	83.9	20
072485	241	16	0	0	042523	72.9	16
072585	251	10	0	0	042523	72.7	10
072685	270	16	1	1	042523	67.6	15
072785	273						
072885	275						
Total	275	105	1	1		87.1	108

Table 28. Situk River Catch, Escapement, and Minimum Total Run.

Year	Comm. Catch	Large Escapement	Jacks Escapement	Weir Escapement (Large+Jacks)	Sport Catch	Total Minimum Run (includes jacks)
1915	836			...		...
1916	931			...		...
1917	2,499			...		...
1918	1,036			...		...
1919	316			...		...
1920	782			...		...
1921	1,952			...		...
1922	2,118			...		...
1923	1,761			...		...
1924	1,351			...		...
1925	1,087			...		...
1926	1,851			...		...
1927	1,687			...		...
1928	...			1,224		...
1929	...			3,559		...
1930	...			1,455		...
1931	...			2,967		...
1932	...			1,978		...
1933	267			No Weir		...
1934	450			1,486		1,936
1935	558			638*		1,196
1936	...			816		...
1937	...			1,290*		...
1938	1,220			2,668*		3,888
1939	495			2,117		2,612
1940	164			903		1,067
1941	390			2,594		2,984
1942	430			2,543		2,973
1943	947			3,546*		4,493
1944	844			2,906		3,750
1945	692			1,458		2,150
1946	1,468			4,284		5,752
1947	885			5,077		5,962
1948	694			3,744		4,438
1949	410			1,978		2,388
1950	378			2,011		2,389
1951	948			2,780		3,728
1952	225			1,459		1,684
1953	378			1,040		1,418
1954	314			2,101		2,415
1955	740			1,571		2,311
1956	1,867			...		...
1957	1,796			1,500**		...
19.8	187			300**		...
195.	426			...		...

Table 28. (Continued) Situk River Catch, Escapement, and Minimum Total Run.

Year	Comm. Catch	Large Escapement	Jacks Escapement	Weir Escapement (Large+Jacks)	Sport Catch	Total Minimum Run (includes jacks)
1960	312			500**		...
1961	368			400**		...
1962	337			1,000**		...
1963	459			...		...
1964	706			725**		...
1965	442			1,500**		...
1966	410			800**		...
1967	203			200**		...
1968	312			700**		...
1969	1,020			2,500**		...
1970	927			1,100**		...
1971	473			964		1,437
1972	303			400F		703
1973	752			510F		1,262
1974	791			702F		1,493
1975	562			1,180F		1,742
1976	1,002	1,543[a]	390[a]	1,933		2,935
1977	833	1,732	148	1,880	353	3,066
1978	382	880[a]	223[a]	1,103	257	1,742
1979	1,028	1,400[a]	354[a]	1,754	445	3,227
1980	971	905	220	1,125*	439	2,535
1981	859	702	105	807*	162	1,828
1982	242	434	177	611	63	916
1983	349	592	257	849	...	1,198
1984	513(P)	1,726	475	2,201	557	3,271
1985	472(P)	1,521(P)	461(P)	1,982(P)	529(P)	2,983(P)

* Weir out part of the time (corrections made for period weir inoperable in 1980, 1981).

** Peak aerial survey

F Float Survey

a Separation of large versus jacks not made during enumeration. Estimate derived from 1977 and 1980-1984 average percentage of jacks versus large.

P Preliminary

Table 29. Escapement by Week of Chinook Salmon Through the Situk River Weir (Including Jacks).

Year	June		July					August				Total
	17	24	1	8	15	22	29	5	12	19	26	
1934	27	104	328	531	251	163	82		*			1,486
1935	12	24	140	87	203	69	67	36				638
1936	24	80	181	281	134	84	32					816
1937	29*	113	221	444	483	*						1,290
1938	11	39	330	778	786	544	180					2,668
1939	24	72	250	343	947	313	168					2,117
1940	37	76	276	265	163	78	8					903
1941	41	61	439	845	617	353	143	61	34			2,594
1942		35	216	464	562	762	378	126				2,543
1943	24	74	*	768	1,398	589	481	164	48			3,546
1944	28	137	474	859	735	297	194	175	7			2,906
1945	17	31	146	221	335	184	274	179	71			1,458
1946		85	269	535	1,216	961	783	393	42			4,284
1947	21	131	528	761	1,312	1,408	631	268	17			5,077
1948	144	232	617	1,092	876	404	248	51	68	12	33	3,744
1949												1,978
1950												2,011
1951	158	611	958	520	266	44	84	71	22	13	33	2,780
1952	59	327	447	303	231	38	34	12	8			1,459
1953	40	91	212	337	240	58	62					1,040
1954												2,101
1955	42	153	435	189	365	207	169	7	2	2		1,571
1971	4	13	59	62	54	93	57	180	442			964
1976	14	32	252	236	443	304	353	96	180	31		1,941
1977	47	162	219	294	288	324	184	311	51			1,880
1978	13	36	108	102	147	160	244	212	81			1,103
1979	2	25	212	38	187	264	282	357	387			1,754**
1980	1	48	51	52	105	277	159					693***
1981	15	41	11	121	122	97	106	146	25			684
1982	2	12	33	52	39	92	42	165	80	94		611
1983	3	39	22	15	57	214	112	332	55			849
1984	11	40	85	359	108	331	590	638	39			2,201
1985	0	40	147	109	285	284	331	554	232			1,982

* Weir out - no adjustment made.

** Weir out - correction factor made for total escapement in 1980 corrected total of 1,125.

*** Weir out - correction factor made for total escapement in 1981 corrected total of 807.

Table 30. A Summary of Coded Wire Tag Releases of Situk River Chinook, Sockeye and Coho Salmon, 1984.

Data Code	Smolts Released	Brood Year	Species	Mean Size in mm	Capture Location	% Tag Retention
042405	9,485*	1983	Chinook	81.0	Situk River, 06/14 - 07/03 1984	90.0
042406	1,812*	1983	Chinook	81.0	Situk River, 07/05 - 07/06 1984	90.0
042402	9,718*	81-82	Sockeye		Situk River, 05/30 - 06/07 1984	90.3
042403	9,625*	81-82	Sockeye		Situk River, 06/07 - 06/18 1984	90.3
042404	2,477*	81-82	Sockeye		Situk River, 06/18 - 06/22 1984	90.3
042409	9,800*	81-82	Sockeye		Situk River, 05/22 - 05/30 1984	90.3
042401	9,699*	81-82	Coho		Situk River, 05/25 - 06/22 1984	98.3

* Corrected for juvenile inriver tag loss

Studies conducted during 1984 indicated that large numbers of young-of-the-year chinook salmon were available for coded-wire tagging in the lower kilometer of the Situk River in late June through July. However, probably as the result of a very late spring, cold-water temperatures, and later emergence of fry than normal, outmigration timing was delayed during 1985. Sampling of the lower river on 21 June, 1 July, and 3 July produced only coho smolts and fry. Juvenile chinook salmon were first observed in the lower kilometer of the river on 8 July. By 20 July, juvenile chinook had moved into the lower river in increased numbers, but they were still quite small (mean fork length = 67.6 mm). Because of other project commitments, the Situk River was not sampled again until late August. Good numbers of juvenile chinook salmon (averaging 88.3 mm fork length) were utilizing the lower river at that time.

Because of the late timing of movement into the lower river and other program commitments, it was not possible to coded wire tag juvenile chinook in the Situk River during 1985.

Coded Wire Tag Recovery:

Preliminary data on coded-wire tagged coho salmon recovered in various sport and commercial fisheries in 1985 are presented in Appendix 1. These fish were incidentally tagged during chinook coded-wire tagging during 1984.

Unuk River Studies

Introduction:

The Unuk River (Figure 4) is the largest chinook salmon system in Behm Canal, and only three major transboundary rivers, the Taku, Stikine, and Alsek, have larger chinook runs in southeastern Alaska. The 129-kilometer Unuk River drains an area of about 3,885 square kilometers of a very glaciated region of northern British Columbia, and only the lower 39 kilometers are in Alaska. The river discharges its flow into Burroughs Bay, 85 kilometers northeast of Ketchikan.

Drift Gill Net Fishery:

A drift gillnet fishery operated in Burroughs Bay from 1952 to 1956. During 1954-1956, an average of 1,668 chinook salmon were caught annually, with most of the harvest occurring during July (Table 31). The fishery was eliminated in 1957 because the runs of salmon to the Unuk River were not large enough to support a drift gill-net fishery.

Escapement:

Chinook salmon are enumerated annually in index tributaries (Kissner 1984) by foot and/or helicopter surveys during the peak of spawning activity. The 1985 observed chinook escapement of 1,164 in the Unuk River was 35.3% below the escapement goal of 2,880 and 5% above the `-year mean of 1,109 (Table 32).

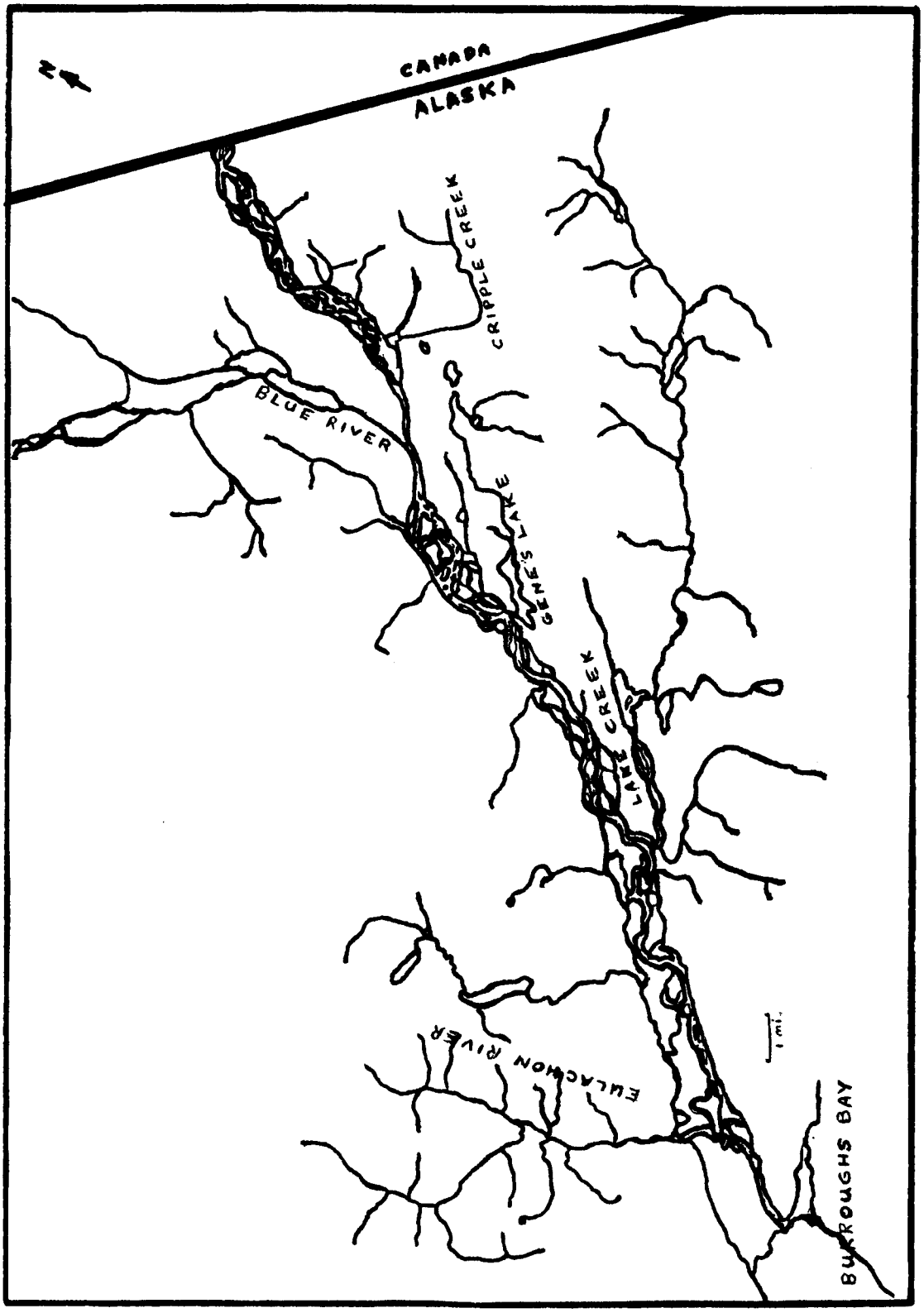


Figure 4. Unuk River System to the U.S./Canada Border.

Table 31. Drift Gill Net Harvest of Chinook Salmon in Burroughs Bay, Alaska.

Date	1954	1955	1956
Jul 12-16	782	373	889
Jul 17-21	427	240	768
Jul 22-26	160	478	113
Jul 27-31	242	204	20
Aug 01-05	54	188	6
Aug 06-10	23	17	16
Aug 11-13	2	3	0
Total	1,690	1,503	1,812

Table 32. Chinook escapement into various tributaries of the Unuk River system.

Year	Cripple Creek	Genes Lake	Eulachon Creek	Clear Creek	Lake Creek	Kerr Creek	Total
1977	585	339	57	34	...	15	1,030
1978	483	369	218	85	20	15	1,190
1979	363	101	48	14	30	20	576
1980	748	158	95	28	5	18	1,052
1981	324	112	196	54	20	25	731
1982	538	329	384	24	48	28	1,351
1983	441	337	288	24	12	4	1,106
1984	644	647	350	113	32	51	1,837
1985	270	553	269	37	22	13	1,164

Juvenile Chinook Studies:

Minnow trapping and coded-wire tagging of chinook salmon smolts from the 1983 brood year were conducted on the mainstem Unuk River from 19 March through 5 May 1985. A total of 7,817 chinook salmon smolts averaging 69.0 mm (fork length) were captured and tagged (Tables 33). In-river tag loss, as measured by recaptures, was estimated to be 4.4%. Applying this estimated loss to the total number of fish tagged yields an adjusted number of tagged juvenile chinook released of 7,473. An additional 11,350 juvenile coho salmon were incidentally captured and coded wire tagged (Table 34). The in-river tag loss was estimated to be 2.2%. Therefore, the adjusted number of tagged juvenile coho salmon released was 11,100. Summaries of coded-wire tag releases of Unuk River chinook and coho salmon are presented in Tables 35 and 36.

All capturing of juvenile chinook salmon occurred below First Canyon, as previous distribution studies indicated that the density of juvenile chinook salmon above First Canyon was low. Additionally, Lava Falls, which is just below First Canyon, is unnavigable at most water stages. Tables 37 and 38 summarize sampling efforts to date.

Coded Wire Tag Recovery:

Recoveries of 13 coded-wire tagged chinook salmon during 1985 indicate that Unuk River chinook salmon are contributing to various southeast Alaska fisheries as immature fish (Table 39). Over 50% of the recoveries were made after the time that the spawning run would have entered the Unuk River. There were more fishery recoveries of 1-ocean chinook salmon from the Unuk River's 1982 brood (29,443 were tagged) than from all fishery recoveries of 1-ocean chinook salmon from all brood years from the Taku and Stikine River's tagging efforts (301,032 juveniles were tagged).

A summary of recoveries of coho salmon coded wire tagged on the Unuk River is presented in Appendix 2. A total of 44% of the observed recoveries occurred in commercial statistical area 101 (Appendix 4).

Log Salvage:

Salvage logging was not conducted in the Unuk River during 1985, although a Title-16 permit was issued to permit salvage of downed timber that had not been marked as critical chinook salmon habitat by the ADF&G in the Unuk River above the intertidal area. Salvage was also permitted in the intertidal areas of both the Chickamin and Unuk Rivers.

The major reason that salvage logging was probably not conducted during the spring of 1985 was that only 34 new downed trees greater than 10 inches in diameter were observed in the mainstem above Gene's Lake Creek to the intertidal area. This was represented 606 trees less than the average annual recruitment estimated by the Division of Forestry.

Seven new trees greater than 10 inches in diameter were observed in the Chickamin River from the spring of 1984 to May 1985 in the area from the Leduc-Chickamin junction down river to the intertidal area. Again this

Table 33. Chinook trapping and tagging on the Unuk River, Spring, 1985.

Date	Sites	Traps	Number Tagged	Recaptures Total	Tags Retained	Data Code	Mean Length	n
031985	5	35						
032085	11	65	104	0	0	042151	68.6	49
032185	9	51	1234	0	0	042151	...	...
032285	12	62						
032385	13	59						
032485	16	73	646	2	2	042151	69.1	54
032585	5	33						
032685	0	0						
032785	10	50	540	3	2	042154	68.1	50
032885	18	78						
032985	19	87						
033085	10	39	1174	25	24	042154	67.5	50
033185	20	78						
040185	0	0						
040285	0	0						
040385	0	0						
040485	12	44	432	9	8	042154	69.4	100
			52	0	0	042520	...	...
040585	12	43						
040685	11	46						
040785	12	54	723	7	7	042520	...	...
040885	4	37						
040985	10	39						
041085	10	44						
041185	12	60	406	4	4	042520	66.8	100
041285	12	67	174	1	1	042520	...	...
041385	7	18						
041485	0	0						
041585	0	0						
041685	12	42						
041785	17	49	156	2	2	042520	69.2	100
041885	18	51						
041985	6	18						
042085	17	45						
042185	21	60	368	8	8	042520	...	...
042285	19	52						
042385	20	55						
042485	19	51						
042585	23	65	586	3	2	042520	69.5	100
042685	22	50						
042785	21	49						
042885	20	46						
042985	22	60	407	14	14	042520	71.1	50
043085	23	69						
050185	24	87						
050285	22	88	569	22	22	042520	71.6	50
050385	22	84						
050485	17	57						
050585	12	33	246	13	12	042520	...	...
Total	627	2273	7817	113	108		69.0	703

Table 34. Summary of coho trapping and tagging on the Unuk River, Spring, 1985.

Date	Sites	Traps	Number Tagged	Recaptures Total	Tags Retained	Data Code	Mean Length	n
031985	5	35						
032085	11	65						
032185	9	51						
032285	12	62						
032385	13	59	1079	0	0	042155	80.4	100
032485	16	73						
032585	5	33						
032685	0	0						
032785	10	50	703	0	0	042155	...	...
032885	18	78	664	1	1	042155	81.7	100
			31	0	0	042521	...	...
032985	19	87						
033085	10	39						
033185	20	78	1408	39	39	042521	79.8	103
040185	0	0						
040285	0	0						
040385	0	0						
040485	12	44	764	28	27	042521	79.7	100
040585	12	43						
040685	11	46						
040785	12	54						
040885	4	37	834	39	38	042521	79.0	100
040985	10	39						
041085	10	44						
041185	12	60						
041285	12	67	1070	36	36	042521	...	...
041385	7	18						
041485	0	0						
041585	0	0						
041685	12	42						
041785	17	49	460	9	9	042521	80.3	100
041885	18	51						
041985	6	18						
042085	17	45						
042185	21	60	296	13	13	042521	...	...
042285	19	52	849	36	35	042521	...	...
042385	20	55						
042485	19	51						
042585	23	65	857	45	43	042521	...	...
042685	22	50	258	21	21	042521	77.8	100
042785	21	49						
042885	20	46						
042985	22	60	584	45	45	042521	...	...
043085	23	69	213	20	19	042521	80.9	100
050185	24	87						
050285	22	88						
050385	22	84	1280	132	128	042521	...	...
050485	17	57						
`50585	12	33						
Total	627	2273	11350	464	454		79.9	803

Table 35. A Summary of Coded Wire Tag Releases of Unuk River Chinook Salmon, 1983 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
042057	9,272*		1982	63.8	Mainstem Unuk, Oct. 1983	97.6
042058	9,502*		1982	63.8	Mainstem Unuk, Nov. 1983	97.6
042061	1,757*		1982	63.8	Mainstem Unuk, Nov. 1983	97.6
042149		681*	1982	67.4	Mainstem Unuk, April, 1984	94.9
042158		8,231*	1982	67.4	Mainstem Unuk, March & April 1984	94.9
042151		1,897*	1983	69.0	Mainstem Unuk, March, 1985	95.6
042154		2,052*	1983	69.0	Mainstem Unuk, March & April 1985	95.6
042520		3,525*	1983	69.0	Mainstem Unuk, April & May 1985	95.6
TOTAL	20,531	16,386				

* Corrected for juvenile inriver tag loss

Table 36. A Summary of Coded Wire Tag Releases of Unuk River Coho Salmon, 1983 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
042060	5,696*		81-82	75.0	Mainstem Unuk, 10/05 - 11/17 1983	96.2
042147		6,085*	81-82	90.0	Mainstem Unuk, 03/16 - 04/28 1984	93.5
042155		2,392*	82-83	79.9	Mainstem Unuk, 03/19 - 03/28 1985	97.8
042521		8,708*	82-83	79.9	Mainstem Unuk, 03/28 - 05/03 1985	97.8

* Corrected for juvenile inriver tag loss

Table 37. Summary of minnow traps set, catch per trap, sample size and mean fork length of juvenile chinook captured in various areas of the Unuk River.

Date	Number of Traps	Catch per Trap	Sample Size	Mean Fork Length
05/05/77	20	0.20	...	...
05/25/77	20	0.65	...	...
12/01/78-12/02/78	68	4.56	50	64.7
03/27/80-03/28/80	65	5.28	...	...
12/13/82-12/14/82	70	3.51	246	68.2
10/05/83-11/20/83	2,232	9.42	500	63.8
03/16/84-04/28/84	2,500	3.76	650	67.4
03/19/85-05/05/85	2,273	3.44	703	69.0

Table 38. Sample size/mean fork length in mm by brood year and month of chinook juveniles sampled on the Unuk River.

Brood Year	Sept	Oct	Nov	Dec	Mar	Apr	May
1977	...	...	...	50/64.7	...	...	...
1981	...	...	...	246/68.2	...	...	...
1982	...	200/63.8	300/63.8	...	...	650/67.4	...
1983	...	...	...	...	203/68.3	450/69.0	50/71.6

Table 39. Summary of Coded Wire Tag Recoveries of Chinook Salmon Unuk River.

Date	Stat Week	Area	Port	Gear	Fork Length	Code	EX.	Type
07/01/85	27	SE/SIN/101/11	6	Gillnet	395	4/20/57	0.00	S.COMM
06/16/85	25	SE/SIN/101/45	6	Troll	305	4/21/58	0.00	S.SPORT
07/23/85	30	NW/COUT/113/41	3	Troll	406	4/21/58	0.00	S.SPORT
07/30/85	31	NW	3	Troll	400	4/21/58	0.00	S.COMM
07/24/85	30	NE/SNTR/110/24	5	Seine	405	4/20/57	0.22	R.COMM
08/26/85	35	SE/SIN/101	9	Seine	530	4/20/57	0.00	R.COMM
08/02/85	31	SE/SIN/101	9	Seine	420	4/20/58	2.05	R.COMM
08/09/85	32	SE/SIN/102/10	5	Seine	485	4/20/58	1.30	R.COMM
07/23/85	30	NE/SNTR/110	5	Seine	387	4/21/58	0.22	R.COMM
09/26/85	39	NW/COUT/113/91		Troll	560	4/21/58	0.00	NMFS
10/04/85	40	SE/CIN/108/30		Troll	480	4/20/61	0.00	NMFS
09/16/85	38	NW/CNTR/114/21	1	Troll	479	4/21/58	0.00	S.COMM
09/03/85	36	SE/SIN/101/75	6	Gaff	435(MF)	4/21/58		ESCAP
09/05/85	36	SE/SIN/101-90	6	Troll	###	4/21/58	0.00	S.SPORT

was 443 trees less than the average annual recruitment estimated by the Division of Forestry.

It is felt that the 41 new trees that were observed in the Unuk and Chickamin Rivers comprised most of the recruitment between the spring of 1984 and 1985. It is also felt that few trees washed out of either river, as most of the habitat minnow trapped for juvenile chinook salmon has remained in place. Most of the habitat in these rivers has remained nearly the same since 1983.

Major sacrifices have been made by commercial and sport fishermen to assist in the 15-year rebuilding program for southeast Alaska chinook salmon stocks. In addition, millions of dollars are being spent by the Federal and State governments and regional aquaculture associations to enhance chinook salmon production. Therefore, salvage logging should be eliminated in order to maximize production of chinook salmon in the Unuk and Chickamin Rivers.

Chickamin River Studies

Introduction:

The Chickamin River, a glacial mainland river that discharges its flow into Behm Canal (about 32 kilometers southeast of Burroughs Bay), is the second largest chinook salmon system in Behm Canal (Figure 5). It ranks fifth in chinook salmon production in Southeast, behind the Stikine, Taku, Alsek, and Unuk Rivers.

Escapement:

Chinook salmon are enumerated annually in the Chickamin River index tributaries (Kissner 1984) by foot and/or helicopter surveys during the peak of spawning. The 1985 observed escapement of 957 chinook salmon was 6.3% above the escapement goal of 900 and 124% above the 10-year mean escapement of 375 (Table 40).

Juvenile Chinook Studies:

Trapping and coded-wire tagging of chinook salmon smolt from the 1983 brood was conducted on the mainstem Chickamin River from 19 March through 5 May 1985. A total of 4,293 chinook salmon smolt, averaging 77.6 mm (fork length), were captured and tagged (Table 41). In-river tag loss was estimated at 4.2%. Applying this tag loss yields an adjusted number of 4,113 tagged chinook salmon smolts released. An additional 8,508 juvenile coho salmon were incidentally captured and coded wire tagged (Table 42). The in-river tag loss was estimated at 5.1%. Thus the adjusted number of coho salmon juveniles released was 8,074.

The capturing of juvenile chinook salmon in the Chickamin system occurred from about 1 kilometer above the junction of the mainstem and South Fork and downriver for approximately 15 kilometers. The highest densities of rearing chinook salmon were observed in the first 2.4 kilometers below the Leduc and South Fork junction, based on distribution studies conducted to date (Table 43).

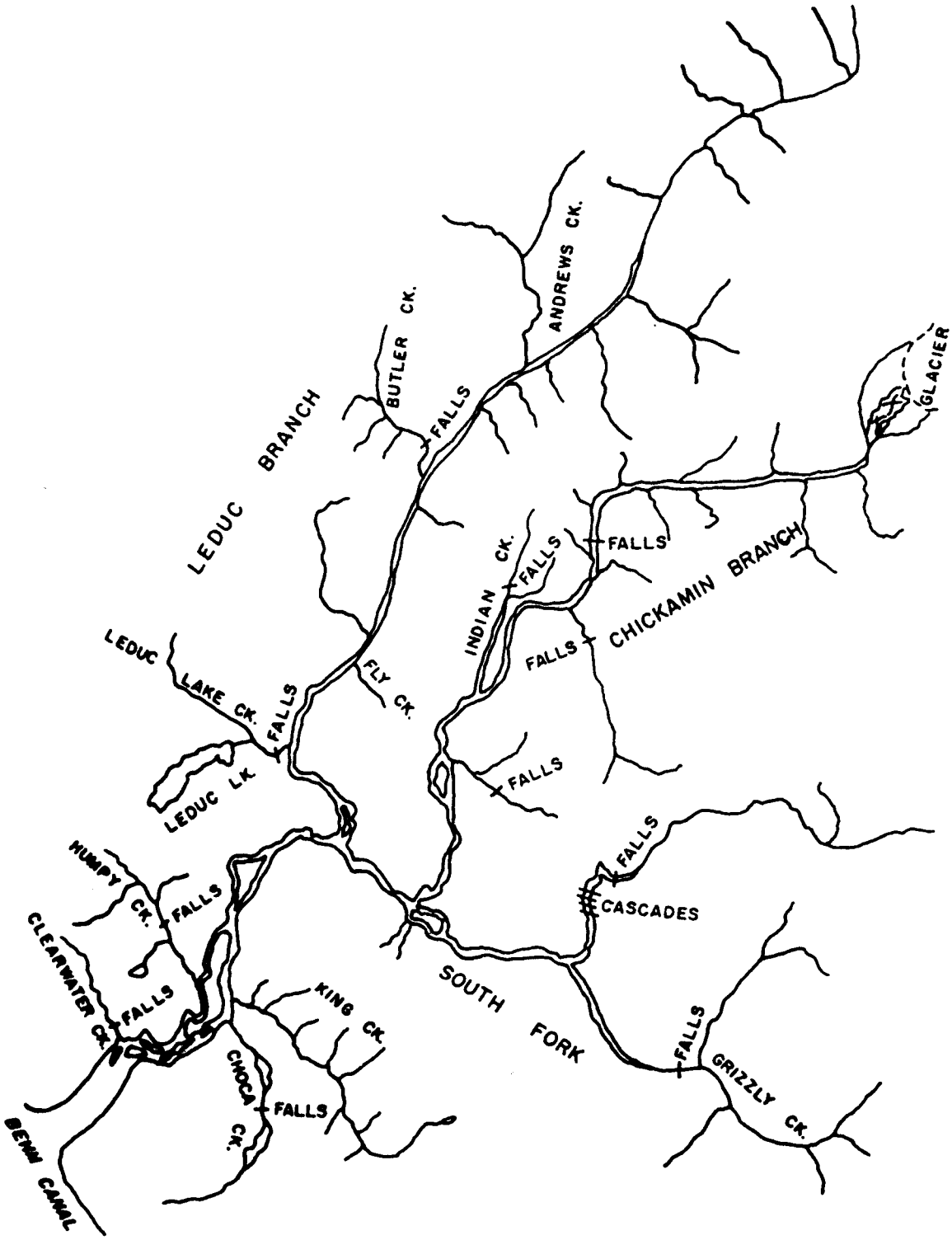


Figure 5. The Chickamin River Watershed.

Table 40. Chinook Escapement into Various Tributaries of the Chickamin River.

Year	South Fork	Barrier Creek	Butler Creek	Leduc	Indian	Above Indian	Humpy	King	El Paso	Clear Falls	Total
1975	141	9	66	6	90	11	7	30	...	...	360
1976	46	10	15	12	9	...	...	...	30	...	122
1977	52	66	30	26	53	8	0	...	...	...	235
1978	21	94	4	42	20	...	...	...	...	...	181
1979	63	17	29	0	31	...	...	...	...	...	140
1980	56	62	104	17	22	...	...	...	...	...	261
1981	51	105	51	25	12	...	...	105	...	31	380
1982	84	149	37	36	...	...	...	165	...	33	504
1983	28	138	91	30	47	...	...	212	...	10	556
1984	185	171	124	15	103	...	88	388	...	28	1,014
1985	136	156	93	8	125	...	50	377	...	12	957

Table 41. Summary of chinook trapping and tagging on the Chickamin River, Spring, 1985.

Date	Sites	Number Traps	Recaptures Tagged	Tags Total	Tags Retained	Data Code	Mean Length	n
032085	4	50						
032185	7	70						
032285	7	70						
032385	6	32						
032485	0	0	332	0	0	042157	77.0	102
032585	18	66						
032685	17	71						
032785	20	77	365	0	0	042157	...	...
032885	22	77						
032985	22	77						
033085	22	76	516	20	18	042157	76.0	54
033185	22	77						
040185	16	47						
040285	23	65						
040385	0	0						
040485	23	64	338	21	21	042157	75.9	105
040585	23	65						
040685	21	65						
040785	20	66						
040885	0	0	210	22	22	042157	...	...
040985	23	79						
041085	21	74						
041185	3	17						
041285	24	79						
041385	5	17						
041485	6	20	384	20	20	042524	78.3	104
041585	10	47						
041685	10	48						
041785	20	81						
041885	19	72	421	10	10	042524	76.8	127
041985	0	0						
042085	26	82						
042185	20	57	304	6	6	042524	...	...
042285	28	78						
042385	0	0	315	7	7	042524	...	...
042485	30	78						
042585	26	70						
042685	23	62	260	5	5	042524	77.4	104
042785	18	51						
042885	22	62						
042985	25	64	266	7	7	042524	...	...
043085	24	60						
050185	28	72						
050285	33	78	...	...	...	...	80.7	106
050385	25	60	441	17	14	042524	...	...
050485	22	53	141	9	8	042524	...	...
TOTAL	784	2576	4293	144	138		77.6	702

Table 42. Summary of Coho Trapping and Tagging on the Chickamin River, Spring, 1985.

Date	Sites	Traps	Number Tagged	Recaptures Total	Tags Retained	Data Code
032085	4	50				
032185	7	70				
032285	7	70				
032385	6	32				
032485	0	0	617	0	0	042156
032585	18	66				
032685	17	71				
032785	20	77	585	17	13	042156
032885	22	77				
032985	22	77	110	12	11	042156
033085	22	76	581	48	48	042156
033185	22	77				
040185	16	47				
040285	23	65				
040385	0	0				
040485	23	64	54	0	0	042156
			308	55	54	042522
040585	23	65				
040685	21	65				
040785	20	66				
040885	0	0	336	33	32	042522
040985	23	79				
041085	21	74				
041185	3	17				
041285	24	79				
041385	5	17				
041485	6	20	654	21	20	042522
041585	10	47				
041685	10	48				
041785	20	81				
041885	19	72	931	23	23	042522
041985	0	0				
042085	26	82				
042185	20	57	743	41	40	042522
042285	28	78				
042385	0	0	732	42	41	042522
042485	30	78				
042585	26	70				
042685	23	62	877	87	84	042522
042785	18	51				
042885	22	62				
042985	25	64	700	89	83	042522
043085	24	60				
050185	28	72				
050285	33	78				
050385	25	60	1061	146	135	042522
050485	22	53	219	36	33	042522
TOTAL	784	2576	8508	650	617	

Table 43. Summary of minnow traps set, catch per trap, sample size and mean fork length of juvenile chinook captured in various areas of the Chickamin River.

Date	Number of Traps	Catch per Trap	Sample Size	Mean Fork Length
05/05/77	20	0.45	...	...
05/25/77	20	0.65	...	...
12/14/82-12/15/82	24	9.21	205	67.1
03/03/83-04/01/83	1,040	2.26	115	68.6
03/17/84-04/16/84	1,570	3.69	299	69.9
03/19/85-05/04/85	2,576	1.67	702	77.6

A summary of chinook and coho salmon coded wire tagged in the Chickamin River to date is presented in Tables 44 through 46.

Coded Wire Tag Recovery:

Based on 15 coded-wire tag recoveries of the 1981 brood and three from the 1982 brood (all recovered during the 1985 fishery), Chickamin River chinook salmon are contributing to Southeast fisheries at various life history stages (Table 47). Four fishery recoveries occurred during October, confirming that Chickamin chinook salmon are contributing as immatures, unlike the Taku and Stikine River chinook salmon stocks. There were more fishery recoveries during 1985 of the 1981 brood (age-1.2) Chickamin chinook salmon from 2,352 tagged smolts than from all age-1.2 fishery recoveries of Taku and Stikine chinook salmon from the 301,032 juveniles tagged.

A summary of recoveries of coho salmon coded wire tagged on the Chickamin River is presented in Appendix 3. A total of 42.3% of the observed recoveries occurred in commercial statistical area 101.

Escapement in Other Areas

Peak observed escapement counts of chinook salmon in other index tributaries monitored annually are presented in Tables 48 through 51.

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Table 44. A Summary of Coded Wire Tag Releases of Chickamin River Chinook Salmon, 1983 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
042055		2,352*	1981	68.6	Chickamin River, March & April 1983	100.0
042062		5,474*	1982	69.9	Chickamin River, March & April 1984	94.4
042157		1,687*	1983	77.6	Chickamin River March & April 1985	95.8
042524		2,426*	1983	77.6	Chickamin River, April & May 1985	95.8
TOTAL		11,939				

* Corrected for juvenile inriver tag loss

Table 45. Sample Size/Mean Fork Length in mm by Brood Year and Month of Chinook Juveniles Sampled on the Chickamin River.

Brood Year	December	March	April	May
1981	205/67.1	...	115/68.6	...
1982	...	199/68.8	100/72.1	...
1983	...	156/77.0	440/77.1	106/80.7

Table 46. A Summary of Coded Wire Tag Releases of Chickamin River Coho Salmon, 1983 to Date.

Data Code	Young-of-the-Year Released	Smolts Released	Brood Year	Mean Size in mm	Capture Location	% Tag Retention
042027		1,312*	80-81	100.2	Mainstem Chickamin River, 03/01 - 04/12 1983	100.0
042144		900*	80-81	72.0	Mainstem Chickamin River, 03/01 - 04/12 1983	100.0
042063		3,790*	81-82	90.0	Mainstem Chickamin River 03/17 - 04/16 1984	87.5
042156		1,848*	82-83		Mainstem Chickamin River, 03/19 - 04/04 1985	94.9
042522		6,226*	82-83		Mainstem Chickamin River, 04/05 - 05/04 1985	94.9
TOTAL		14,076				

* Corrected for juvenile inriver tag loss

(remember to add 1 Canadian recovery for 042027)

Table 47. Summary of Coded Wire Tag Recoveries of Chinook Salmon Chickamin River.

Date	Stat Week	Area	Port	Gear	Fork Length	Code	EX.	Type
07/05/85	27	SE/SIN/101	9	Trap	610	4/20/55	1.70	R.COMM
07/06/85	27	SE/SIN/101/95	6	Gillnet	155	4/20/55	0.00	SP.HAR
07/08/85	28	SE/SIN/102/10	6	Troll	633	4/20/55	3.29	R.COMM
07/08/85	28	...	6	Troll	...	4/20/55	0.00	R.COMM
07/12/85	28	NE/CNTR/112	5	Troll	672	4/20/55	5.63	R.COMM
07/15/85	29	...	6	Troll	670	4/20/55	0.00	R.COMM
07/16/85	29	NE/COUT/113	3	Troll	655	4/20/55	4.57	R.COMM
07/16/85	29	NE/STEP/111-32	4	Gillnet	615	4/20/55	12.46	R.COMM
07/24/85	30	...	6	Seine	610	4/20/55	0.00	R.COMM
08/01/85	31	SE/SIN/101	5	Gillnet	468	4/20/63	0.00	R.COMM
07/18/85	29	SE/SIN/101-25	6	Troll	427	4/20/62	0.00	S.COMM
05/31/85	22	SE/SIN/101-90	6	Troll	406	4/20/62	0.00	S.SPOR
10/04/85	40	NE/SNTR/110	6	Troll	690	4/20/55	0.00	R.COMM
10/04/85	40	NE/SNTR/110	6	Troll	723	4/20/55	0.00	R.COMM
10/07/85	41	...	6	Troll	720	4/20/55	0.00	S.COMM
10/15/85	42	SE/SIN/102	6	Troll	740	4/20/55	0.00	R.COMM
07/29/85	31	NW	1	Troll	...	4/20/55	0.00	S.COMM
08/10/85	32	SE/SIN/101-71	6	Gaff	595	4/20/55	0.00	ESCAP.
00/00/85	...	Central B.C.	...	Net	...	4/20/55	...	COMM

Table 48. Peak Observed Escapement Counts of Chinook Salmon in the Blossom River.

Year	Chinook	Method
1961	68	Ground
1963	825	Air
1972	700	Air
1974	166	Helicopter
1975	153	Helicopter
1976	68	Helicopter
1977	112	Helicopter
1978	143	Helicopter
1979	54	Helicopter
1980	89	Helicopter
1981	159	Helicopter
1982	345	Helicopter
1983	589	Helicopter
1984	508	Helicopter
1985	709	Helicopter

Table 49. Peak Observed Escapement Counts of Chinook Salmon in the Keta River.

Year	Chinook	Method
1948	500	Foot
1950	210	Foot
1951	120	Foot
1952	462	Foot
1953	156	Foot
1954	300	Air
1955	1,000	Air
1956	1,500	Air
1957	500	Air
1961	44	Ground
1975	203	Helicopter
1976	84	Helicopter
1977	230	Helicopter
1978	392	Helicopter
1979	426	Helicopter
1980	192	Helicopter
1981	329	Helicopter
1982	754	Helicopter
1983	822	Helicopter
1984	610	Helicopter
1985	624	Helicopter

Table 50. Peak Observed Escapement Counts of Chinook Salmon in the Chilkat River.

Year	Big Boulder	Stonehouse	Method
1960	316		F
1966	330		F
1967	150		F
1968	259		F
1970	176		F
1974	0		F
1975	21		F
1976	25		F.H
1977	25		F.H
1981	187	69	F.H
1982	56	123	F.H
1983	121	126	F.H
1984	229	104	F.H
1985	70	50	F.H

F = Foot

H = Helicopter

Table 51. Peak Escapement Counts of Chinook Salmon in the King Salmon River (Admiralty Island).

Year	Enumerated by Foot/Helicopter	Snett. Egg Take Add to Foot Enum. For Total Escp.	Enumerated Through Weir, Egg Take Plus Spawning Below Weir	Jacks Through Weir
1957	200	...	...	...
1961	117	...	...	...
1971	94	...	...	...
1972	90	...	...	...
1973	211	...	...	...
1974	104	...	...	...
1975	42	...	...	...
1976	65	...	...	...
1977	134	...	...	...
1978	57	...	...	...
1979	88	...	...	...
1980	70	...	...	...
1981	101	...	...	...
1982	259	31	...	...
1983	208 (84.3%)[a]	41	283	20
1984	198 (76.7%)[a]	54	312	79
1985	117 (64.4%)[a]	34	214	42

[a] = Percentage of chinook enumerated from helicopter above weir compared to total enumerated through weir

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APPENDIX

Appendix 1. Coded Wire Tag Recoveries of Situk River Coho Salmon by Date.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location			Port	A	B	C
042401	850711		Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850715		Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850715		Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850721	675	Troll	0- .	??	??	Excursion Inlet	1	s	. 0
042401	850722		Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850723		Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850724		Troll	183-10	NW	NOUT	Yakutat	1	s	. 0
042401	850724		Troll	183-10	NW	NOUT	Yakutat	1	s	. 0
042401	850725	630	Troll	183-10	NW	NOUT	Yakutat	1	r	9.78
042401	850725	635	Troll	113-91	NW	COUT	Pelican	1	r	4.29
042401	850725	640	Troll	183-10	NW	NOUT	Yakutat	1	r	9.78
042401	850725	660	Troll	183-10	NW	NOUT	Yakutat	1	r	9.78
042401	850729		Troll	0- .	??	??	Pelican	1	s	. 0
042401	850729		Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850729	*133	Troll	0- .	??	??	Pelican	1	s	. 0
042401	850731	660	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042401	850802	625	Troll	113-71	NW	COUT	Sitka	1	r	5.37
042401	850802	770	Troll	113- .	NW	COUT	Pelican	1	r	5.37
042401	850802	*100	Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850803	635	Troll	0- .	NW	NOUT	Sitka	1	r	5.66
042401	850805	650	Troll	183-10	NW	NOUT	Yakutat	1	r	4.04
042401	850805	660	Troll	183-10	NW	NOUT	Yakutat	1	r	4.04
042401	850806		Troll	181-60	NW	NOUT	Yakutat	1	s	. 0
042401	850807	715	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042401	850810	581	Troll	189- .	NW	NOUT	Pelican	1	r	4.04
042401	850811	550	Troll	181- .	NW	NOUT	Sitka	1	r	2.08
042401	850811	655	Troll	181- .	NW	NOUT	Sitka	1	r	2.08
042401	850811	710	Troll	181- .	NW	NOUT	Sitka	1	r	2.08
042401	850813	580	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042401	850816	745	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042401	850819	*090	Troll	0- .	??	??	Sitka	1	s	. 0
042401	850822		Unknown	182-70	??	??	Yakutat	2	s	. 0
042401	850822		Unknown	182-70	??	??	Yakutat	2	s	. 0
042401	850828	600	Troll	183-10	NW	NOUT	Yakutat	1	r	11.07
042401	850828	620	Troll	183-10	NW	NOUT	Yakutat	1	r	11.07
042401	850830	*105	Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850903		Troll	0- .	NW	??	Yakutat	1	s	. 0
042401	850904		Unknown	0- .	??	??	Yakutat	1	s	. 0
042401	850904		Unknown	0- .	??	??	Yakutat	1	s	. 0
042401	850904		Unknown	0- .	??	??	Yakutat	1	s	. 0
042401	850904	717	Troll	189- .	NW	NOUT	Pelican	1	r	5.95
042401	850905	724	Troll	0- .	NW	NOUT	Pelican	1	r	5.95
042401	850905	*104	Troll	0- .	NW	??	Pelican	1	s	. 0
042401	850906	659	Troll	114-21	NW	CNTR	Pelican	1	r	3.77
042401	850907	630	Gillnet	182-70	??	??	Sitka	1	r	. 0
042401	850907	680	Gillnet	182-70	??	??	Sitka	1	r	. 0
042401	850907	715	Gillnet	182-70	??	??	Sitka	1	r	. 0
042401	850907	735	Gillnet	182-70	??	??	Sitka	1	r	. 0
042401	850907	780	Gillnet	182-70	??	??	Sitka	1	r	. 0
042401	850907	800	Gillnet	182-70	??	??	Sitka	1	r	. 0

Appendix 1 (cont'd). Coded Wire Tag Recoveries of Situk River Coho Salmon by Date.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location		Port	A	B	C
042401	850907	*104	Troll	0- . NW	??	Pelican	1	s	. 0
042401	850907	*106	Troll	0- . NW	??	Pelican	1	s	. 0
042401	850909	$680	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910		Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910		Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	650	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	675	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	680	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	680	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	700	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	$555	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	$640	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	$685	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850910	*099	Troll	0- NW	??	Pelican	1	s	. 0
042401	850911		Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850911	$610	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850911	$645	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850911	$655	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850911	$660	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850913		Gillnet	182-70	?? ??	Yakutat	1	s	. 0
042401	850913	770	Troll	181- . NW	NOUT	Pelican	1	r	5.44
042401	850914	*095	Troll	183-10 NW	NOUT	Sitka	1	r	5.44
042401	850914	*100	Gillnet	182-70	?? ??	Sitka	1	r	. 0
042401	850914	*100	Gillnet	182-70	?? ??	Sitka	1	r	. 0
042401	850916	625	Troll	181-25 NW	NOUT	Excursion Inlet	1	r	2.00
042401	850916	635	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850916	695	Troll	0- . NW	??	Sitka	1	r	. 0
042401	850917	630	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	630	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	650	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	650	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	655	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	655	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	675	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	675	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	690	Troll	183-10 NW	NOUT	Yakutat	1	r	2.00
042401	850917	690	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	690	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	715	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850917	*125	Troll	0- . NW	??	Pelican	1	s	. 0
042401	850918	$640	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850918	$650	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850918	$670	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850918	$675	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850919	610	Gillnet	182-70	?? ??	Yakutat	1	r	. 0

Appendix 1 (cont'd). Coded Wire Tag Recoveries of Situk River Coho Salmon by Date.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location		Port	A	B	C
042401	850919	640	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850919	670	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850919	695	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850920		Troll	0- .	?? ??	Sitka	1	s	. 0
042401	850920	695	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850920	710	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850920	720	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924		Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	495	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	550	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	640	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	660	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	695	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	700	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	700	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	710	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	710	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850924	770	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850926	665	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850926	675	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850926	710	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850927	635	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850927	640	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850927	650	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850927	685	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850927	700	Gillnet	182-70	?? ??	Yakutat	1	r	. 0
042401	850927	715	Gillnet	182-70	?? ??	Yakutat	1	r	. 0

A = Code for Sample Source (1 = Commercial Fishery)
(2 = Sport Fishery)

B = Code for Sample Type (r = random)
(s = select)

C = Expansion Factor

Appendix 2. Coded Wire Tag Recoveries of Unuk River Coho Salmon by Date.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location			Port	A	B	C
042060	850703	610	Troll	104-30	SW	SOUT	Craig	1	r	5.14
042147	850705	645	Troll	0- .	??	??	Sitka	1	r	. 0
042147	850707	515	Troll	113-41	NW	COUT	Pelican	1	r	7.94
042147	850710	665	Troll	101-21	SE	SIN	Ketchikan	1	r	3.35
042060	850712	669	Troll	154- .	NW	COUT	Pelican	1	r	7.94
042147	850713	700	Troll	104-40	SW	SOUT	Craig	1	r	3.76
042147	850714		Troll	113- .	NW	COUT	Sitka	1	r	5.21
042147	850715		Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850715		Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850715	555	Troll	101-21	SE	SIN	Ketchikan	1	r	2.22
042060	850715	650	Troll	0- .	SW	SOUT	Ketchikan	1	r	3.72
042147	850715	675	Troll	103- .	SW	SOUT	Craig	1	r	3.72
042060	850716	690	Troll	113- .	NW	COUT	Pelican	1	r	5.21
042147	850716	700	Purse Seine	113-95	NW	COUT	Excursion Inlet	1	s	. 0
042147	850718	645	Troll	103-90	SW	SOUT	Petersburg	1	r	3.72
042147	850719		Troll	109-62	NE	SNTR	Petersburg	1	r	5.08
042060	850719	580	Troll	101-21	SE	SIN	Ketchikan	1	r	2.22
042147	850719	652	Troll	109-62	NE	SNTR	Petersburg	1	r	5.08
042060	850719	700	Troll	101- .	SE	SIN	Ketchikan	1	r	2.22
042060	850720	730	Troll	101-25	SE	SIN	Ketchikan	1	r	2.22
042147	850721	690	Troll	103-90	SW	SOUT	Petersburg	1	r	4.86
042060	850721	700	Troll	0- .	??	??	Excursion Inlet	1	s	. 0
042147	850722		Troll	0- .	NW	??	Pelican	1	s	. 0
042060	850722	600	Troll	101-21	SE	SIN	Ketchikan	1	r	2.39
042147	850722	620	Troll	101-21	SE	SIN	Ketchikan	1	r	2.39
042147	850723	595	Troll	0- .	NW	??	Sitka	1	r	. 0
042147	850723	615	Troll	113- .	NW	COUT	Sitka	1	r	4.29
042147	850723	640	Troll	101-21	SE	SIN	Ketchikan	1	r	2.39
042147	850723	660	Troll	0- .	NW	??	Pelican	1	r	. 0
042147	850723	660	Troll	113- .	NW	COUT	Sitka	1	r	4.29
042147	850724	625	Troll	113-91	NW	COUT	Sitka	1	r	4.29
042147	850724	675	Purse Seine	0- .	??	??	Ketchikan	1	r	. 0
042147	850725		Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850725	580	Troll	109- .	NE	SNTR	Petersburg	1	r	2.65
042060	850725	620	Troll	113-91	NW	COUT	Pelican	1	r	4.29
042147	850725	670	Troll	113-91	NW	COUT	Pelican	1	r	4.29
042147	850727	*080	Troll	0- .	??	??	Sitka	1	s	. 0
042147	850728	690	Troll	109-61	NE	SNTR	Petersburg	1	r	4.75
042147	850729	550	Troll	102-10	SE	SIN	Metlakatla	1	r	2.16
042060	850729	615	Troll	104- .	SW	SOUT	Craig	1	r	3.06
042147	850729	710	Troll	113- .	NW	COUT	Sitka	1	r	5.37
042147	850729	*143	Troll	0- .	??	??	Pelican	1	s	. 0
042060	850730	707	Troll	103-90	SW	SOUT	Petersburg	1	r	3.06
042147	850730	*070	Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850730	*090	Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850731	620	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042147	850731	686	Troll	113-91	NW	COUT	Pelican	1	r	5.37
042060	850731	700	Troll	104-40	SW	SOUT	Craig	1	r	3.06
042060	850731	*100	Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850802		Troll	0- .	NW	??	Pelican	1	s	. 0

Appendix 2 (cont'd). Coded Wire Tag Recoveries of Unuk River Coho Salmon by Date.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location			Port	A	B	C
042060	850802	*094	Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850803	725	Troll	113-91	NW	COUT	Pelican	1	r	5.37
042060	850805	685	Troll	0- .	NW	COUT	Pelican	1	r	6.39
042060	850805	705	Purse Seine	101- .	SE	SIN	Petersburg	1	r	4.79
042060	850806	560	Purse Seine	101-85	SE	SIN	Ketchikan	1	r	4.79
042147	850806	595	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	4.79
042147	850806	610	Troll	0- .	NW	NOUT	Yakutat	1	r	4.04
042147	850807	700	Troll	0- .	NW	COUT	Pelican	1	s	. 0
042147	850807	*085	Purse Seine	0- .	??	??	Ketchikan	1	s	. 0
042060	850809	434	Purse Seine	105-10	SE	SNTR	Petersburg	1	r	3.11
042060	850809	585	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	4.79
042147	850809	600	Purse Seine	104- .	SW	SOUT	Craig	1	r	6.46
042147	850809	674	Purse Seine	104- .	SW	SOUT	Craig	1	r	6.46
042147	850810	510	Troll	0- .	??	??	Ketchikan	1	r	. 0
042147	850810	735	Purse Seine	104-10	SW	SOUT	Ketchikan	1	r	6.46
042147	850811	645	Troll	181- .	NW	NOUT	Sitka	1	r	2.08
042060	850812	590	Troll	0- .	??	??	Metlakatla	1	r	. 0
042060	850813	690	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042147	850814	635	Purse Seine	101-90	SE	SIN	Ketchikan	1	r	5.14
042147	850814	640	Gillnet	106-41	SE	CIN	Petersburg	1	r	2.08
042060	850814	670	Troll	101- .	SE	SIN	Ketchikan	1	r	1.61
042147	850814	765	Purse Seine	104- .	SW	SOUT		1	r	4.33
042060	850815	560	Fish Trap	101-28	SE	SIN	Metlakatla	1	r	.98
042060	850815	600	Troll	0- .	SE	SIN	Ketchikan	1	r	1.61
042147	850815	*107	Troll	0- .	NW	??	Pelican	1	s	. 0
042147	850819	665	Purse Seine	101-90	SE	SIN	Ketchikan	1	r	4.64
042147	850819	705	Purse Seine	0- .	??	??	Ketchikan	1	r	. 0
042060	850820	660	Purse Seine	101-29	SE	SIN	Ketchikan	1	r	4.64
042147	850820	716	Gillnet	106-41	SE	CIN	Petersburg	1	r	2.49
042060	850820	743	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	4.64
042147	850823	520	Gillnet	101-28	SE	SIN	Metlakatla	1	r	3.34
042060	850823	670	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	4.64
042060	850823	680	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	4.64
042147	850823	710	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	4.64
042147	850823	730	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	4.64
042147	850824	680	Purse Seine	101-29	SE	SIN	Ketchikan	1	r	4.64
042060	850825	660	Fish Trap	101-28	SE	SIN	Metlakatla	1	r	1.37
042147	850825	695	Purse Seine	0- .	??	??	Ketchikan	1	r	. 0
042060	850826	660	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	2.92
042060	850826	750	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	2.92
042147	850826	790	Purse Seine	101- .	SE	SIN	Metlakatla	1	r	2.92
042060	850827	640	Fish Trap	101-28	SE	SIN	Metlakatla	1	r	1.37
042060	850827	705	Purse Seine	101-29	SE	SIN	Ketchikan	1	r	2.92
042060	850827	725	Purse Seine	101-29	SE	SIN	Ketchikan	1	r	2.92

Appendix 2 (cont'd). Coded Wire Tag Recoveries of Unuk River Coho Salmon by Date.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location			Port	A	B	C
042147	850828	650	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	2.92
042060	850828	657	Gillnet	106-41	SE	CIN	Petersburg	1	r	2.12
042060	850828	750	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	2.92
042147	850829	631	Purse Seine	101- .	SE	SIN	Petersburg	1	r	2.92
042147	850829	707	Gillnet	106-30	SE	CIN	Petersburg	1	r	2.12
042147	850829	735	Purse Seine	101- .	SE	SIN	Petersburg	1	r	2.92
042147	850830	*108	Troll	0- .	NW	??	Pelican	1	s	.0
042147	850901	690	Purse Seine	102-50	SE	SIN	Ketchikan	1	r	1.38
042060	850902	770	Gillnet	101- .	SE	SIN	Metlakatla	1	r	1.73
042147	850903	680	Troll	0- .	??	??	Ketchikan	1	r	.0
042147	850903	760	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	1.38
042060	850903	765	Gillnet	106-30	SE	CIN	Petersburg	1	r	2.40
042147	850904	705	Troll	0- .	??	??	Ketchikan	1	s	.0
042060	850905	675	Troll	104- .	SW	SOUT	Ketchikan	1	r	3.53
042060	850905	*100	Troll	0- .	??	??	Sitka	1	s	.0
042147	850906	720	Troll	0- .	??	??	Ketchikan	1	r	.0
042060	850908	710	Troll	113-91	NW	COUT	Pelican	1	r	4.80
042147	850909	727	Troll	0- .	??	??	Petersburg	1	r	.0
042147	850910	690	Troll	104- .	SW	SOUT	Ketchikan	1	r	1.60
042147	850912	664	Troll	0- .	??	??	Petersburg	1	r	.0
042147	850918	760	Troll	101-29	SE	SIN	Ketchikan	1	r	1.50
042147	850919	650	Troll	102-80	SE	SIN	Ketchikan	1	r	1.57

A = Code for Sample Source (1 = Commercial Fishery)

B = Code for Sample Type (r = random)
(s = select)

C = Expansion Factor

Appendix 3. Coded Wire Tag Recoveries of Chickamin River Coho Salmon by Date, 1984 and 1985.

Tag Code	Date	Length (mm)	Gear Type	Recovery Location			Port	A	B	C
042027	84			999-99			B. C., Canada			
042144	840714	675	Troll	113-45	NW	COUT	Sitka	1	r	8.45
042027	840721	757	Troll	109- .	NE	SNTR	Petersburg	1	r	2.18
042144	840727	695	Troll	113-45	NW	COUT	Sitka	1	r	5.78
042027	840729	625	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042027	840731	*100	Unknown	0- .	??	??	Pelican	1	s	. 0
042027	840802	*105	Unknown	0- .	??	??	Pelican	1	s	. 0
042027	840803	590	Purse Seine	101-41	SE	SIN	Ketchikan	1	r	9.75
042027	840805	614	Purse Seine	104-10	SW	SOUT	Wrangell	1	r	4.74
042144	840807	615	Troll	113-71	NW	COUT	Sitka	1	r	5.21
042144	840807	690	Troll	154- .	NW	COUT	Sitka	1	r	5.21
042027	840815	735	Gillnet	106- .	SE	CIN	Petersburg	1	r	1.47
042027	840816	500	Fish Trap	101-28	SE	SIN	Metlakatla	1	r	. 0
042144	840819	730	Purse Seine	102-10	SE	SIN	Ketchikan	1	r	3.49
042027	840819	750	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	3.49
042027	840821	575	Purse Seine	102-10	SE	SIN	Ketchikan	1	r	3.49
042027	840822	720	Gillnet	106-30	SE	CIN	Petersburg	1	r	1.36
042144	840824	660	Purse Seine	104-10	SW	SOUT	Ketchikan	1	r	5.03
042027	840824	715	Purse Seine	0- .	SE	??	Petersburg	1	r	. 0
042144	840829	690	Troll	106- .	SE	CIN	Petersburg	1	r	3.17
042144	840829	730	Purse Seine	101-11	SE	SIN	Ketchikan	1	r	3.41
042027	840830	730	Troll	105- .	SE	SNTR	Petersburg	1	r	13.26
042027	840905		Troll	0- .	??	??	Pelican	1	s	. 0
042144	840907	650	Troll	113-91	NW	COUT	Sitka	1	r	4.77
042027	840910	745	Troll	114-21	NW	CNTR	Hoonah	1	r	6.19
042027	840911	765	Gillnet	101- .	SE	SIN	Metlakatla	1	r	2.37
042144	840912	735	Unknown	101-27	SE	SIN	Ketchikan	2	r	. 0
042027	840914	780	Troll	101-29	SE	SIN	Ketchikan	1	r	1.91
042063	850705	670	Troll	113-31	NW	COUT	Sitka	1	r	70.04
042063	850715	685	Troll	104-40	SW	SOUT	Craig	1	r	3.72
042063	850716	540	Purse Seine	104- .	SW	SOUT	Ketchikan	1	r	4.46
042063	850716	680	Purse Seine	0- .	??	??	Ketchikan	1	r	. 0
042063	850720		Troll	0- .	NW	??	Pelican	1	s	. 0
042063	850720	*105	Troll	0- .	??	??	Sitka	1	s	. 0
042063	850722	660	Troll	101-21	SE	SIN	Ketchikan	1	r	2.39
042063	850729		Troll	0- .	NW	??	Pelican	1	s	. 0
042063	850801	468	Gillnet	101- .	SE	SIN	Petersburg	1	r	2.77
042063	850801	695	Troll	106-41	SE	CIN	Petersburg	1	r	.97
042063	850802	660	Troll	113- .	NW	COUT	Sitka	1	r	5.37
042063	850803	686	Troll	113-91	NW	COUT	Pelican	1	r	5.37
042063	850805	670	Purse Seine	101-42	SE	SIN	Metlakatla	1	r	4.79
042063	850806	440	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	4.79
042063	850806	580	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	4.79
042063	850810	710	Purse Seine	0- .	??	??	Ketchikan	1	r	. 0
042063	850810	730	Troll	101- .	SE	SIN	Ketchikan	1	r	6.46
042063	850811	700	Troll	109-61	NE	SNTR	Petersburg	1	r	4.32
042063	850812	610	Troll	0- .	??	??	Metlakatla	1	r	. 0
042063	850813	650	Gillnet	106-41	SE	CIN	Petersburg	1	r	2.08

Appendix 3 (cont'd). Coded Wire Tag Recoveries of Chickamin River Coho Salmon by Date, 1984 and 1985.

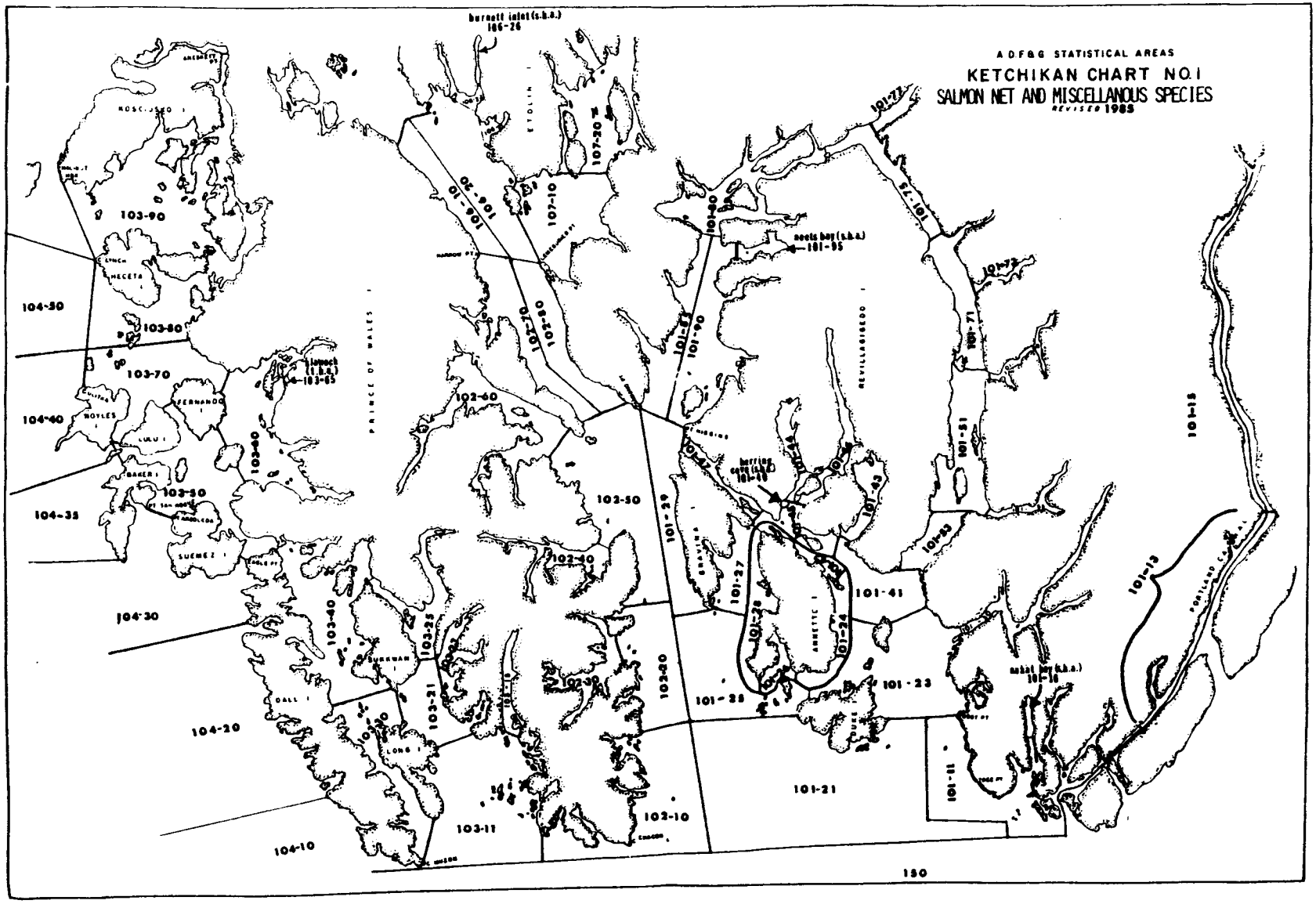
Tag Code	Date	Length (mm)	Gear Type	Recovery Location			Port	A	B	C
042063	850814	705	Troll	0- .	SW	SOUT	Craig	1	r	2.22
042063	850814	725	Troll	114-21	NW	CNTR	Pelican	1	r	1.96
042063	850814	750	Troll	101- .	SE	SIN	Metlakatla	1	r	1.61
042063	850815	560	Troll	0- .	SW	SOUT	Metlakatla	1	r	2.22
042063	850816	710	Gillnet	101- .	SE	SIN	Metlakatla	1	r	3.05
042063	850816	720	Troll	0- .	NW	??	Excursion Inlet	1	r	. 0
042063	850820	587	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	4.64
042063	850820	690	Purse Seine	101-85	SE	SIN	Ketchikan	1	r	4.64
042063	850820	725	Purse Seine	101-29	SE	SIN	Ketchikan	1	r	4.64
042063	850824	780	Purse Seine	101-85	SE	SIN	Ketchikan	1	r	4.64
042063	850825	406	Unknown	101-90	SE	SIN	Ketchikan	2	s	. 0
042063	850825	640	Purse Seine	101-41	SE	SIN	Ketchikan	1	r	2.92
042063	850826	630	Purse Seine	101- .	SE	SIN	Ketchikan	1	r	2.92
042063	850826	690	Gillnet	101-28	SE	SIN	Metlakatla	1	s	. 0
042063	850826	695	Troll	113-91	NW	COUT	Pelican	1	r	6.92
042063	850827	650	Fish Trap	101-28	SE	SIN	Metlakatla	1	r	1.37
042063	850829	780	Purse Seine	104-40	SW	SOUT	Petersburg	1	r	3.18
042063	850831	750	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	2.92
042063	850902	790	Troll	0- .	??	??	Petersburg	1	r	. 0
042063	850903	710	Purse Seine	0- .	SE	SIN	Ketchikan	1	r	1.38
042063	850904	625	Gillnet	106-10	SE	CIN	Ketchikan	1	r	2.40
042063	850905	720	Troll	104- .	SW	SOUT	Ketchikan	1	r	3.53
042063	850909	660	Troll	0- .	??	??	Ketchikan	1	s	. 0
042063	850910	710	Gillnet	106-41	SE	CIN	Petersburg	1	r	2.41
042063	850912	*095	Troll	0- .	??	??	Sitka	1	s	. 0
042063	850916	740	Gillnet	101-42	SE	SIN	Metlakatla	1	r	1.76

A = Code for Sample Source (1 = Commercial Fishery)
(2 = Sport Fishery)

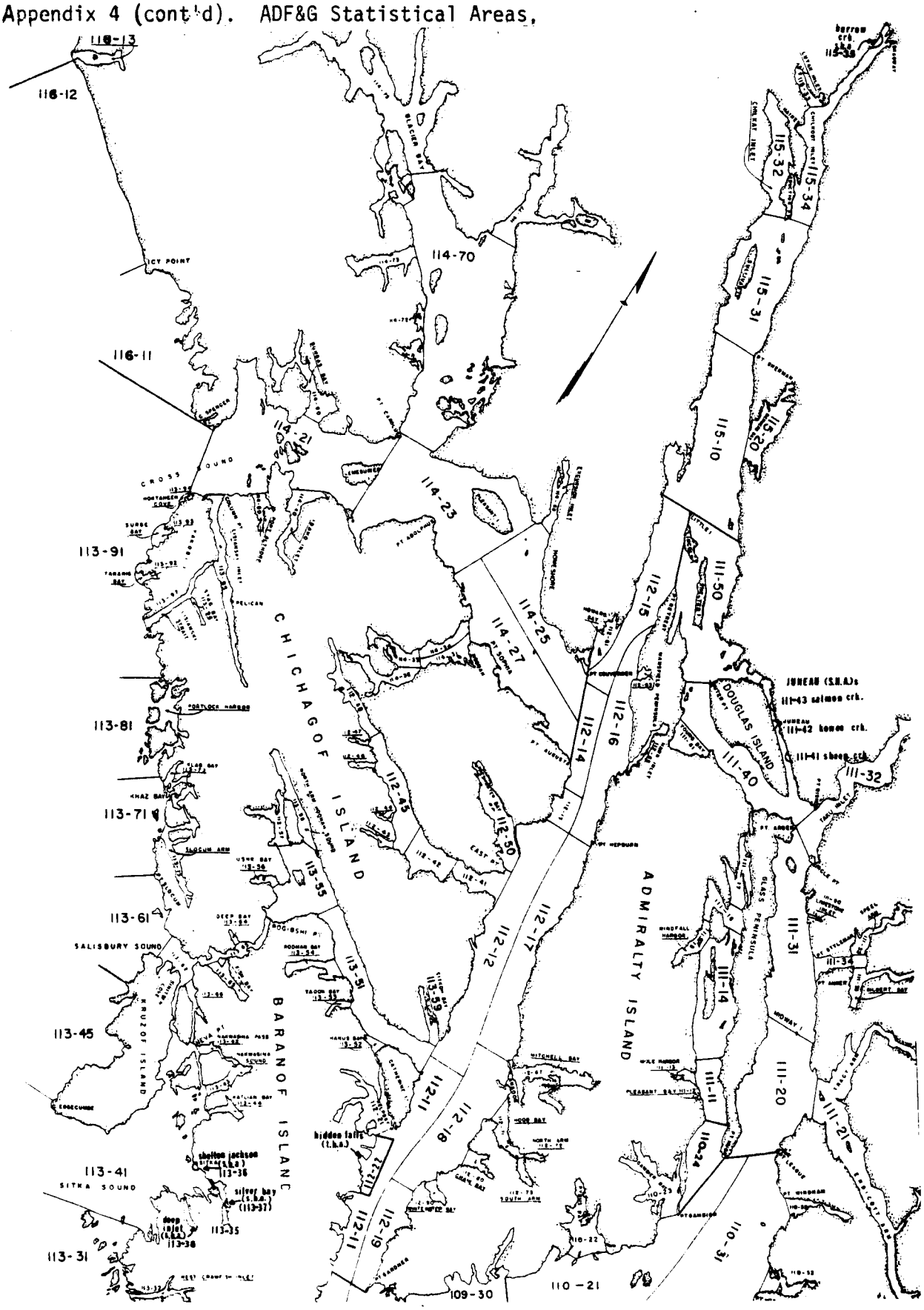
B = Code for Sample Type (r = random)
(s = select)

C = Expansion Factor

Appendix 4. ADF&G Statistical Areas.



Appendix 4 (cont'd). ADF&G Statistical Areas,



Appendix 4 (cont'd). ADF&G Statistical Areas.